KANSAS-NEBRASKA
BIG BLUE RIVER COMPACT

THIRTY-SIXTH ANNUAL REPORT

FISCAL 2009

Beatrice, Nebraska
May 20, 2009
June 18, 2010

The Honorable Barack H. Obama
President of the United States of America

The Honorable Mark Parkinson
Governor of Kansas

The Honorable Dave Heineman
Governor of Nebraska

Pursuant to Article VIII, Section 1 of the Rules and Regulations of the Kansas-Nebraska Big Blue River Compact Administration, I submit the Thirty-Sixth Annual Report. The report covers the activities of the Administration of the compact for the Fiscal Year 2009.

Respectfully,

Gary R. Mitchell
Compact Chairman
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April 20, 2009

Dear Compact Members:

Nebraska is hosting the Annual Meeting of the Kansas-Nebraska Big Blue River Compact Administration on May 20th, 2009 at 9:30 a.m. The meeting will be held at the Lower Big Blue Natural Resources District office in Beatrice, Nebraska. The street address is 805 Dorsey Street.

A tentative meeting agenda has been included with this notice. If there is anyone who did not receive a copy of this letter who you believe should be aware of the meeting, please inform them.

Sincerely,

Brian P. Dunnigan, P.E.
Director

Enclosure

cc: Jennifer Schellpeper, Burke Griggs, Pam Andersen, Keith Paulsen, Jean Angell, Katie Tietzort, Tom Stiles, Galen Biery, Pat Rice, Walt Aucott, Phil Soenksen, John Turnbull, Mike Onnen, Dave Clabaugh, Annette Kovar, Rich Reiman, Dan Howell, Paul Graves, Bob Lytle, Lindsey Douglas
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
36th ANNUAL MEETING

May 20, 2009
9:30 a.m.
Lower Big Blue Natural Resources District
805 Dorsey Street
Beatrice, Nebraska

AGENDA

1. Call to Order
2. Introductions and Announcements
3. Minutes of the 35th Annual Meeting
4. Chairman's Report
5. Kansas Report
6. Nebraska Report
7. United States Geological Survey Report
8. Secretary Report
9. Treasurer/Budget Report
10. Committee Reports
   a. Legal
   b. Engineering
   c. Water Quality
11. Old Business
12. New Business
13. Committee Membership and Special Assignments
14. Adjourn
May 18, 2009

Mr. Gary Mitchell, Chairman
Kansas-Nebraska Big Blue Compact
325 2600 Avenue
Solomon, KS 6740

Dear Mr. Mitchell:

Due to an unavoidable conflict, I will be unable to attend the annual meeting of the Kansas-Nebraska Big Blue River Compact Administration to be held on May 20, 2009 in Beatrice, Nebraska. I apologize for the short notice, however, this conflict just recently presented itself.

As a result, I am hereby appointing Mr. Paul Graves, Assistant Chief Engineer of the Kansas Department of Agriculture, Division of Water Resources, to act on my behalf as provided in Article III 3.2 of the Compact.

I regret the fact that I will not be able to attend this year’s meeting. Best wishes for a successful meeting.

Sincerely,

David W. Barfield
Chief Engineer

PC Bob Lytle, Compact Secretary
Brian Dunnigan
Sharon Schwartz
Ken Reiger
MINUTES OF THE 36TH ANNUAL MEETING
OF THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION

Call to Order

The thirty-sixth annual meeting of the Kansas-Nebraska Big Blue River Compact Administration was held on May 20, 2009 in the office of the Lower Big Blue Natural Resources District in Beatrice, Nebraska. The meeting was called to order at 9:35 am by Compact Chairman, Gary Mitchell. Mr. Mitchell thanked the Lower Big Blue Natural Resources District for hosting the meeting, and noted that he had not heard from the White House as to his tenure as Compact Chairman. Mr. Mitchell suggested that those in attendance introduce themselves.

Introductions

Those in attendance were:

Gary Mitchell
Brian Dunnigan
Ken Regier
Jason Kepler
Jean Angell
John Turnbull
Kevin Orvis
Jim Schneider
Doug Stokeland
Andrea Kessler
Keith Paulsen
Jennifer Schellpeper
Bob Lytle
Katie Tietsort
Burke Griggs
Dan Howell
Paul Graves
Dave Clabaugh
Sharon Schwartz

Compact Chairman and Federal Member
Nebraska Ex Officio Member, Director of the Nebraska Department of Natural Resources
Nebraska Compact Advisory Member
Nebraska Department of Natural Resources
Compact Legal Committee Chair, Nebraska Department of Natural Resources
Upper Big Blue Natural Resource District Manager
Little Blue Natural Resource District
Nebraska Department of Natural Resources
Lower Big Blue Natural Resource District Director
Nebraska Department of Natural Resources
Nebraska Department of Natural Resources, Lincoln Field Office
Compact Treasurer, Compact Engineering and Budget Committees, Nebraska Department of Natural Resources
Compact Secretary, Compact Engineering and Budget Committees, Kansas Department of Agriculture, Division of Water Resources
Topeka Field Office Water Commissioner, Kansas Department of Agriculture, Division of Water Resources
Compact Legal Committee, Kansas Department of Agriculture, Division of Water Resources
Kansas Member, Water Quality Committee
Assistant Chief Engineer, Kansas Department of Agriculture, Division of Water Resources, representing Kansas Ex Officio Member, David Barfield
Lower Big Blue Natural Resource District Manager
Kansas Compact Advisory Member, Kansas Legislative Representative
Approval of the Minutes of the 35th Annual Meeting

Compact Secretary, Bob Lytle, distributed copies of the minutes from the Fiscal 2008 Compact Meeting to attendees, and noted that most had been sent an electronic copy several months prior to today’s meeting. Comments were received from a few parties, and the minutes distributed today contain the suggested changes and corrections. After allowing for a few minutes to review the minutes, a motion was made and passed by unanimous consent to approve the minutes of the 2008 compact meeting with one minor typographical error to be corrected.

Kansas Report

Paul Graves, Assistant Chief Engineer of the Division of Water Resources, began the Kansas Report. He noted that he was attending and delivering a portion of the Kansas Report on behalf of Chief Engineer, David Barfield who had a conflict and was unable to attend. There were several water related legislative bills this past session. Two of them related to Intensive Groundwater Use Control Areas (IGUCA). One would eliminate the Chief Engineer’s authority to initiate IGUCAs within the boundaries of a Groundwater Management District (GMD), and the other outlined a procedure for initiating IGUCAs within a GMD. Neither bill passed. There was also another bill debated but did not pass that would have changed the determination for “due and sufficient cause” for the abandonment of a water right. HB 2050 did pass and it extended the sunset on the Division of Water Resources’ (DWR) permit and inspection fees from 2010 to 2015. The session was dominated by budget issues as Kansas like other states had a shortfall in state revenues. State agencies have had to adjust their budgets accordingly.

Mr. Graves gave a brief update on the three other compacts Kansas is a party to. The Republican River Compact has recently been in arbitration trial over points of dispute. Should the decision from that hearing not be favorable to Kansas it is possible that it may be pursued in the Supreme Court. The Kansas – Colorado Arkansas River Compact longstanding litigation has all but concluded. Last year the Special Master Issued his Fifth and Final Report recommending a Final Decree including the adoption of the Hydrologic Institutional model as a test for compliance with the compact. A few minor issues are being resolved which mostly pertain to future compliance by Colorado. As for the Kansas-Oklahoma Arkansas River Compact, both states are in compliance with no foreseeable controversies.

Kansas Advisory Member, Sharon Schwartz, a representative in the state legislature, had the following comments: This year’s legislative session was dominated by budget issues. The 2010 fiscal year had a $300 million projected shortfall, and the 2011 fiscal year has a projected shortfall of $500 million. The State did receive some federal stimulus dollars that helped postpone drastic cuts to programs and tax increases. An example of budget reductions was the Department of Education receiving a 2.5 percent cut as compared with the Department of Agriculture having a 22 percent reduction. Representative Schwartz mentioned that the Conservation Reserve Enhanced Program (CREP) is not going to receive funding in the future. This has been controversial, some typically urban legislators feel this is a good program to help eliminate groundwater declines, but there just isn’t enough state dollars to have an impact on the Ogallala Aquifer. Representative Schwartz discussed SB 64 which made minor clarifications to the Water Appropriation Act. Mrs. Schwartz concluded her comments by discussing a proposed energy project of Sunflower COOP which plans to construct an 895 megawatt power plant and a 179 megawatt wind energy facility and the preliminary provisions for providing the necessary water for the projects by the purchase of existing water rights.
Katie Tietsort, Water Commissioner of the Topeka Field Office, distributed a written copy of her report. She noted that in both the Big and Little Blue Basins, Kansas had a good 2008 water year with rainfall above the average and temperatures slightly below average, and so far for 2009 this pattern continues. Kansas experienced significant rain events in May, June and July, and the two stateline gages at Barneston and Hollenberg were well above the mean daily flow for the period of record during the compact months of 2008 (May thru September). Additionally, minimum desirable streamflow at the Marysville gage on the Big Blue River and at the Barneston gage on the Little Blue River was met throughout the 2008 year and therefore no administration of junior water right holders was required. Ms. Tietsort explained the Blatant and Re-occurring Overpumpers Program for water users who over-pump their authorized quantities. The Big Blue Basin did not have repeat offenders from last year which indicates that efforts to help these users were successful. Ms Tietsort concluded her remarks by discussing the Tuttle Creek Dam stabilization project. The dam was built on or near a fault line capable of producing a 6.6 magnitude earthquake. The project was started in 2005 and is on schedule to be completed in 2012.

Nebraska Report

Ex Officio Member Dunnigan began the Nebraska report by stating that the streamflows in the Big and Little Blue Basins were sufficient to meet the compact requirements for 2008, and Nebraska is hopeful that will be the case for 2009. As required by Nebraska law, the Department conducted annual evaluations of river basins not already engaged in the integrated management planning process to determine if any are fully appropriated. The Lower Platte was initially found to be but hearings revealed incorrect modeling assumptions. The Blue Basin was not found to be fully appropriated.

In water related legislation, LB 483 provides for baseline limitations on the number of irrigated acres for four years in a basin which annual evaluation resulted in an appropriation status change. The intent is to avoid becoming fully appropriated. LB 54 adds new requirements in basins with integrated management plans which describe methods for balancing development with sustainability. LB 477 requires Natural Resource Districts to acquire written consent from all pertinent parties with an interest in the land prior to the transfer of certified groundwater acres. LB 184 authorizes the Department to administer any riparian water rights established by a court order in appropriate priority with other water rights.

Keith Paulsen continued the Nebraska Report by addressing water administration in Nebraska. There were no reported shortages in either the Big Blue or the Little Blue basins both in state and out of state. Precipitation in Nebraska in 2008 was in the normal range, with timely rainfall preventing shortages. So far in 2009 the Blue Basin is below normal in rainfall in Nebraska. Streamflows are about normal in the upper reaches of the basin and somewhat below lower near the stateline. Many groundwater right holders have indicated that water table levels are up from 2007 and that the soil moisture is adequate to good.

Ken Regier commented that the spring groundwater measurements have been taken in the Upper Big Blue Natural Resource District and an overall rise in the water table of 2.6 feet has occurred. This is the second year in a row that the District has seen a rise in levels. Mr. Regier turned to John Turnbull to report further on the Upper Big Blue NRD.

Natural Resource District Reports
Upper Big Blue NRD

Mr. Turnbull, District Manager, handed out copies of the Upper Big Blue District Report. He noted that he began in the York District Office in January of 1978. The attitude of groundwater users at that time was one of reluctance to be managed or regulated, but there has been a generational change and people are much more willing to manage the resource, and now the District has 30 percent of their wells metered. New or replacement wells are required to be metered. He pointed out the graph of the groundwater levels in the District mentioned by Mr. Regier. Each spring the levels in 500 wells are measured, and interestingly enough there was only a ¼ foot difference in the levels from 1961 to this spring. Water use reports are required from all users in the district, which has 1,151,000 certified groundwater acres. The district is heavily irrigated, but the average usage last year was 4.3 inches per acre, quite a reduction from earlier years. As Mr. Dunnigan indicated, the Blue Basin has not been found to be fully appropriated, and so there is no moratorium or restriction of new wells in the district.

Although, Eighty percent of the district is already irrigated, leaving only odd or irregular lands for new development. Mr. Turnbull distributed copies of the District’s Newsletter. Bob Lytle asked for a description of the aquifer that has seen the recent water table rises underlying the Upper Big Blue NRD. The aquifer is overlaid by approximately 80 feet of windblown loess, and is the High Plains aquifer which ranges in saturated thickness of up to 400 feet. Ms. Tietsort asked about the District’s Crop Tip Program, and do they look at the efficiency of subsurface drip versus pivot. Mr. Turnbull indicated that the plot size of the program is too small for a pivot, and he responded to a question about the type of irrigation systems used in the district as being eighty percent pivots and far less gravity and the acres irrigated has double in the past 30 years. Representative Schwartz asked if nitrate soil testing is state wide. Mr. Turnbull responded by saying that the NRDs initiate testing, and in his district the sampling is limited to subareas with identified water quality problems.

Lower Big Blue NRD

Dave Clabaugh gave the report for the Lower Big Blue Natural Resource District. In contrast to the Upper Big Blue NRD which has approximately 12,000 wells, the Lower Big Blue NRD has about 2,500 irrigation wells. Its main aquifer is a buried paleo valley which supplies the City of Beatrice with its water. Dave passed out copies of the District’s fact sheet to those attending. He went through a few of the items on it, including the District’s spring groundwater level measurements being up 2.5 feet from last spring. The District uses a baseline year of 1982 to compare to current groundwater levels. Should levels fall below those of 1982, then metering, water allocation and groundwater management practices would be considered. The compact well measurements were 1.9 feet higher than last year. These are alluvial wells located near the Big and Little Blue Rivers. Mr. Clabaugh mentioned the Blue Basin Groundwater Modeling Study where the three Blue Basin NRDs evaluated the interaction between the groundwater and surface waters of the basin. A brief summary of the results is that less than 3 percent of the areas within the NRDs have groundwater surface water interaction. The District has two rural water projects ongoing, one just west of Beatrice and another to the southeast. The plan is to purchase water from Wymore to provide service to about 150 new users. He concluded his report by highlighting the fact that his district is known for its watershed projects with over 250 watershed dams with lakes ranging in size from 4 acres to 110 acres. The final district watershed project is the Lower Turkey Creek that will have a total of seven water control structures.

Little Blue NRD
Kevin Orris gave the report for the Little Blue River NRD. He began by saying the groundwater levels in their district also rose this spring by an average of 1.19 feet. He also distributed a written report. Mr. Orris explained that the district measured 340 observation wells in 2007 with 168 of those wells being below their lowest level of record, called the action level. By 2009 of the 340 wells measured only 67 wells were below the action level. An area called Quantity sub-Area 8 was reported upon. This area in Thayer County has a declining water table and the adjacent county of Jefferson has water quality issues related to upwelling of the Dakota Formation. This has resulted in a moratorium on new wells and irrigation scheduling and metering of wells. In 2008 the district collected 202 samples for nitrates in Adams and Webster Counties with an average of 4.81 ppm so there was no area of concern. A third of the district is measured each year. Mr. Orris reviewed the irrigated acres and irrigation wells tables. The district has a total of 6,078 active registered irrigation wells and in 2008, 109,313 acres were reported to have been irrigated. Finally, a groundwater remediation effort is ongoing at the Naval Ammunitions Depot near Hastings, Nebraska. The contaminants are trichloroethylene, TNT and RDX. The Corps of Engineers is putting in around 20 remediation wells to pump the plume of contaminated water to a treatment plant. The time frame for the clean-up effort is 40 to 50 years. The NRD is to decide what the remediated groundwater is to be subsequently used for. Nearby Whelan Energy Center is expanding, and part of the water is to be for cooling at the plant, the remainder may go for other uses including other industrial uses, groundwater recharge, recreation development or discharge to streams.

United States Geological Survey Report

There was not a representative from the USGS in attendance at the 36th Annual Meeting of the Big Blue River Compact Administration. It was however the consensus of several that their report was typically an expansion of the Engineering Committee Report in that it covers in more detail the flow records at the stateline gaging stations. It often contains information about the cost of maintaining the stations and any new gaging stations or stations that are scheduled to be discontinued as well. Ms. Tietsort indicated that the USGS was meeting today with state agencies concerning gaging stations and that was probably why no one from the USGS was attending this meeting.

Secretary's Report

Compact Secretary, Bob Lytle, requested that after the meeting the Compact Commissioners sign the minutes from the 2008 meeting that were approved earlier. Those minutes will then be made part of the Thirty Fifth Annual Report which will be printed later this summer and subsequently mailed to attendees and other interested parties. The minutes from today’s meeting will be transcribed and a draft will be e-mailed to those in attendance later this coming fall for additions and corrections.

Treasurer / Budget Report

Compact Treasurer, Jennifer Schellpeper, circulated her Treasurer’s and Budget Reports. She noted that the Compact is doing well financially due in part to savings from the secretary and treasurer no longer being paid honorarium positions. Overall, she reported that the Compact Administration has $26,155 on hand, and the estimated end of the year balance is $21,611 which is up about $500 from the beginning balance for the 2008 Fiscal Year.

As for the Budget Report, Ms. Schellpeper referred to the Budget Table she handed out. She noted that for the actual FY 07-08 the amount of $16,910 for the stateline gages was higher than the adopted amount because in that fiscal year we had an extra payment made that should have been from the
previous year. Also, in 07-08 we had two annual audits done making the actual amount a little over twice the adopted amount. She noted that the USGS has projected an annual increase in the cost for the stateline gages to be 3 percent, which is reflected in the FY 09-10 years and the estimated FY 10-11 year. Also reflected in the same years is an increase in the annual audit. Overall, the end of year balance for FY 10-11 is about $20,000, so it is recommended that the state assessments remain at the current $8,000 per state. Compact Chair Mitchell asked for approval of the Budget, to which there was unanimous consent.

Committee Reports

Legal Committee Report

Jean Angell, Legal Committee Chairperson, reported that there were no legal issues before the Legal Committee for this compact year.

Engineering Committee Report

Bob Lytle, Engineering Committee Chairperson, noted that of the four Interstate compacts Kansas is involved with, he believes the Blue Compact is the most prescriptive in that it provides the states with specific steps to be taken if compact stateline flows are not being met. So compliance is not difficult to determine. During the compact time frame from May thru September of 2008 the stateline target flows were met at both the Barneston, Nebraska Big Blue River gage and the Hollenberg, Kansas Little Blue River gage. So, as reported earlier by Keith Paulsen, no administration of surface water rights junior to the compact (November 1, 1968) was required. Mr. Lytle went thru briefly the Committee Report and its hydrographs and historic water data. There was one new water well drilled within the regulatory reaches, an area approximately 1/2 mile of either side of the rivers, and extending upstream from the stateline about 15 and 20 miles. There were no special assignments given to the committee for 2008.

Water Quality Committee

Ms. Schellpeper stated that Pat Rice, with the Nebraska Department of Environmental Quality and Chairperson of the Water Quality Committee, brought the Water Quality Report to her office yesterday. None of the other committee members are in attendance today. Dan Howell, member of the Water Quality Committee indicated that he attended the Water Quality Committee Meeting which was held on May 12, 2009 at the Lower Big Blue NRD Office in Beatrice, Nebraska. Mr. Howell indicated that the committee has some concerns about Conservation Reserve Program (CRP) acres in the Big Blue Basin that will be removed from the program over the next three years. Many of those acres should have never been put into cropland in the first place. Many of the acres that are currently in the program are highly erodible and should remain as grasslands. The committee wondered if there is anything that could be done to keep the lands from returning to tilled acres, or to keep these kinds of lands in CRP. Chairman Mitchell indicated that it is his understanding that producers have the option of keeping some of the land in the program for instance strips of land next to streams and riparian areas. The challenge will be to educate and convince farmers to do so. The water Quality Committee was not certain about how many acres Congress has coming out of CRP and buffer strip programs. Kansas Assistant Chief Engineer, Paul Graves, suggested the Water Quality Committee draft a letter to the appropriate Kansas and Nebraska Congress members addressing the Compact Administration’s concerns about the impact on water quality the removal of many of these lands from grass may have. The letter would then be reviewed and signed by the Compact Commissioners. Chairman Mitchell and the other commissioners
agreed. It was suggested that Pat Rice as chair of the committee should start the drafting of the letter with assistance from others.

Old Business

There was no old business to be discussed.

New Business

The location and date of the next annual meeting was discussed. The compact rotates between the two states on a two year cycle so the meeting will be held in Nebraska on May 19, 2010 at the Lower Big Blue NRD Office, Beatrice, Nebraska.

Committee Membership and Special Assignments

Ms. Schelling announced that she will no longer be working in the Big Blue River Basin, and that Nebraska is appointing Andrea Kessler to take over for her as the Compact Treasurer.

Committee appointments were made as follows:

<table>
<thead>
<tr>
<th>Budget Committee</th>
<th>Legal Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea Kessler NE Chair</td>
<td>Jean Angell NE Chair</td>
</tr>
<tr>
<td>Bob Lytle KS Member</td>
<td>Burke Griggs KS Member</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Quality Committee</th>
<th>Engineering Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pat Rice NE Chair</td>
<td>Bob Lytle KS Chair</td>
</tr>
<tr>
<td>Annette Kovar NE Member</td>
<td>Katie Tietz KS Member</td>
</tr>
<tr>
<td>Rich Reiman NE Member</td>
<td>Jason Kepler NE Member</td>
</tr>
<tr>
<td>Lindsey Douglas KS Member</td>
<td>Keith Paulsen NE Member</td>
</tr>
<tr>
<td>Tom Stiles KS Member</td>
<td></td>
</tr>
<tr>
<td>Dan Howell KS Member</td>
<td></td>
</tr>
</tbody>
</table>

The assignment of drafting a letter concerning CRP lands given to the Water Quality Committee was noted.

Adjournment

At 11:50 am Chairman Gary Mitchell declared the Thirty Sixth Annual Meeting of the Big Blue Compact Administration adjourned.
The Engineering Committee did not meet during the past year, and it was not given any special assignments from the Compact Administration. The 2008 data were collected in accordance with the agreements with the United States Geological Survey (USGS) and the Lower Big Blue Natural Resource District (LBBNRD).

**Review of Streamflow Data**

The Compact sets forth the following streamflow targets at the stateline gaging stations:

<table>
<thead>
<tr>
<th></th>
<th>Big Blue River</th>
<th>Little Blue River</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>45 cfs</td>
<td>45 cfs</td>
</tr>
<tr>
<td>June</td>
<td>45 cfs</td>
<td>45 cfs</td>
</tr>
<tr>
<td>July</td>
<td>80 cfs</td>
<td>75 cfs</td>
</tr>
<tr>
<td>August</td>
<td>90 cfs</td>
<td>80 cfs</td>
</tr>
<tr>
<td>September</td>
<td>65 cfs</td>
<td>60 cfs</td>
</tr>
</tbody>
</table>

During the May thru September time period of the 2008 water year (October 1, 2007 thru September 30, 2008) the mean daily streamflow at the Barneston gage on the Big Blue River (Exhibit A) and the Hollenberg gage on the Little Blue River (Exhibit B) exceeded the target flows established by the Compact. Therefore, no water right administration was required.

Real-time and historical data for these gaging stations can be viewed at the following websites:

**Review of Groundwater Data**

The USGS provided the hydrographs for the well in Gage County, Nebraska and the well in Jefferson County, Nebraska (Exhibits C & D). The LBBNRD provided the groundwater levels for wells in the Big Blue Basin near Beatrice in Exhibit E.

**Review of wells in the Regulatory Reaches**

The list of wells within the regulatory reaches is shown in Exhibit F. There was one new well drilled in the Big Blue regulatory reach during this reporting period. The well was completed on 12-11-2008.

Respectfully submitted,

Robert F. Lytle, Chair
Kansas

Jennifer J. Schellpeper
Nebraska
### SUMMARY STATISTICS

<table>
<thead>
<tr>
<th></th>
<th>Calendar Year 2007</th>
<th>Water Year 2008</th>
<th>Water Years 1933 - 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual total</td>
<td>376,916</td>
<td>538,046</td>
<td>849</td>
</tr>
<tr>
<td>Annual mean</td>
<td>1,033</td>
<td>1,470</td>
<td>849</td>
</tr>
<tr>
<td>Highest annual mean</td>
<td>2,781</td>
<td>1,470</td>
<td>1,933</td>
</tr>
<tr>
<td>Lowest annual mean</td>
<td>115</td>
<td>1993</td>
<td>1934</td>
</tr>
<tr>
<td>Highest daily mean</td>
<td>23,700 May 7</td>
<td>15,900 Jul 18</td>
<td>50,000 Jun 9, 1941</td>
</tr>
<tr>
<td>Lowest daily mean</td>
<td>99 Feb 15</td>
<td>210 Dec 31</td>
<td>1.0 Nov 30, 1945</td>
</tr>
<tr>
<td>Annual seven-day minimum</td>
<td>126 Feb 13</td>
<td>236 Dec 28</td>
<td>15 Aug 3, 1934</td>
</tr>
<tr>
<td>Maximum peak flow</td>
<td>18,100 Apr 25</td>
<td>57,700 Jun 9, 1941</td>
<td></td>
</tr>
<tr>
<td>Maximum peak stage</td>
<td>20.70 Apr 25</td>
<td>34.30 Jun 9, 1941</td>
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</tr>
<tr>
<td>Annual runoff (ac-ft)</td>
<td>747,600</td>
<td>1,067,000</td>
<td>615,100</td>
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<tr>
<td>10 percent exceeds</td>
<td>2,390</td>
<td>3,920</td>
<td>1,750</td>
</tr>
<tr>
<td>50 percent exceeds</td>
<td>385</td>
<td>508</td>
<td>276</td>
</tr>
<tr>
<td>90 percent exceeds</td>
<td>161</td>
<td>257</td>
<td>105</td>
</tr>
</tbody>
</table>

![Graph showing monthly mean discharge, cubic feet per second from 2007 to 2008.]
### WATER-QUALITY RECORDS

#### WATER-QUALITY DATA

**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Altitude of land surface (feet)</th>
<th>Gage height above datum (meters)</th>
<th>Gage height, feet (0.065)</th>
<th>Instantaneous discharge, cubic feet per second (cfs)</th>
<th>Discharge at point in stream, cubic feet per second (cfs)</th>
<th>Drainage area, square miles (mi²)</th>
<th>Stream width, feet (0.004)</th>
<th>Stream depth, feet (0.001)</th>
<th>Drainage basin NTRU</th>
<th>Barometric pressure, mm Hg</th>
<th>Dissolved oxygen, percent of saturation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apr 25</strong></td>
<td>1400</td>
<td>1,162</td>
<td>5.79</td>
<td>18.98</td>
<td>E16,800</td>
<td>E476</td>
<td>E5.00</td>
<td>4,447</td>
<td>230</td>
<td>2,910</td>
<td>730</td>
<td>8.0</td>
</tr>
</tbody>
</table>

#### WATER-QUALITY DATA

**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Specific conductance, wat unfiltered std units</th>
<th>Specific conductance, wat unfiltered std units</th>
<th>Temperature, air, °C</th>
<th>Temperature, water, °C</th>
<th>Hardness, water, mg/L</th>
<th>Calcium, water, mg/L</th>
<th>Magnesium, water, mg/L</th>
<th>Potassium, water, mg/L</th>
<th>Sodium adsorption ratio percent</th>
<th>Sodium, water, mg/L</th>
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</thead>
<tbody>
<tr>
<td><strong>Apr 25</strong></td>
<td>7.7</td>
<td>7.6</td>
<td>220</td>
<td>197</td>
<td>7.4</td>
<td>12.3</td>
<td>57</td>
<td>15.9</td>
<td>4.15</td>
<td>6.87</td>
<td>.5</td>
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</table>

#### WATER-QUALITY DATA

**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Chloride water, mg/L</th>
<th>Fluoride water, mg/L</th>
<th>Silica water, mg/L</th>
<th>Sulfate water, mg/L</th>
<th>Chloride on evaporation</th>
<th>Ammonia water, mg/L</th>
<th>Nitrate + Nitrite water, mg/L</th>
<th>Nitrate water, mg/L</th>
<th>Nitrate water, mg/L</th>
<th>Organic nitrogen, mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apr 25</strong></td>
<td>4.63</td>
<td>.20</td>
<td>8.01</td>
<td>13.1</td>
<td>132</td>
<td>.53</td>
<td>.415</td>
<td>2.19</td>
<td>9.40</td>
<td>2.12</td>
<td>.214</td>
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## SUMMARY STATISTICS

<table>
<thead>
<tr>
<th></th>
<th>Calendar Year 2007</th>
<th>Water Year 2008</th>
<th>Water Years 1975 - 2008</th>
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<tr>
<td>Annual total</td>
<td>217,052</td>
<td>264,204</td>
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<tr>
<td>Annual mean</td>
<td>595</td>
<td>722</td>
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<tr>
<td>Highest annual mean</td>
<td>1,891</td>
<td></td>
<td>1993</td>
</tr>
<tr>
<td>Lowest annual mean</td>
<td></td>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>Highest daily mean</td>
<td>15,100</td>
<td>Aug 2</td>
<td>Jul 18</td>
</tr>
<tr>
<td>Lowest daily mean</td>
<td>97</td>
<td>Feb 4</td>
<td>Dec 9</td>
</tr>
<tr>
<td>Annual seven-day minimum</td>
<td>100</td>
<td>Feb 2</td>
<td>Dec 9</td>
</tr>
<tr>
<td>Maximum peak flow</td>
<td>15,800</td>
<td>Jul 18</td>
<td>47,800</td>
</tr>
<tr>
<td>Maximum peak stage</td>
<td></td>
<td></td>
<td>21.21</td>
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<tr>
<td>Annual runoff (ac-ft)</td>
<td>430,500</td>
<td>524,000</td>
<td>364,700</td>
</tr>
<tr>
<td>10 percent exceeds</td>
<td>1,320</td>
<td>1,420</td>
<td>847</td>
</tr>
<tr>
<td>50 percent exceeds</td>
<td>244</td>
<td>352</td>
<td>199</td>
</tr>
<tr>
<td>90 percent exceeds</td>
<td>115</td>
<td>183</td>
<td>102</td>
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</table>

### Mean Discharge, Cubic Feet per Second

![Graph showing mean discharge, cubic feet per second](image-url)
EXHIBIT C  GAGE COUNTY
EXHIBIT D

JEFFERSON COUNTY

### EXHIBIT E

**BIG BLUE RIVER COMPACT STATIC WATER LEVELS 2008**

<table>
<thead>
<tr>
<th>LEGAL</th>
<th>SECTION</th>
<th>LOCATION</th>
<th>WELL</th>
<th>DEPTH SPRING</th>
<th>DEPTH FALL</th>
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<tr>
<td>4N-5E</td>
<td>2</td>
<td>AAAA</td>
<td>OW</td>
<td>98.18</td>
<td>95.47</td>
</tr>
<tr>
<td>4N-5E</td>
<td>2</td>
<td>DDAA</td>
<td>IW</td>
<td>18.21</td>
<td>18.72</td>
</tr>
<tr>
<td>4N-5E</td>
<td>4</td>
<td>BBBC</td>
<td>IW</td>
<td>20.68</td>
<td>19.86</td>
</tr>
<tr>
<td>4N-5E</td>
<td>9</td>
<td>CBCC</td>
<td>IW</td>
<td>82.00</td>
<td>74.70</td>
</tr>
<tr>
<td>4N-5E</td>
<td>10</td>
<td>DDAA</td>
<td>IW</td>
<td>25.79</td>
<td>24.98</td>
</tr>
<tr>
<td>4N-5E</td>
<td>11</td>
<td>DACA</td>
<td>IW</td>
<td>15.63</td>
<td>16.01</td>
</tr>
<tr>
<td>4N-5E</td>
<td>14</td>
<td>ABBB</td>
<td>IW</td>
<td>12.17</td>
<td>12.02</td>
</tr>
<tr>
<td>4N-5E</td>
<td>25</td>
<td>AACD</td>
<td>IW</td>
<td>21.59</td>
<td>19.61</td>
</tr>
<tr>
<td>5N-4E</td>
<td>12</td>
<td>ABBA</td>
<td>IW</td>
<td>18.99</td>
<td>18.29</td>
</tr>
<tr>
<td>5N-4E</td>
<td>13</td>
<td>BADD</td>
<td>IW</td>
<td>18.41</td>
<td>14.40</td>
</tr>
<tr>
<td>5N-4E</td>
<td>23</td>
<td>BABB</td>
<td>IW</td>
<td>15.34</td>
<td>14.98</td>
</tr>
<tr>
<td>5N-4E</td>
<td>24</td>
<td>AACD</td>
<td>IW</td>
<td>19.54</td>
<td>16.97</td>
</tr>
<tr>
<td>5N-5E</td>
<td>7</td>
<td>CADD</td>
<td>IW</td>
<td>65.44</td>
<td>61.46</td>
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<tr>
<td>5N-5E</td>
<td>20</td>
<td>BCCD</td>
<td>IW</td>
<td>21.83</td>
<td>19.39</td>
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<tr>
<td>5N-5E</td>
<td>21</td>
<td>DDBB</td>
<td>IW</td>
<td>54.88</td>
<td>56.77</td>
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<tr>
<td>5N-5E</td>
<td>29</td>
<td>CBBB</td>
<td>IW</td>
<td>16.74</td>
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<tr>
<td>5N-5E</td>
<td>33</td>
<td>AADD</td>
<td>IW</td>
<td>20.05</td>
<td>18.90</td>
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</table>

**OW - OBSERVATION WELLS**
Exhibit F

Big Blue River

<table>
<thead>
<tr>
<th>Registration Number</th>
<th>Location T-R-S</th>
<th>Completion Date</th>
<th>Depth (FT)</th>
<th>Registration Pumping Capacity (GPM)</th>
<th>Filing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-038314</td>
<td>4N-5E-2DD</td>
<td>1-16-1973</td>
<td>188</td>
<td>1300</td>
<td>1/29/1973</td>
</tr>
<tr>
<td>G-050086</td>
<td>5N-5E-33AD</td>
<td>5-26-1976</td>
<td>123</td>
<td>800</td>
<td>6/9/1976</td>
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<tr>
<td>G-054047</td>
<td>4N-5E-24BB</td>
<td>3-1-1976</td>
<td>84</td>
<td>800</td>
<td>1/6/1977</td>
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<tr>
<td>G-054260</td>
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<td>6-1-1974</td>
<td>70</td>
<td>800</td>
<td>1/14/1977</td>
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<tr>
<td>G-054261</td>
<td>4N-5E-14AB</td>
<td>5-2-1970</td>
<td>70</td>
<td>800</td>
<td>1/14/1977</td>
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<tr>
<td>G-059128</td>
<td>5N-5E-29AA</td>
<td>4-25-1977</td>
<td>60</td>
<td>600</td>
<td>1/4/1977</td>
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<td>G-110669</td>
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<td>7-12-1995</td>
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<td>375</td>
<td>6/29/2001</td>
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<tr>
<td>G-110847</td>
<td>4N-5E-3DA</td>
<td>2-4-1979</td>
<td>82</td>
<td>800</td>
<td>7/2/2001</td>
</tr>
<tr>
<td>G-110849</td>
<td>5N-5E-29DD</td>
<td>4-30-1983</td>
<td>102</td>
<td>800</td>
<td>7/2/2001</td>
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<tr>
<td>G-151969</td>
<td>5N-5E-33BB</td>
<td>12-11-2008</td>
<td>112</td>
<td>800</td>
<td>1/20/2009</td>
</tr>
</tbody>
</table>

Little Blue River

<table>
<thead>
<tr>
<th>Registration Number</th>
<th>Location T-R-S</th>
<th>Completion Date</th>
<th>Depth (FT)</th>
<th>Registration Pumping Capacity (GPM)</th>
<th>Filing Date</th>
</tr>
</thead>
</table>

* G-151969 is a new registered well.
Water Quality Committee
May 20, 2009
KANSAS – NEBRASKA BIG BLUE RIVER
COMPACT ADMINISTRATION
REPORT

Water Quality Committee
May 20, 2009

BACKGROUND: In 1995, the Water Quality Committee and affiliated partner agencies and associations began pursuing four (4) primary objectives designed to enhance water quality in the Big Blue River Basin of Kansas and Nebraska. These objectives were to:

1. Design, implement, and conduct a basin wide water quality monitoring program;

2. Develop and conduct a baseline survey of farm practices utilized in the basin with emphasis on pesticide and nutrient use;

3. Develop water quality Best Management Practices (BMPs) and economics support information suitable to the basin; and,

4. Initiate and conduct water quality stewardship education and outreach programs in the basin.

Most Water Quality Committee projects are planned and conducted through the use of work groups made up of governmental agency, land grant university and private sector partners. The full committee and affiliated partners meet annually for a review of the status of existing projects and to plan activities for the upcoming year. Typically we hold the annual meeting immediately preceding the annual meeting of the Kansas - Nebraska Big Blue River Compact Administration. Project work groups meet as the need arises. Over the years we have developed an excellent working relationship with most decisions being made by consensus.

ANNUAL MEETING: The 2009 annual meeting of the Kansas - Nebraska Big Blue River Compact Administration’s Water Quality Committee was held on Tuesday, May 12 beginning at 10:00 a.m. in the offices of the Lower Big Blue Natural Resource District, 805 Dorsey Street, Beatrice, NE. A list of attendees follows:
Water Quality Monitoring and TMDLs

Pat O’Brien (NARD) presented an update on Nebraska activities.

Summary of Section 303(d) and Total Maximum Daily Load (TMDL) Activities in the Little Blue Basin

The Nebraska Department of Environmental Quality submitted the 2008 Water Quality Integrated Report (IR) to EPA Region 7 on March 26, 2008. The Integrated Report is the combination of the Clean Water Act Section 303(d) list of impaired waterbodies and the Clean Water Act Section 305(b) Water Quality Report. After several discussions and a modification, the IR was approved by Region 7 on February 3, 2009. Much of the discussion centered on the nutrient criteria proposed by NDEQ and thus used for assessments. Another issue involved the assessment of fish and macroinvertebrate data and information.

Potential assessments for waterbodies in the 2008 IR are:

- **Category 1** – Waterbodies where all designated uses are met.
- **Category 2** – Waterbodies where some of the designated uses are met but there is insufficient information to determine if all uses are being met.
• **Category 3** – Waterbodies where there is insufficient data to determine if any beneficial uses are being met.

• **Category 4** – Waterbody is impaired, but a TMDL is not needed. Sub-categories 4A, 4B, 4C and 4R outline the rationale for the waters not needing a TMDL:
  - **Category 4A** – Waterbody assessment indicates the waterbody is impaired, but all of the required TMDLs have been completed.
  - **Category 4B** – Waterbody is impaired, but “other pollution control requirements” are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control requirements include but are not limited to, National Pollutant Discharge Elimination System (NPDES) permits and best management practices.
  - **Category 4C** – *Waterbody is impaired but the impairment is not caused by a pollutant. This category also includes waters where natural causes/sources have been determined to be the cause of the impairment.* In general, natural causes/sources shall refer to those pollutants that originate from landscape geology and climactic conditions. It should be noted; this general description does not exclude parameters and can be utilized when appropriate justification is provided.
  - **Category 4R** – Waterbody data exceeds the impairment threshold, however a TMDL may not be needed. The category will only be used for nutrient assessments in new or renovated lakes and reservoirs. Newly filled reservoirs usually go through a period of trophic instability – a trophic upsurge followed by the trophic decline. Erroneous or non representative water quality assessments are likely to occur during this period. To account for this, all new or renovated reservoirs will be placed in this category for a period not to exceed eight years following the fill or re-fill process. After the eighth year monitoring data will be assessed and the waterbody will be appropriately placed into category 1, 2, or 5.

• **Category 5** – Waterbodies where one or more beneficial uses are determined to impaired by one or more pollutants and all of the TMDLs have not been developed. **Category 5 waters constitute the Section 303(d) list subject to EPA approval/disapproval.**

The final approved IR and assessments for waterbodies in the Big and Little Blue River basins are found in the table below.

<table>
<thead>
<tr>
<th>Basin</th>
<th>Cat. 1</th>
<th>Cat. 2</th>
<th>Cat. 3</th>
<th>Cat. 4A</th>
<th>Cat. 4B</th>
<th>Cat. 4C</th>
<th>Cat. 4R</th>
<th>Cat. 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Blue Streams</td>
<td>0</td>
<td>12</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>63</td>
</tr>
<tr>
<td>Big Blue Lakes</td>
<td>0</td>
<td>3</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>31</td>
</tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>
Parameters identified as impairing the beneficial uses include nutrients, mercury, atrazine, PCB’s, selenium dieldrin, unknown (aquatic life impairment), and *E. coli*. 

It should be noted that EPA deferred action on several lakes there were delisted or re-categorized using the proposed nutrient criteria. Because of this the 2010 IR may have waters assessed as fully supporting in the 2008 IR relocated to Category 5. 

TMDL activity in the basins was limited to completing the sediment and nutrient TMDLs for Big Indian Lake (BB1-L0030). Big Indian Lake was one of the waterbodies where the assigned nutrient criteria were being questioned. Completion of a TMDL was deemed an important part of the community-based watershed management plan. In order to complete the TMDL, the NDEQ agreed to utilize the EPA recommended nutrient criteria. In the future, should resolution on Nebraska’s nutrient criteria be reached, the TMDL will be revised. 

Public notice of the TMDL will likely occur by June 1 with submittal to EPA before August 31, 2009. 

**Tuttle Creek Lake**

Greg Michl (NDEQ), Wally Valasek (NRCS), and Melinda Bergmann (MCCD) presented an update. In 2006 NDEQ working in behalf of the WQ Committee received grant funding from the EPA Targeted Watersheds Grants Program for water quality work in the basin. The project is a collaborative effort between the states of Nebraska and Kansas and is designed to address multi-jurisdictional water quality problems including excessive runoff of sediment, nutrients, herbicides and bacteria from the Big Blue River system into Tuttle Creek Lake. EPA is providing $810,000 in grant funds and the LBBNRD and the LBNRD are providing $135,000 and $200,000 respectively in match funds for a total project cost of $1,080,000. A summary of expenditures through May 7, 2009 is included in Attachment A. The project is scheduled to be completed by September 30, 2011. 

Greg Michl (NDEQ) reported the following progress for April 2008 to April 2009: 

- **Progress to date in Nebraska for signing up landowners for conservation practices includes 23 contracts totaling ~ $156,036** 
- **Progress to date in Kansas for signing up landowners for conservation practices (i.e., no-till only) includes 5 contracts totaling $36,495.** 
- **Effective August 29th, 2008 Allen Harries resigned as the Water Quality Coordinator for Marshall County Conservation District (MCCD) in Kansas. In Mr. Harries absence, MCCD Manager, Melinda Bergmann will oversee project activities until its completion date.** 
- **Effective September 30, 2008 Jeremy Bowers resigned as the Tuttle Watershed Specialist for the USDA Natural Resources Conservation Service (NRCS). A request to EPA for an extension of this position until May 31, 2009 had been approved; however NDEQ received notice from the NRCS in October of 2008 that this contract extension be terminated** 
- **A meeting between the Nebraska Department of Environmental Quality (NDEQ), Natural Resources Conservation Service (NRCS) and the Lower Big Blue Natural Resources District (LBBNRD) was held March 5th 2009 where an agreement was worked out to utilize the**
LBNRD's part-time conservationists to work with project area landowners in the absence of a watershed specialist.

After the Big Blue River Water Quality Committee meeting adjourned, a smaller group of people met regarding the Tuttle Creek Watershed project funded by EPA and sponsored by NDEQ. More discussion was held regarding the watershed coordinators in Nebraska and Kansas, the use of the grant money for other practices, such as terraces, and the issue of monitoring and modeling. The project is required to "measure the effect conservation practices have had" which can be done by monitoring, modeling, or a combination of both. NDEQ and KDHE will discuss the options available and present changes to the EPA workplan. EPA staff has some specific grant audit questions to ask and everyone joined in discussion of the grant, its purpose, and the hoped for outcomes.

Nebraska Buffer Strip Program

Craig Romary (NDA) provided an update on the Nebraska Buffer Strip Program (NBSP). The NBSP continues to be successful as evidenced in Attachment B. The number of applications and total acres are slightly less than last year. Additional information on the NBSP can be found at [http://www.agr.ne.gov/division/bpi/pes/bnff.htm](http://www.agr.ne.gov/division/bpi/pes/bnff.htm). The Nebraska Legislature transferred $500,000 from the NBSP to combat invasive plant species.

- Nebraska Buffer Strip Program – Current status (see reverse)
  - These totals include an approval of approximately $120,000 in annual payment in Fall of 2008
  - Fall 2008 approvals consisted of approximately 75% renewals/25% new
  - 2009 Legislature approved $500,000 transfer to
  - Plan to have sign-up yet this summer or early fall

- Pesticides of Interest/Pesticides of Concern
  - atrazine and acetochlor classified as "pesticide of concern" based on review of water quality data
  - Continue to request water quality topics be included in pesticide applicator training sessions for private and commercial applicators
  - Work with NDEQ in TMDL/watershed planning

- NRD ELISA Project – immunoassay analysis of pesticides in water
  - atrazine, metolachlor, acetochlor, alachlor
  - mainly targeting ground water but some NRDs are utilizing data as support of 319, other watershed projects

- EPA/Syngenta Watershed Monitoring (atrazine ecological exposure monitoring program) – required from 2003 EPA Registration Eligibility Decision
  - 7 sites in Nebraska
  - 1 site exceeded level of concern in multiple years/3 exceeded in one year
  - Continued monitoring as well as re-evaluating the ecological model at the national level
National NPDES-pesticide issue

Wally Valasek of NCRS provided an NRCS Update:

Contracts Written
- 17 CRP Contracts
  - 58.2 Acres of Filter Streips
  - 30.9 Acres of Field Borders
- Nutrient and Pest Management
  - 6 Contracts Written for 889.9 Acres
- No – Till
  - 5 Contracts Written for 675.9 Acres
- 3 Off Stream Water Supply Contracts
  - 7,200 Feet of Pipeline
  - 3 Wells and Livestock Tanks
- 1 Land Treatment Contact
  - 12,000 Feet Terraces
  - 2,130 Feet Underground Tile Outlets
  - 3 Acres of Grassed Waterways

Greg Michl provided a summary of Nebraska Section 319 Nonpoint Source Program Activities – Big and Little Blue River Basins:

Big Blue Basin Watershed Projects
- Big Indian Reservoir and Watershed Project: Status – Ongoing
- Swan Creek 5A Reservoir and Watershed Project: Status – Complete
- Cub Creek 12A Bacteria Evaluation (NDEQ/USDA-ARS): Status – Ongoing

Little Blue Basin Watershed Projects
- Lone Star Reservoir and Watershed Project: Status – Ongoing

Pending Pesticide Rule

On January 7, 2009 the 6th Circuit Court of Appeals vacated the U.S. Environmental Protection Agency (EPA)’s pesticide rule. The National Cotton Council and several environmental groups sued EPA over the exemption from permits for the application of pesticides. The EPA rule had exempted certain pesticides applied to waters in accordance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) labeled instructions from requiring a National Pollutant Discharge Elimination System (NPDES) permit under the federal Clean Water Act (CWA). The EPA pesticide rule had been appealed judicially in almost all of the federal circuits and consolidated for decision in the 6th Circuit, so the decision applies nationally. Vacating the EPA rule means a NPDES permit under the CWA would be required for each application of pesticides to water to control pests and noxious plants.

Current Status:
The Department proposed a new chapter to Title 119, Chapter 28 Permit-by-Rule, that will establish a general permit-by-rule for the application of pesticides to, over, or near waters of the state, provided specific requirements are satisfied. Our goal with this proposed regulation is to address a gap in permit coverage by putting general permit in place to authorize pesticide applications this spring and summer with minimal disruptions to current practices.

The Environmental Quality Council approved revisions to Title 119 on March 31, 2009. The Attorney General has approved the revised regulations. The Governor has not signed the regulations at this time pending a ruling from the federal 6th circuit Court. There is a request for a rehearing and a two year stay of the Court’s January 7, 2009 ruling. With these two requests, the Court’s January 7, 2009 ruling has not become effective and the exemption for application of pesticides applying according to the FIFRA label is still in effect. A time frame for the court to make a ruling has not been established.

General Impact:

The application of pesticides to remove phragmites and other invasive species in streams and lakes is an important water management tool. Federal funding through the EQUIP program administered by USDA and overseen by the Dept. of Natural Resources (DNR), Dept. of Agriculture (DOA), Game and Parks, and the NRDs, has been available to landowners and water management agencies. Applying for and issuing permits, which EPA and NDEQ have not been required in the past, has the potential to delay needed pesticide applications. In addition, pesticides are applied to water to control other invasive species and pests, such as mosquito larvae, which could present public health issues. The potential delay in addressing mosquitoes could become a health issue if they needed to wait for a site specific permit or general permit.

The potential thousands of permits needed would be overwhelming on a site specific or general permit basis with Notices of Intent (NOI).

Estimated Applicator Impact:

The Nebraska Department of Agriculture provided the following estimate of applicators by category that would be most impacted by the permit-by-rule.

- Ag Plant commercial/non-commercial: 3,926
- Forestry: 14
- Turf and Ornamental: 2,829
- Aquatic: 270
- Right-of-Way: 1,505
- Public Health (mosquito): 434
- Aerial application: 337

Heartland Project

Tom Franti reported that the Heartland Project has hired an experienced computer modeler that will be available to the four states in EPA Region VII. Tom indicated this person would be on board sometime in August and could provide modeling assistance or training to the Tuttle Creek Lake Targeted
Watershed Project (TCTWP). The development of a model to analyze the existing data and predict water quality improvement benefits for the TCTWP would be an alternative to continued water quality monitoring. The Heartland Project is funded for the next four years through a grant from EPA. There will be a workshop in June sponsored through the Heartland Project examining the benefits and costs surrounding No Till and CRP. Tom will provide additional information via e-mail upon request.

**Conservation Reserve Program / No Till Practices**

Tom Franti reported on a recent survey in the Big Blue Basin that indicated that No Till is being adopted at greater than 70-75% of the potential candidates sights; this is one reason it is so hard to sign up additional acres. Not all of these sights are continuous No Till, some are rotational No Till. Grass filter strips were reported in use on 30% of randomly surveyed sites while 15-17% of the sites reported riparian forest buffer strips. Dan Howell reported on a Kansas State presentation on runoff from No Till versus cultivated land. Runoff from No Till can be higher depending upon the timing and intensity of rainfall events.

Concern was expressed from almost everyone in attendance that the large number of acres of land coming out of Buffer Strips/No Till/CRP will undue the water quality gains from past 20 years if those acres go back to cultivated ground and can't be reenrolled. The sentiment was expressed that there should be options for transitioning from grassland to cultivated ground. One suggestion was to extend existing contracts up to an additional five years and another was to look at an option to pay ½ the rent to keep land in grassland with a grazing option or pay for fencing along waterways.

The last order of business to be conducted was the selection of a chair person. Traditionally, the selection of a new Water Quality Committee chair person is done by unanimous acclamation. Pat Rice agreed to continue to serve as the chair person for another year.
# Attachment A

<table>
<thead>
<tr>
<th>Budget Category</th>
<th>Total Expenditures (£ as of 5/7/09)</th>
<th>Committed and/or Confirmed £</th>
<th>Original Budgeted Amount £</th>
<th>Un-committed/Unspent Balances £</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NE - WQ Specialist</td>
<td>122,566.79</td>
<td>150,000.00</td>
<td>28,433.21</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LCCO - No. 10 Contracts</td>
<td>42,556.75</td>
<td>36,525.02</td>
<td>18,000.00</td>
<td>37,924.25</td>
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<tr>
<td>LCCO - WQ Specialist</td>
<td>4,473.25</td>
<td>-</td>
<td>25,000.00</td>
<td>25,500.00</td>
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<tr>
<td>LCCO - Workshops</td>
<td>1,500.00</td>
<td>-</td>
<td>3,000.00</td>
<td>1,500.00</td>
<td></td>
</tr>
<tr>
<td>LCCO - Overhead</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>NS - BMP Contracts (LBANRD)</td>
<td>30,784.52</td>
<td>20,000.00</td>
<td>50,000.00</td>
<td>12,000.00</td>
<td>2</td>
</tr>
<tr>
<td>LBANRD - Overhead</td>
<td>-</td>
<td>-</td>
<td>10,000.00</td>
<td>10,000.00</td>
<td>3</td>
</tr>
<tr>
<td>Non-federal Match - (LBANRD ~£35,000 &amp; LBANRD ~£200,000)</td>
<td>-</td>
<td>-</td>
<td>2,000.00</td>
<td>10,000.00</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>203,334.86</td>
<td>145,741.06</td>
<td>1,080,000.00</td>
<td>810,000.00</td>
<td>464,924.20</td>
</tr>
</tbody>
</table>

Note 1: NRCS contract was amended to extend WQ Specialist Position (£45,000). No contract was canceled by NRCS.

Note 2: LBANRD’s contract for BMPs was to be reduced by £45,000. No contract was canceled by NRCS.

Note 3: LBANRD was informed of the expenditure of £81,997.
### Nebraska Buffer Strip Program Summary

<table>
<thead>
<tr>
<th>NRD</th>
<th># Applications</th>
<th>Total Acres</th>
<th>Mile</th>
<th>Irrigated Acres</th>
<th>Annual Application Dollars</th>
<th>&quot;BSP Only&quot; Acres</th>
<th>BSP Only Dollars</th>
<th>Annual Contracted Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Platte</td>
<td>37</td>
<td>297.4</td>
<td>30</td>
<td>258</td>
<td>$31,879.58</td>
<td>158</td>
<td>$10,522.39</td>
<td>$29,571.64</td>
</tr>
<tr>
<td>Lewis &amp; Clark</td>
<td>27</td>
<td>163.9</td>
<td>22</td>
<td>57</td>
<td>$11,048.40</td>
<td>56</td>
<td>$7,778.28</td>
<td>$8,779.22</td>
</tr>
<tr>
<td>Little Blue</td>
<td>58</td>
<td>335.2</td>
<td>53</td>
<td>219</td>
<td>$38,339.90</td>
<td>226</td>
<td>$12,046.63</td>
<td>$32,586.97</td>
</tr>
<tr>
<td>Lower Big Blue</td>
<td>178</td>
<td>1,192.4</td>
<td>136</td>
<td>302</td>
<td>$55,494.91</td>
<td>254</td>
<td>$31,866.20</td>
<td>$47,177.06</td>
</tr>
<tr>
<td>Lower Elkhorn</td>
<td>254</td>
<td>2,043.0</td>
<td>209</td>
<td>379</td>
<td>$71,657.92</td>
<td>181</td>
<td>$24,710.55</td>
<td>$68,661.54</td>
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<tr>
<td>Lower Loup</td>
<td>71</td>
<td>912.4</td>
<td>82</td>
<td>780</td>
<td>$124,952.0</td>
<td>827</td>
<td>$118,438.8</td>
<td>$104,808.78</td>
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<tr>
<td>Lower Niobrara</td>
<td>4</td>
<td>36.3</td>
<td>4</td>
<td>34</td>
<td>$6,973.07</td>
<td>9</td>
<td>$1,661.04</td>
<td>$7,634.11</td>
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<tr>
<td>Lower Platte North</td>
<td>47</td>
<td>335.8</td>
<td>36</td>
<td>190</td>
<td>$13,320.04</td>
<td>44</td>
<td>$5,894.52</td>
<td>$19,217.55</td>
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<tr>
<td>Lower Platte South</td>
<td>65</td>
<td>435.3</td>
<td>61</td>
<td>14</td>
<td>$14,966.73</td>
<td>70</td>
<td>$8,295.99</td>
<td>$23,262.78</td>
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<tr>
<td>Lower Republican</td>
<td>3</td>
<td>17.6</td>
<td>1</td>
<td>0</td>
<td>$916.51</td>
<td>9</td>
<td>$916.51</td>
<td>$916.51</td>
</tr>
<tr>
<td>Middle Republican</td>
<td>4</td>
<td>58.8</td>
<td>5</td>
<td>16</td>
<td>$3,832.08</td>
<td>44</td>
<td>$3,752.17</td>
<td>$3,752.17</td>
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<tr>
<td>Nemaha</td>
<td>197</td>
<td>1,695.1</td>
<td>197</td>
<td>51</td>
<td>$54,319.76</td>
<td>121</td>
<td>$16,984.43</td>
<td>$51,810.75</td>
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<tr>
<td>Papio-Missouri River</td>
<td>41</td>
<td>261.0</td>
<td>29</td>
<td>0</td>
<td>$9,727.92</td>
<td>45</td>
<td>$6,435.19</td>
<td>$9,772.92</td>
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<tr>
<td>South Platte</td>
<td>15</td>
<td>154.7</td>
<td>14</td>
<td>92</td>
<td>$16,087.39</td>
<td>147</td>
<td>$16,036.57</td>
<td>$16,087.39</td>
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<tr>
<td>Tri-Base</td>
<td>10</td>
<td>86.7</td>
<td>11</td>
<td>79</td>
<td>$12,329.68</td>
<td>87</td>
<td>$12,329.68</td>
<td>$12,329.68</td>
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<tr>
<td>Twin Platte</td>
<td>12</td>
<td>86.2</td>
<td>7</td>
<td>50</td>
<td>$6,202.66</td>
<td>21</td>
<td>$3,028.78</td>
<td>$9,564.21</td>
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<tr>
<td>Upper Big Blue</td>
<td>37</td>
<td>318.7</td>
<td>46</td>
<td>217</td>
<td>$33,362.06</td>
<td>182</td>
<td>$26,772.85</td>
<td>$26,528.78</td>
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<tr>
<td>Upper Elkhorn</td>
<td>13</td>
<td>183.9</td>
<td>17</td>
<td>176</td>
<td>$16,267.28</td>
<td>22</td>
<td>$3,315.00</td>
<td>$18,282.28</td>
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<tr>
<td>Upper Republican</td>
<td>33</td>
<td>333.5</td>
<td>19</td>
<td>76</td>
<td>$12,887.26</td>
<td>63</td>
<td>$7,865.07</td>
<td>$9,753.41</td>
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</tbody>
</table>

**LAND-USE DOLLARS**

<table>
<thead>
<tr>
<th>Buffer Type</th>
<th>Total Dollars</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Grazed Buffer</td>
<td>$537,995.28</td>
<td>2,559</td>
</tr>
<tr>
<td>For Non-Grazed Buffer</td>
<td>$251,216</td>
<td>2,566</td>
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</tbody>
</table>

**LAND-USE ACRES**

<table>
<thead>
<tr>
<th>Buffer Type</th>
<th>Total Acres</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Grazed Buffer</td>
<td>1,026</td>
<td>1,025</td>
</tr>
<tr>
<td>For Non-Grazed Buffer</td>
<td>934</td>
<td>5,054</td>
</tr>
</tbody>
</table>

**BUFFER TYPE**

- For Grazed Buffer Acres: $5,056,766
- Total Obligation for Approved Contracts: $4,552,995

*Source: Nebraska Department of Agriculture (see [http://www.agr.ne.gov/division/bp/bp/es/buff.htm](http://www.agr.ne.gov/division/bp/bp/es/buff.htm) for more info)*
Treasurer/Budget Report, May 20, 2009

- First handout is the Treasurer’s Report
  - We are doing well overall for funds, have $26,155.90 on hand and should end the year around $21,611.90. Up about $500.00 from the beginning year balance of $21,126.28.

- Second handout is our budget tracking document.
  - First two columns are closing the book on FY 07-08.
    - $750 budgeted for Secretary Honorarium was not spent FY 07-08
    - $82.48 printing bill was not paid until July 11, 2008.
  - The next two columns show how the Compact Administration Budget has been spent this FY 08-09.
    - $750 budgeted for Secretary Honorarium has been removed as that duty has been assumed by Kansas.
    - Audit was completed for FY 07-08. We have not received a formal invoice. Costs are to be $775.00, $25 more than estimated. This was approved by Brian Dunnigan and Dave Barfield when the contract was signed.
  - The next two columns are the show the budget for FY 09-10
    - First set of numbers was estimated last year and the second set is what I propose we adopt today.
    - Audit – $800
    - USGS – Expect to spent approximately 3% more each fiscal year.
    - Recommend that the state assessments stay at $8,000 per state per fiscal year.
  - The final column on the right is the estimated budget for FY 10-11
REPORT OF THE TREASURER
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
May 18, 2009

Balance on Hand July 1, 2008 $21,126.28
State Assessments $16,000.00
Interest Income $126.10

Funds Available as of May 15, 2009 $37,252.38

Expenditures as of May 15, 2009
USGS $10,334.00
Lower Big Blue Natural Resources District $680.00
Printing Annual Report $82.48

Balance on Hand $26,155.90

Estimated Expenditures through June 30, 2009
USGS-final payment for year $3,534.00
Dana Cole - Audit $775.00
Printing Annual Report $100.00
Postage and Office Supplies $100.00
Miscellaneous $50.00

Total Estimated Additional Expenses $4,559.00

Estimated Income through June 30, 2008
Interest Income $15.00

Estimated End of Fiscal Year Balance $21,611.90
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stateline Gages</td>
<td>$ (16,910.00)</td>
<td>$ 14,000.00</td>
<td>$ 13,868.00</td>
<td>$ 14,000.00</td>
</tr>
<tr>
<td>Observation Wells</td>
<td>$ (680.00)</td>
<td>$ 700.00</td>
<td>$ 680.00</td>
<td>$ 700.00</td>
</tr>
<tr>
<td>Water Quality Committee</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
</tr>
<tr>
<td>Fidelity Bond</td>
<td>$ -</td>
<td>$ 100.00</td>
<td>$ -</td>
<td>$ -</td>
</tr>
<tr>
<td>Secretary Honorarium</td>
<td>$ (750.00)</td>
<td>$ 750.00</td>
<td>$ -</td>
<td>$ -</td>
</tr>
<tr>
<td>Staff Travel Expenses</td>
<td>$ -</td>
<td>$ 50.00</td>
<td>$ -</td>
<td>$ -</td>
</tr>
<tr>
<td>Annual report - Printing</td>
<td>$ -</td>
<td>$ 200.00</td>
<td>$ 182.48</td>
<td>$ 200.00</td>
</tr>
<tr>
<td>Annual Audit</td>
<td>$ (1,475.00)</td>
<td>$ 700.00</td>
<td>$ 775.00</td>
<td>$ 750.00</td>
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<tr>
<td>Postage and Office Supplies</td>
<td>$ -</td>
<td>$ 100.00</td>
<td>$ 100.00</td>
<td>$ 100.00</td>
</tr>
<tr>
<td>Miscellaneous Expenses</td>
<td>$ -</td>
<td>$ 100.00</td>
<td>$ 50.00</td>
<td>$ 100.00</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>$ (19,815.00)</td>
<td>$ 16,700.00</td>
<td>$ 15,655.48</td>
<td>$ 15,850.00</td>
</tr>
<tr>
<td>INCOME &amp; CARRY OVER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessments (Both States)</td>
<td>$ 16,000.00</td>
<td>$ 16,000.00</td>
<td>$ 16,000.00</td>
<td>$ 16,000.00</td>
</tr>
<tr>
<td>Interest earned</td>
<td>$ 424.47</td>
<td>$ 500.00</td>
<td>$ 141.10</td>
<td>$ 300.00</td>
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<tr>
<td>Carry Over from Prior Year</td>
<td>$ 24,516.81</td>
<td>$ 15,153.64</td>
<td>$ 21,126.28</td>
<td>$ 20,768.92</td>
</tr>
<tr>
<td>Total Income and Carry Over</td>
<td>$ 40,941.28</td>
<td>$ 31,653.64</td>
<td>$ 37,267.38</td>
<td>$ 37,068.92</td>
</tr>
<tr>
<td>Balance End of Year</td>
<td>$ 21,126.28</td>
<td>$ 14,953.64</td>
<td>$ 21,611.90</td>
<td>$ 21,218.92</td>
</tr>
</tbody>
</table>
Well Drilling Activities

One hundred and thirteen permits were issued for irrigation wells (81 new & 31 replacement) in 2008. At the end of 2008 there were registered 11,979 irrigation wells in the District.

Ground Water Level Changes

The average groundwater level change for the District from Spring 2008 to Spring 2009 was a rise of 2.60 feet. This is the second year of rise in the ground water table following seven consecutive years of declines. The attached map shows the area of greatest changes and the county averages. With this change, the average ground water level is 5.80 feet above the allocation trigger. Mandatory reporting of irrigated acres and other water uses began in 2006. As of May, 2009, there were 1,151,406 ground water irrigated acres reported to the NRD.

2008 was the second year that ground water withdrawal reports were required in the Upper Big Blue NRD. Metering is not required at this time. Wells that are not metered must provide an estimate of pumping rate and time of operation. The average water withdrawal for irrigation in 2008 was 4.3 inches per acre. The following table is a summary of reported ground water withdrawal on the Upper Big Blue NRD in 2008.

<table>
<thead>
<tr>
<th>Withdrawal /Irrigated Acre</th>
<th>Acres</th>
<th>Average Inches per acre</th>
<th>% of acres</th>
<th>Cumulative %</th>
<th>No. of Pools</th>
<th>Average Acres/Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Irrigated</td>
<td>83,943</td>
<td>0</td>
<td>0.0</td>
<td>7.3%</td>
<td>7.3%</td>
<td>609</td>
</tr>
<tr>
<td>0.1&quot; TO 4&quot;</td>
<td>502,725</td>
<td>1,358,102</td>
<td>2.7</td>
<td>43.7%</td>
<td>51.0%</td>
<td>2,685</td>
</tr>
<tr>
<td>4.1&quot; to 8&quot;</td>
<td>476,853</td>
<td>2,591,703</td>
<td>5.4</td>
<td>41.5%</td>
<td>92.5%</td>
<td>2,535</td>
</tr>
<tr>
<td>8.1&quot; to 12&quot;</td>
<td>62,938</td>
<td>596,493</td>
<td>9.5</td>
<td>5.5%</td>
<td>97.9%</td>
<td>433</td>
</tr>
<tr>
<td>12.1&quot; to 16&quot;</td>
<td>12,707</td>
<td>175,354</td>
<td>13.8</td>
<td>1.1%</td>
<td>99.0%</td>
<td>114</td>
</tr>
<tr>
<td>&gt; 16&quot;</td>
<td>10,995</td>
<td>231,484</td>
<td>21.1</td>
<td>1.0%</td>
<td>100.0%</td>
<td>82</td>
</tr>
<tr>
<td>Total</td>
<td>1,150,160</td>
<td>4,953,135</td>
<td>4.3</td>
<td></td>
<td>6,458</td>
<td>178</td>
</tr>
</tbody>
</table>

Highest reported water withdrawal was 39.0 inches

Reported wells

| Metered | 3,887 | 31.3% |
| Not metered | 8,519 | 68.7% |
| Total    | 12,406|       |

Averages

| acres/well | 92.7 |

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Groundwater Nitrates  The district is divided into twelve management zones for ground water quality management. The primary ground water quality management concern is nitrate. A ten township area York County and two townships in Hamilton County (Zones 5 & 6) were designated a Phase II management area to address increased, ground water nitrate levels. The 2008 median ground water nitrate level in Zone 5 is 12.0 ppm. In Zone 6 the median nitrate is and 10.0 ppm. In 2008 Zone 11, located in Seward County had a median nitrate level of 9.1 ppm. The trigger level for phase II management is 9 ppm. A survey of current nitrogen management practices is being conducted for Zone 11. Phase II management requires farm operators to attend a training session on best management practices related to fertilizer and irrigation management. It also requires deep (36") soil sampling, irrigation scheduling and annual BMP reports. The rest of the district remains in phase I management for groundwater nitrates. Under phase I management the application of anhydrous ammonia may not occur until November 1, while application of dry and liquid nitrogen fertilizers must wait until March 1. The Phase III trigger is 12 ppm. Zone 5 will move into Phase III in 2009 if the median nitrate level remains at or above 12 ppm.

CROP-TIP

CROP-TIP is an irrigation demonstration sponsored by The District and Cornerstone Bank near York. The purpose of the project is to show producers ways to reduce groundwater withdrawal and reduce nitrate leaching through improvements in irrigation methods. Corn and soybeans were grown in the 24 acre demonstration field in 2008. In the spring of 2007 a subsurface drip irrigation system was installed on one-half of the project acres. Gated pipe irrigation on the other one-half of the field. In 2008, which was the fifth year of the project, 7.2 – 8.6 inches was applied to the gate pipe irrigation plots while 2.9 - 3.44. inches was applied the subsurface drip irrigation plots. The yields were 210 bu./ac. for corn and 75 bu./ac. for soybeans. Wet weather caused some nitrogen deficiency in corn across the area. At CROP-TIP the last 30 lbs. of nitrogen was applied through the SDI system. The yield in these plots averaged 10 bushels per acre more than the gravity irrigated plots.

Nebraska Agricultural Water Management Demonstration Network

This is another program to encourage producers improve irrigation scheduling using ET gages and Watermark sensors to determine crop water use. The ET gage simulates crop water use through evaporation through ceramic and green canvas membrane. Watermark sensors are used to measure soil moisture in a nearby field to confirm the ET gage's accuracy. This program began In the Upper Big Blue NRD with a collaborative effort with the University of Nebraska Extension. The program is now being implemented in several NRDs. The Upper Big Blue NRD is selling this equipment to irrigators at a reduced cost to encourage adoption of the scheduling practice. The data collected has been posted on the NRD’s website. This year the University of
Nebraska plans to have an interactive website up and running to allow cooperators to post data directly to the website where it can be used by other irrigator. This program, which originated in the Upper Big Blue NRD has expanded to several other parts of Nebraska.

Flow meter cost-share

In 2006 the Nebraska Environmental Trust awarded the Upper Big Blue NRD $900,000 over three years. 2008 is the final year for the program. Thru 2007 over 1,500 meters were installed. By the end of the FY08-09 over 1,800 meters will have been installed. The cost-share will be limited to one meter per land owner.

Soil and Water Conservation Cost-share Assistance

In FY07-08 the District funded 117 soil and water conservation projects with landowners. These ranged from irrigation practices such as buried pipelines and conversion to center pivot or subsurface drip irrigation to construction of terraces, waterways and planting of trees for windbreaks and wildlife. The funding totaling $287,670.16 came from the Nebraska Soil and Water Conservation Program ($118,117.24) and local NRD property tax revenue ($169,552.92).

Visit our Website

You can learn all about the District's programs and activities at www.upperbigblue.org.
Upper Big Blue
Natural Resources District
Spring 2008 to 2009
Ground Water Level Changes

County Average Change
Adams 1.65
Butler 2.49
Clay 4.86
Fillmore 3.24
Hamilton 2.42
Polk 2.29
Saline 1.26
Seward 1.53
York 2.52

Average Change for NRD 2.60 ft
Water Quality:
The Lower Big Blue NRD (LBBNRD) tests domestic drinking water wells at no charge to rural residents of the district.

A water test for nitrates is highly recommended by the LBBNRD for households with infants, pregnant women, nursing mothers, or elderly people, as these groups are most susceptible to nitrate poisoning.

Without a test, nitrates in water are undetectable because they are colorless, odorless and tasteless.

The LBBNRD samples approximately 400 irrigation wells each year for nitrates and other chemicals.

The LBBNRD collects surface water samples at public recreation areas and tests surface water samples during rainfall events.

The Lower Big Blue NRD manages several programs that protect property throughout the district including:

- The LBBNRD is responsible for flood control and grade stabilization structures that protect roads, bridges, villages, and lives.
- The LBBNRD assists local communities in the establishment of Wellhead Protection Areas and the development of Community Wellhead Protection Plans.
- The LBBNRD provides cost-share and technical assistance for the installation of conservation practices including terraces, tile and waterways to improve water quality.
- The LBBNRD establishes tree windbreaks for the protection of communities, farmsteads, livestock, and wildlife.

Rural Water Supply:
The Lower Big Blue NRD with assistance from a USDA grant will fund a new rural water project in southern Gage County.

The project will supply 128 rural Gage County users and 21 users in the Village of Holmesville. These rural residents were in great need of a quality water supply as quality and quantity are both Issues due to a lack of water bearing groundwater formations.

The district operates and maintains the Beatrice Rural Water Project that supplies water to rural residents west of Beatrice and to the Homestead National Monument.

This project was developed because of a lack of groundwater and the need for quality water for rural residences and the National Monument.
Community-Based Planning Process

In 2003, the Lower Big Blue NRD partnered with several local, state and federal agencies to initiate a community-based planning process. This locally-led process resulted in a Watershed Management Plan that incorporated a unique mix of cost-share and incentives for a host of agricultural management practices in addition to upgrading septic systems and closing abandoned wells.

Watershed planning efforts were led by the Lower Big Blue NRD. The primary goal of the project was to conduct necessary planning to facilitate the implementation of watershed protection measures. A locally-led group comprised of Swan 5A landowners and stakeholders developed the watershed management plan.

Vision Statement - "The Swan 5A Watershed Improvement Group is a locally-led group created to identify and promote needed conservation practices within the watershed to bring about reduced runoff, improve water quality, benefit agriculture, improve wildlife habitat, and maintain the diverse uses of Swan 5A - Willard Meyer Recreation Area."

Implementation of the Watershed Management Plan began in 2004 and will be completed in December 2008. As a result of this project, atrazine impairment was removed from Swan 5A Reservoir - Willard L. Meyer Recreation Area.

Lower Turkey Creek Watershed Project

The Nebraska Natural Resources Commission at its November 2005 meeting authorized funding of the Lower Big Blue NRD's Lower Turkey Creek Watershed Project through the Natural Resources Development Fund.

The NRD started construction of the project in the spring of 2008. The project includes the construction of seven flood control structures that will control approximately 43,600 acres in the Lower Turkey Creek Watershed drainage area. The seven flood control structures will reduce damages of the 100-year storm event by $2,000,000 dollars and will have a $400,000 average annual benefit to the district. Other benefits of the project include sediment storage, improved water quality, reduced damage to public roads and bridges, fish and wildlife habitat enhancement, and stream augmentation.
Lower Big Blue NRD Highlights of 2008-2009
Blue River Compact Annual Meeting - May 20, 2009

Water Quality & Quantity Summary

- Decommissioned 47 wells last year.
- Average cost $488/well – Average cost-share $280/well
- 629 wells have been decommissioned since 1992
- Water quality sampling – 247 wells – nitrate/nitrogen 7.61 ppm average
- 1002 of the 2200 irrigation wells have been sampled
- 45 Well Permits approved for wells pumping more than 50 gpm
- 578 Well Permits have been issued since 1997
- Groundwater levels – 55 wells measured
  > Spring 2008 to Spring 2009 showed an increase of 2.45 ft.
  > Fall 2008 to Spring 2009 showed an increase of 1.42 ft.
  > Spring 1982 baseline to Spring 2009 are an average 2.89 ft.
- Blue River Compact Well Readings
  > Spring 2008 to Spring 2009 averaged 1.90 ft. higher.
  > Fall 2008 to Spring 2009 increased 0.12 ft.

- The Lower Big Blue NRD is part of the approved Tuttle Creek Lake Targeted Watershed Grant Project. This project is a collaborative effort between Kansas and Nebraska to address multi-jurisdictional water quality problems involving excessive runoff of sediment, nutrients, herbicides and bacteria. The first two landowner meetings were held in Odell, Nebraska, in the Fall of 2006 and Fall of 2007. A third meeting was held April 2008 at the Homestead National Monument in Beatrice, Nebraska. There have been 32 contracts written in Nebraska.

- The Lower Big Blue River Basin Flow Augmentation Study Group: The group has continued discussions on possible actions that could be taken to increase flows in the river in order to meet Compact requirements.
GROUNDWATER MANAGEMENT AREA

There is no well drilling moratorium in the Lower Big Blue NRD. The entire Lower Big Blue NRD was declared a Groundwater Management Area in 1997. Permits are required for wells pumping 50 or more gallons per minute. The district has a 60 square mile Phase II area where operators have to meet educational requirements and submit reporting forms on residual nitrogen sampling and other BMPs. Reports are due on March 1\textsuperscript{st} each year. The Phase II area has nitrate-nitrogen levels in the groundwater that are between 6 ppm and 9 ppm. The rest of the NRD is in a Phase I area where nitrate-nitrogen levels are less than 6 ppm. Operators use voluntary measures to prevent and reduce groundwater contamination. Information to increase public awareness on issues relating to groundwater use, contamination and BMP’s is being utilized across the entire NRD.

The NRD has several incentive programs that address water quality and quantity problems. The district provides incentives for the purchase of equipment that allows farmers to more accurately apply fertilizer and chemicals. Groundwater users are offered cost-share on water flow meters to obtain information on the flow rate of their wells and amount of gallons pumped. This information helps irrigators schedule their irrigations more efficiently and lets them know of well deficiency problems.

GROUNDWATER QUALITY AND QUANTITY MONITORING

The district monitors 100 groundwater wells twice a year for fluctuation in static water levels across the NRD. Monitoring of groundwater levels to date has shown levels to be above trigger levels for possible regulations on pumping. Groundwater quality monitoring is conducted every year on irrigation wells throughout the district. Nitrate-nitrogen is the main parameter being tested, but pesticides scans are conducted every year on a smaller number of wells. Approximately 250 irrigation wells and 100 domestic wells are sampled annually.

Just over 1000 irrigation wells in the NRD have been sampled for nitrate since monitoring began in 1987. This is over half of the irrigation wells in the district. Recently the NRD has also been offering whole house water tests for residents who request it. Well care sheets provided by the Groundwater Foundation are mailed out with all the results as well as explanation about the tests conducted on the wells.

Action steps and Timelines

- 1981- Groundwater level measurement program begins.
- 1986- District adopts Groundwater Management Plan
- 1987- District wide groundwater monitoring network established to provide baseline data on groundwater quality
- 1988- The Nebraska Department of Environmental Quality conducted a SPA study in an area northwest of the city of Beatrice
- 1990- The NRD begins the first year of additional study in the proposed SPA
- 1994- The three year Special Protection Area study was completed
- 1997- District amends its Groundwater Management Plan to include groundwater quality regulations and the entire district is declared a...
Groundwater Management Area. At the same time a 60 Square mile Phase II area established.

- 2006- NRD begins the Blue Basin Groundwater Study in conjunction with the Upper Big Blue NRD and the Little Blue NRD
- 2008 - Blue Basin Groundwater Study completed

**Future**

Above average rainfall has brought static water levels back to above base line levels. If static water levels were to decline to trigger levels set in the Districts groundwater management plan, the NRD would enact policies set forth in the plan. Water sampling for nitrate-nitrogen will continue, particularly in areas with known hot spots of nitrate problems.

**BLUE BASIN GROUNDWATER MODELING STUDY**

The Lower Big Blue, Upper Big Blue and Little Blue NRDs have approved a Blue River Groundwater Model Study for the Blue River Basin. This study was completed this year and will be used for evaluating the hydrologic connectivity of streams and groundwater in the Blue River Basin of Nebraska. Where possible, the COHYST database was used. Additional data, such as streambed conductance, estimates of stream base flow, and geologic layer refinements were also used in the model. Total land area in the 10/50 zones as determined by the model was 2.7% of the land area in the three NRDs.

**Irrigation Management Project:** The District is in the second year of a joint irrigation scheduling program with the Cooperative Extension Service and the NRCS assisting and educating producers in the use of ET gages, data loggers, moisture sensors, and irrigation scheduling to reduce pumping rates. The district has 45 producers signed up to install the irrigation management equipment this summer.

**Swan 5 Watershed Improvement Project:** The NRD has completed the final stages of the Swan 5 Watershed Improvement Project.

**Big Indian 11A Watershed Improvement Project:** The Stakeholders in the project have expressed an interest within the watershed to implement conservation measures to improve water quality and reduce the amount of sediment to the watershed and the Big Blue River. The NRD is working with partner agencies to secure additional funding and has held several meetings with the Watershed Advisory Council.

**All-Hazard Mitigation Planning:** The Blue Basin NRDs have teamed up with Jefferson, Gage, Saline, Thayer, Nuckolls, Fillmore, Clay, Adams, and Webster counties for the development of a regional All-Hazard Mitigation Plan.

**EDUCATION**

The district works with schools to educate kids about conservation. The NRD hands out trees and talks about buffer strips to about 500 5th graders at Camp Jefferson during Earth Day. High school students participate in land judging and the Envirothon every year. Doane College has also been working with the NRD on some GIS work as well as water sampling. The NRD also puts on a family fishing day in conjunction with the Game and Parks free fishing day, and Hunters Education classes at the Big Indian Archery Range. Newsletters are sent out to inform the residents of what the NRD is doing and what programs are offered. The NRD participates in a
Test-Your-Well program in conjunction with the Groundwater Foundation for schools, FFA chapters, or science clubs who want to become involved in water quality activities.

**Land Treatment** – 71% of Land in the NRD meets NRCS soil erosion standards

- **NSWCP – NRD Funds**: $65,000, State: $107,263
  - 130 applications requesting $514,673
  - Approved 55 applications for $228,000
  - In the last year:
    > 130 miles of terraces
    > 35 miles of tile outlets
    > 60 acres grassed waterways
- **Buffer Strips** 206 contracts - 1,545 acres $55,039 annual payments
- **Small Dam Cost-Share Program**
  - Initiated in 1997
  - Constructed 20 dams, Total cost - $368,919

**Flood Control**

- 11 flood control projects control runoff from 34% of the district, or 157,000 acres.
- The NRD has over 250 Watershed structures in the 11 watersheds

**Lower Turkey Creek Project**

The Lower Turkey Creek Project was approved for funding through the Natural Resources Development Fund (NRDF) in November 2005. The primary purpose of this project is flood control. The seven flood control structures will control runoff from 43,600 acres, or approximately 33% of the 131,200 acres located in Saline County.

- First structure completed in Fall of 2008
- Second structure is currently under construction
- Land acquisition for the third site is underway for Fall 2009 construction
- The Lower Turkey Creek Project contains 131,200 acres of the 294,900 total Turkey Creek Watershed.
- The seven structures will provide 490 surface acres of permanent pool and 1450 surface acres of flood pool.
- Annual damages will be reduced by 31% in the 16,700 acres in the 100 year flood plain.
- Average annual benefits will be $400,000.
Dollar damages – 100 year, $1,836,706

Estimated Cost of Project
TOTAL COST $6,204,095

Stream Flow Augmentation
- Turkey Creek flows improved through retained flows for releases over longer period of times (flood storage releases)
- Drains within structures providing some year-round flows into tributaries and Turkey Creek
- 3,500 acre feet of sediment storage would be available for release during extreme low flows.

- Erosion and Sediment Control
  - 7 structures have estimated 3500 acre feet of sediment storage (1.03" runoff from each acre of drainage area above structures)
  - Presently 75% of drainage area above 7 structures is treated with grass and terraced cropland. In addition, between 10-15% of the drainage area is on non HEL soil and requires no land treatment practices (Class I & II lands)

Other Purposes
- Surface Water Quality – 490 acres of surface water
- Wildlife Habitat – Upland birds, fisheries
- Wetland creations in upper reaches of permanent pools

Wymore Rural Water Project
- 132 potential users have signed up for rural water east and south of the town of Wymore
- Construction is to begin the Fall of 2009
Static Water Levels
The Little Blue NRD’s Groundwater Management Plan compares groundwater levels not from an average, but from the lowest level of record for each well. From there the next benchmark for each well is a 50% Reasonable Acceptable Decline. The spring levels in 2007 recorded 168 out of 340 measured sites below their lowest level, called the action level, the largest number in District history.

The year 2008 also had several wells below these two benchmarks as well, even though spring levels had a slight rebound. In 2009 the District averaged a 1.19 foot rise in the water table and the number of wells below their action level declined to 67 out of the 340. The maps above and to the left show that the water table has risen since 2007 by the fewer number of wells below their action level.

The colored map to the right compares the 2009 data collected to 2008, there were some scattered declines but generally the rises, shown in shades of blue, outweighed any declines.
Quantity Sub-Area 8

The moratorium on well drilling and stay on expanding irrigated acres in Quantity Sub-Area 8 has been reported on previously. The report for the area produced by the University of Nebraska’s Conservatlon and Survey Division focused on two issues for the area. A declining water table in the Thayer county portion; and a concern on water quality, from Dakota aged water moving laterally into the sand and gravel deposits of the sub-area’s paleo-valley aquifer, in the Jefferson county segment. The recommendation from the hydro-geologist who competed the study was to monitor the water quality issue every 3 to 4 years for possible degradation. A grant for promoting irrigation scheduling and purchase of irrigation flow meters in QSA-8 expires this June, the funds were made available through the Nebraska Environmental Trust. Over the last two years each producer was contacted and provided a hand probe and information on proper irrigation scheduling. The promotion for purchasing and installing an irrigation flow meter has picked up late this winter and early spring. There are currently 97 of the 285 irrigation wells that either have a meter installed or a cost share agreement.

Water Quality Sampling

In 2008 the District collected 202 samples for nitrates in Adams and Webster counties along with wells in the water quality sub-areas. Adams and Webster counties sampling produced an average of 4.81 ppm with no results showing areas of concern. The District does have 4 water quality sub-areas where issues of higher nitrate concentrations are being addressed. The Bruning Sub-Area had an average nitrate concentration in the wells sampled of 12.54 ppm, Byron/Deshler/Ruskin Sub-Area 10.29 ppm, Clay/Nuckolls Sub-Area 8.45 ppm, and the Fairbury Sub-Area 8.11 ppm. The graph to the left shows the history of the sampling results for these areas since 1994.
Irrigated Acres and Irrigation Wells

The Little Blue NRD approved 75 irrigation well permits in 2008, of those 23 were replacement wells. The District also provided cost share to abandon 81 stock, domestic, and irrigation wells at an average cost for each well of $537.76. The average cost share issued was $340.34. As of April 2009 there were 6,078 active, registered irrigation wells in the Little Blue NRD irrigating 575,340 acres. These numbers are broken down in the chart as to County and Natural Resources District.

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>LBNRD CERTIFIED ACRES</th>
<th>LBNRD NON-CERTIFIED ACRES</th>
<th>LBNRD NON-CERTIFIED ACRES</th>
<th>UBBNRD CERTIFIED ACRES</th>
<th>TOTAL ACRES RECORDED IN COUNTY</th>
<th>REGISTERED ACTIVE IRRIGATION WELLS LBNRD</th>
<th>REGISTERED ACTIVE IRRIGATION WELLS COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAMS</td>
<td>169,641</td>
<td>31,721</td>
<td>201,362</td>
<td>1,937</td>
<td>2,301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLAY</td>
<td>106,639</td>
<td>104,293</td>
<td>210,932</td>
<td>1,146</td>
<td>2,203</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FILLMORE</td>
<td>48,853</td>
<td>168,915</td>
<td>227,768</td>
<td>502</td>
<td>2,041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JEFFERSON</td>
<td>7,593</td>
<td>87,800</td>
<td>96,393</td>
<td>192</td>
<td>745</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUCKOLLS</td>
<td>48,942</td>
<td>59,005</td>
<td>156,839</td>
<td>1,500</td>
<td>1,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THAYER</td>
<td>19,079</td>
<td>62,795</td>
<td>190</td>
<td>663</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEBSTER</td>
<td>17,626</td>
<td>45,169</td>
<td>304,929</td>
<td>991,501</td>
<td>10,259</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>26,672</td>
<td>548,668</td>
<td>55,232</td>
<td>991,501</td>
<td>10,259</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL LBNRD</td>
<td>575,340</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The District does not require a report of water applied to irrigated crops; but there is a voluntary program where cost-of-parts maintenance is offered on the flow meter for annually reporting irrigated acres, type of irrigation, and groundwater withdrawn. In 2008 this information was provided on 109,313 acres with an average irrigation application of 5.2 inches per acre. Pivot systems averaged 4.4 inches per acre and gravity systems 7.3 inches. A summary of the information available from the program is provided in the table to the right.

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn Acres</th>
<th>Beans Acres</th>
<th>Milo Acres</th>
<th>Alfalfa Acres</th>
<th>Other Acres</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>87,208</td>
<td>28,045</td>
<td>995</td>
<td>3,215</td>
<td>1,148</td>
<td>120,611</td>
</tr>
<tr>
<td>1999</td>
<td>77,538</td>
<td>31,062</td>
<td>618</td>
<td>3,966</td>
<td>1,031</td>
<td>115,115</td>
</tr>
<tr>
<td>2000</td>
<td>65,755</td>
<td>30,611</td>
<td>191</td>
<td>3,481</td>
<td>316</td>
<td>100,354</td>
</tr>
<tr>
<td>2001</td>
<td>61,608</td>
<td>35,970</td>
<td>856</td>
<td>3,123</td>
<td>968</td>
<td>102,525</td>
</tr>
</tbody>
</table>

Average Inches Applied

<table>
<thead>
<tr>
<th>Year</th>
<th>All Acres</th>
<th>Pivot Acres</th>
<th>Gravity Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>8.7</td>
<td>10.1</td>
<td>15.7</td>
</tr>
<tr>
<td>1999</td>
<td>11.4</td>
<td>11.1</td>
<td>17.0</td>
</tr>
<tr>
<td>2000</td>
<td>13.6</td>
<td>8.2</td>
<td>13.9</td>
</tr>
<tr>
<td>2001</td>
<td>10.6</td>
<td>13.6</td>
<td>19.9</td>
</tr>
<tr>
<td>2002</td>
<td>12.8</td>
<td>10.3</td>
<td>16.9</td>
</tr>
<tr>
<td>2003</td>
<td>12.8</td>
<td>7.6</td>
<td>13.1</td>
</tr>
<tr>
<td>2004</td>
<td>10.4</td>
<td>6.5</td>
<td>13.5</td>
</tr>
<tr>
<td>2005</td>
<td>10.0</td>
<td>7.8</td>
<td>13.0</td>
</tr>
<tr>
<td>2006</td>
<td>7.9</td>
<td>6.8</td>
<td>10.8</td>
</tr>
<tr>
<td>2007</td>
<td>6.2</td>
<td>4.4</td>
<td>7.3</td>
</tr>
</tbody>
</table>
Naval Ammunition Depot (NAD)
The U.S. Army Corps of Engineers has been charged with treatment of groundwater contaminated by trichloroethylene, TNT, RDX, and other compounds used during the operation of the Naval Ammo Depot near Hastings, NE. Briefly, the cleanup process will be to remove the groundwater within the contaminated plume for treatment at a processing plant, the groundwater will be cleaned to drinking water standards. The time frame for the clean-up process is estimated to be around 40 to 50 years.

The Little Blue Natural Resources District is looking for opportunities to put the treated water to beneficial uses in or near the area where it will be withdrawn. The potential uses being considered vary from manufacturing, groundwater re-charge, wildlife enhancement, recreational development, or even discharge to streams. The Whelan Energy Center is undergoing an expansion and is currently the first priority for using the discharge water in their cooling tower. However; it is not expected that the plant will use the total amount withdrawn on a daily basis.

To assist in determining the best uses of the groundwater the District has hired the consulting firm of JEO to assess what may be the most practical and cost effective solution. Currently they are visiting with the CORPS for an overview of the project and will soon be contacting “stakeholders” in the area to see what, if any, uses of the groundwater may be attractive to them. They will then deliver a written report with feasibilities and estimated costs for the District to review.
Climatic Conditions - Precipitation & Temperatures

The High Plains Regional Climate Center reported 25 to 40 inches of rain in the previous 12 months for the Big and Little Blue River basin area against an average annual of 30 to 35 inches in this region. Calendar year 2008 indicates precipitation of 30 to 40 inches in the basin. Average annual precipitation was received in most portions of the basin (ranged 80 to 110% of normal) and it appears that a similar pattern is continuing.

Temperatures for the calendar year 2008 were generally 1 to 3 degrees below average. The Standardized Precipitation Index (SPI's) reflects long-term precipitation patterns and compares the precipitation for 12 consecutive months with the same 12 consecutive months during all previous years of available data. SPI's with longer periods of data reflected tend toward zero if no specific trend is taking place. The SPI for the Blue River basin area indicates a near zero value, identifying no specific trend.
Streamflow
Streamflow in the basin remained above median daily statistic for both gages for nearly the entire calendar year. Statistics reflect 24 years of data at Marysville and 50 years of data at Barnes. Considerable precipitation was received in the basin in May, June, and July of 2008.

Administration Activities
Minimum Desirable Streamflow (MDS) on the Big Blue River at the Marysville U.S.G.S. gage ranges by month from 65 cfs (fall) to 150 cfs (spring). MDS on the Little Blue River at the Barnes U.S.G.S. gage ranges by month from 60 cfs (fall) to 150 cfs (spring). No MDS administration occurred in this basin, or any other Eastern Kansas basin, in calendar year 2008.

<table>
<thead>
<tr>
<th>Watercourse</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>Month</th>
<th>J(a)</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Blue</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marysville</td>
<td>100</td>
<td>100</td>
<td>125</td>
<td>150</td>
<td>150(d)</td>
<td>80</td>
<td>90</td>
<td>65</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Little Blue</td>
<td>100</td>
<td>100</td>
<td>125</td>
<td>150</td>
<td>150(d)</td>
<td>75</td>
<td>80</td>
<td>60</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

(d) Subject to the stateline flows contained in the Blue River Compact.
USGS 06882510 BIG BLUE R AT MARYSVILLE, KS

Median daily statistic (24 years) - Period of approved data
Daily mean discharge - Period of provisional data
Estimated daily mean discharge - MDS for April

USGS 06884400 L BLUE R NR BARNES, KS

Median daily statistic (50 years) - Flow at station affected by ice
Daily mean discharge - Period of provisional data
Estimated daily mean discharge - MDS for April
Period of approved data
New Well Development

In calendar year 2008, the Kansas Department of Agriculture Division of Water Resources approved 8 new groundwater permits and 4 new surface water permits in the Big Blue River basin. The groundwater permits covered one new well for a PWS and granted additional quantity for the City of Manhattan on 7 existing wells. A term permit for dredging was also approved. The surface water permits cover one irrigation project and 6 watershed dams. A term permit was granted to allow the use of surface water for pipeline construction. A surface water permit covering 8 watershed dams was granted in the Mill Creek subbasin and 3 groundwater permits were issued for new unconfined Dakota wells in the Mill Creek subbasin. No new permits were granted in the Little Blue River basin in 2008.

Metering

We reported in 2008 that the Division would likely initiate a basin-wide metering order. Due to resource constraints and budgetary uncertainties, the anticipated meter order was not initiated in January. Several meter orders in the west and central portions of the state are ongoing, including the North Stafford Field Office, Upper Smoky Hill River, South-Central Kansas, GMD 4, and Pawnee-Buckner Meter Orders. The Spring River Meter Order is nearly complete with less than a dozen files remaining. The Topeka Field Office did initiate a small meter order in the Fall River basin. Metering under the most recent guidelines (September 2000) are required by each new permit and change approval granted.

The KDA-DWR requires that the totalizing water flowmeter installed be on the List of Certified Water Flowmeters maintained by the Division, be installed in a manufacturer approved measuring chamber with flow-straightening vanes, have a specific amount of upstream and downstream spacing, and be protected by a seal, as well as meeting all manufacturer-required installation specifications.

BRO- Blatant Recurring Overpump Program

Kansas water rights have legally established limits concerning the quantity of water authorized, rate of diversion, place of use, use made of water, and also contain other conditions and limitations. Owners are required to exercise diversions within the legal limits of their water rights because violations can result in consequences. The BRO Program is designed to address overpumping the authorized quantity under a water right.

In general, the Division of Water Resources applies the following progressive penalties when an individual diverts more water than is authorized by his or her water right or permit to appropriate water:

- First offense: Notice of Non-Compliance
- Second offense: $500 fine and 1x water penalty*
- Third offense: $500 per day fine and 2x water penalty**
- Fourth offense: 1-year suspension of authorization to use water
- Fifth offense: Revoke water right or permit

* 1x water penalty means the authorized quantity for the following year is decreased by the same amount overpumped.
** 2x water penalty means that the authorized quantity for the following year is decreased by twice the amount overpumped.

There may be exceptions to the progression listed above. For example, if overpumping is flagrant, the department may proceed directly to imposing a stricter penalty without rather than waiting for repeat offenses to occur. Or, if the violation was incurred by a public water supplier, the Division may eliminate the water penalty due to public health and safety implications.
The Division of Water Resources sends an order of the chief engineer by certified mail to those individuals who are assessed civil penalties. The order explains the reason for the penalties and identifies the authorized quantity for the water right or permit to appropriate water. If the authorized quantity has been reduced for the next year, the reduced quantity is identified in the order.

In 2008, the Division of Water Resources started to routinely apply water penalties in addition to monetary penalties. As a result, a number of water rights or permits to appropriate water have had their authorized quantities reduced for 2009. The Division of Water Resources will require individuals in this situation to submit a plan for compliance with the reduced quantity. Letters will be issued to overpumpers explaining the requirements for a compliance plan.

For example, to reduce water use in 2009, an irrigator may have to plant a less water-consumptive crop or reduce the acreage planted in order to comply with the reduction in the authorized quantity due to overpumping in 2008. There may be other options available, such as irrigation scheduling to meet the crop needs within the water use limit. The Division of Water Resources wants to allow water users the flexibility to determine how they will comply with their reduced allocations in a manner that creates the least impact on their operations.

This year BRO focused on state-wide overpumping. Last year we reported that this basin area was particularly high in BRO files from last years program. In this Basin and surrounding area, thresholds were Top Tier- overpumps of 100 AF or more, Second Tier- overpump >10 AF but less than 100 AF, and Tier Three- overpumpers from BRO program previous years. We identified 1 Tier One file in the Little Blue River basin. There were 2 Tier Two files in the Big Blue river basin, 6 in the Little Blue River basin, and 2 Tier Two files in the Mill Creek subbasin. These files received Notices of Non-Compliance. In this years program, if these overpumpers overpump again they will receive civil penalties and may receive 1X reductions in quantity of water for the 2010 calendar year.

**Tuttle Creek Dam**

The Tuttle Creek dam stabilization project continues at Tuttle Creek Reservoir. The Tuttle Creek Dam Safety Assurance Project, by the U.S. Army Corps of Engineers, is a $245 million dollar, multi-year project and is the largest such project ever undertaken by the Corps. It is the world’s largest foundation stabilization project on an operational dam. The Project purpose is to stabilize the dam such that it could withstand a 6.6 earthquake. A seismic zone (the Nemaha Ridge) exists about 12 miles east of the dam; the Ridge runs from Omaha to Oklahoma City and has the potential to generate large earthquakes. The threshold magnitude is a 5.7 magnitude quake and an earthquake that large would cause problems with the dam. The design fix is to withstand up to a 6.6 earthquake, which is estimated to be the largest the source zone could create.

The main construction components of the project include the building of an upstream jet grout cut off wall to bedrock and then stabilizing the dam's foundation both upstream and downstream. The cut off wall is now complete- it is more than 1 mile long, 10 feet thick and up to 190 feet deep. It is made of approximately 2,000 jet grouted columns. The cut off wall will stop seepage under the dam and will make downstream relief wells less critical. The soil stabilization portion of the project is now underway. This portion of the project involves large-scale and large-volume grouting. The Tuttle Creek dam was originally constructed over a layer of silt and clay with 30-40 feet of sand under the clay, then rock. The critical part of the project, where stabilization will occur, is the sand below the clay.

The Construction on the project began in 2005 and is estimated to be completed around 2012. A dam failure warning system, including sirens six miles downstream, was installed by the Corps for the project duration. The Corps will also perform work on the spillway Tainter gate with bearing replacement and strut arm strengthening and they plan to construct a parapet wall wave barrier across the top of the dam.
Budget issues dominated session

Faced with over $300 million projected shortfall in 2010

Use of stimulus $$$ postponed the drastic cuts to programs or tax increases

Funded K-12, transportation projects, and social programs

The Budget passed basically projects a “0” ending balance for 2010.

Facing a projected $500 million shortfall for 2011 - No stimulus to fill the gap

Dept of Ag in 2010 took over a 22% cut while K-12 took a 2.5% cut

Legislation –

HB2050 – Extended increase of fees for Water permits etc. until 2015 –

CREP & ITAP – Continue to be very controversial programs. The fact being that there will never be adequate State funds to make a difference to address the declining Ogallala Aquifer.

No new funding, just authority to carry forward any unused 2009 $$$ for 2010.

IGUCA - Intensive Groundwater Use Control Area Implementation HB2283

The bill would have changed how the Chief Engineer of the Division of Water Resources was to implement an IGUCA within the boundaries of a groundwater management district (GMD) to only when the implementation was recommended by a GMD or whenever a petition is signed by 300 eligible voters or 5% of the eligible voters in the district, whichever is less

Bill failed - last issue to consider at 3:00 a.m. The language was also amended into an annexation bill SB51 however was deleted during a conference co. as it was ruled not Germaine because it was a two subject provision.
Annexation – Provision that sets up a process for dispute resolution when cities annex property serviced by a Rural Water District

Sb64 – amends the definition of “water right” by striking the word “voluntary” in order to make it clear that a water right passes as an appurtenance with a conveyance of land in either voluntary or involuntary situations.

Second clarifies that no person would be able to acquire a new water appropriation right without obtaining a water right through the Chief Engineer. Current law speaks to the acquisition of a water right, not a “new “water right. Since existing water rights pass with the conveyance of land when sold or transferred, the only time a right is granted from the Chief Engineer is for a “new” water appropriation right.

Third modification amends a section dealing with a person seeking to acquire a new water appropriation right and require, in addition to the other information required in current law, that the person provide to the Chief Engineer a sworn statement or evidence of legal access to or control of the point of diversion and place of use from the landowner or their authorized representatives.

Also would restate and clarify current law by stating that the date of priority of every water right and not the purpose determines the right to divert and use water when the supply is not sufficient to satisfy all water rights. The order of preference is domestic, municipal, irrigation, Industrial, recreational, and water power uses.

Energy plan – The legislation is compromise that will allow an electric coop (Sunflower Co-op) to build one 895 megawatt plant and to build 179 Megawatts of wind energy facilities, develop two 345 Kilovolts transmission lines to meet the western energy grid and develop a bio-digester to capture methane and an algae reactor.

The water supply for the project will be groundwater from the Ogallala Aquifer. The project will use both existing agricultural water rights and rights purchased by Wheatland Electric Coop. The new unit will require about 10,000 acre-feet of water to meet annual production needs.

In anticipation of the Project, Wheatland purchased for the purchase of approximately 29,000 acres of sand hills land, including nearly 48,000 acre-feet of agricultural water rights. Following conversion from agricultural to industrial rights, Wheatland anticipates having about 29,000 acre-feet of water rights available for power plant and other uses. Land purchases were made from willing sellers, many of whom offered to sell their water rights once they knew a market existed. The impact on this change in use will be mitigated by the additional jobs both at the power plant and at water production facilities.

The farmed acres will be seeded with native grasses. Once established, nearly all the acres will be grazed continuing the agricultural heritage of the area as well as having a substantial positive impact on wildlife native to the area.
INDEPENDENT AUDITORS' REPORT

Board of Directors
Kansas-Nebraska Big Blue River Compact Administration
Lincoln, Nebraska

We have audited the accompanying statement of cash receipts and disbursements of Kansas-Nebraska Big Blue River Compact Administration for the year ended June 30, 2008 and the related statement of cash receipts and disbursements compared to budget for the year ended June 30, 2008. These financial statements are the responsibility of the Organization's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the statement of cash receipts and disbursements is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the statement of cash receipts and disbursements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the statement of cash receipts and disbursements. We believe that our audit provides a reasonable basis for our opinion.

As described in Note I, this financial statement has been prepared on the cash receipts and disbursements basis of accounting, which is a comprehensive basis of accounting other than accounting principles generally accepted in the United States of America.

In our opinion, the statements referred to above present fairly, in all material respects, the cash balance at June 30, 2008 and the cash receipts and disbursements of Kansas-Nebraska Big Blue River Compact Administration for the year ended June 30, 2008, on the basis of accounting described in Note I.

Lincoln, Nebraska
April 29, 2009
INDEPENDENT AUDITORS' REPORT

Board of Directors
Kansas-Nebraska Big Blue River Compact Administration
Lincoln, Nebraska

We have audited the accompanying statement of cash receipts and disbursements of Kansas-Nebraska Big Blue River Compact Administration for the year ended June 30, 2008 and the related statement of cash receipts and disbursements compared to budget for the year ended June 30, 2008. These financial statements are the responsibility of the Organization's management. Our responsibility is to express an opinion on these financial statements based on our audit.

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As described in Note 1, this financial statement has been prepared on the cash receipts and disbursements basis of accounting, which is a comprehensive basis of accounting other than accounting principles generally accepted in the United States of America.

In our opinion, the statements referred to above present fairly, in all material respects, the cash balance at June 30, 2008 and the cash receipts and disbursements of Kansas-Nebraska Big Blue River Compact Administration for the year ended June 30, 2008, on the basis of accounting described in Note 1.

Dana Cole & Company, LLP

Lincoln, Nebraska
April 29, 2009
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
YEAR ENDED JUNE 30, 2008

<table>
<thead>
<tr>
<th>RECEIPTS</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas contribution</td>
<td>8,000</td>
</tr>
<tr>
<td>Nebraska contribution</td>
<td>8,000</td>
</tr>
<tr>
<td>Interest</td>
<td>424</td>
</tr>
<tr>
<td><strong>Total receipts</strong></td>
<td><strong>16,424</strong></td>
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</table>

<table>
<thead>
<tr>
<th>DISBURSEMENTS</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Surface and ground water investigations</td>
<td>17,590</td>
</tr>
<tr>
<td>Auditing and accounting services</td>
<td>1,475</td>
</tr>
<tr>
<td>Secretary-Treasurer services</td>
<td>750</td>
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<tr>
<td><strong>Total disbursements</strong></td>
<td><strong>19,815</strong></td>
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<table>
<thead>
<tr>
<th>DECREASE IN CASH</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>(3,391)</strong></td>
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<table>
<thead>
<tr>
<th>CASH, beginning of year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CASH, end of year</strong></td>
<td><strong>21,126</strong></td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements.
## STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS, COMPARED TO BUDGET

**YEAR ENDED JUNE 30, 2008**

### RECEIPTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas contribution</td>
<td>8,000</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Nebraska contribution</td>
<td>8,000</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td></td>
<td>424</td>
<td>424</td>
</tr>
<tr>
<td><strong>Total receipts</strong></td>
<td>16,000</td>
<td>16,424</td>
<td>424</td>
</tr>
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</table>

### DISBURSEMENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface and ground water investigations</td>
<td>14,240</td>
<td>17,590</td>
<td>(3,350)</td>
</tr>
<tr>
<td>Staff travel</td>
<td>50</td>
<td>50</td>
<td></td>
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<tr>
<td>Auditing and accounting services</td>
<td>700</td>
<td>1,475</td>
<td>(775)</td>
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<tr>
<td>Printing annual report</td>
<td>200</td>
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<tr>
<td>Secretary-Treasurer services</td>
<td>750</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>Postage and supplies</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>200</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td><strong>Total disbursements</strong></td>
<td>16,240</td>
<td>19,815</td>
<td>(3,575)</td>
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</tbody>
</table>

### EXCESS (DEFICIT) OF RECEIPTS OVER DISBURSEMENTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
<th>Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(240)</strong></td>
<td>(3,391)</td>
<td>3,999</td>
<td></td>
</tr>
</tbody>
</table>

See accompanying notes to financial statements.
NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Nature of Activities

The Kansas-Nebraska Big Blue River Compact Administration is an interstate administrative agency established, upon adoption of rules and regulations pursuant to Article III (3,4) of the Kansas-Nebraska Big Blue River Compact on April 24, 1973, to administer the Compact.

The Administration is incorporated as an Organization exempt from income tax under Code Section 501(c)(3) of the Internal Revenue Code.

Basis of Presentation

The financial statement of the Organization has been prepared on the cash receipts and disbursements basis method of accounting. Therefore, investments, receivables and payables, long-lived assets, accrued income and expenses and amortization and depreciation, which may be material in amount, are not presented. This financial statement is not intended to present the financial position, results of operations or cash flows in conformity with generally accepted accounting principles.

Function

The major function of the Administration is to establish "such stream-gauging stations, ground water observation wells, and other data collection facilities as are necessary for administering the compact."

The purpose of the compact is to:

a. Promote interstate comity between the States of Kansas and Nebraska.
b. To achieve equitable apportionment of the waters of the Big Blue River Basin between the two states and to promote orderly development thereof.
c. To encourage continuation of the active pollution-abatement programs of the waters of the Big Blue River Basin.