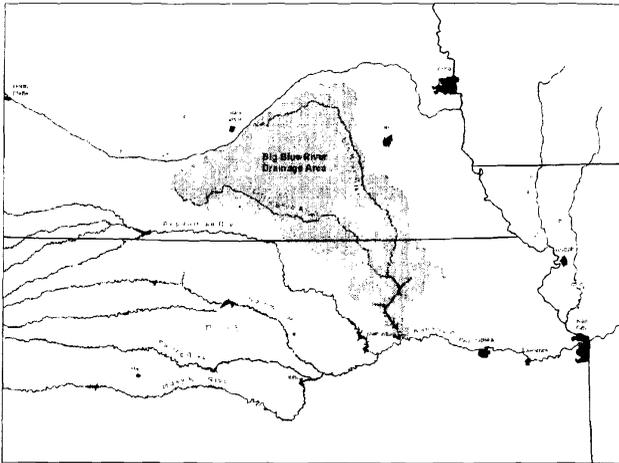


KANSAS-NEBRASKA BIG BLUE RIVER COMPACT

THIRTY-FOURTH ANNUAL REPORT



FISCAL 2007

**Manhattan, Kansas
May 16, 2007**

**KANSAS-NEBRASKA BIG BLUE RIVER
COMPACT ADMINISTRATION**

The Honorable George W. Bush
President of the United States

The Honorable Kathleen Sebelius
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-Fourth Annual Report. The report covers activities of the Administration for Fiscal Year 2007.

Respectfully,



Gary Mitchell
Compact Chairman

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**KANSAS – NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
34TH ANNUAL MEETING**

May 16, 2007
9:30 a.m.
Kansas Farm Bureau Building
2627 KFB Plaza
Manhattan, KS

AGENDA

1. Call to Order
2. Introductions and Announcements
3. Minutes of the 33rd Annual Meeting
4. Chairman's Report
5. Kansas Report
6. Nebraska Report
7. Federal Agency Report
8. Secretaries' Report
9. Treasurer/Budget Report
10. Committee Reports
 - a) Legal
 - b) Engineering
 - c) Budget
 - d) Water Quality
11. Old Business
12. New Business
13. Adjourn

**MINUTES OF
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
THIRTY-FOURTH ANNUAL MEETING**

Call to Order

The Kansas-Nebraska Big Blue River Compact Administration 34th annual meeting was held May 16, 2007, at the Kansas Farm Bureau Office in Manhattan, Kansas. Gary Mitchell, Compact Chairman, called the meeting to order at 9:30 a.m. and made the announcement that the Compact Citizen Advisor from Nebraska, Ken Regier, would not be attending the meeting, due to a family obligation.

Chairman Mitchell thanked the Farm Bureau for allowing the Compact to use the facility.

Introductions

Introductions of attendees were made. Those in attendance were:

Gary Mitchell	Compact Federal Representative and Chairman
Debra Hayes	Compact Secretary
David Pope	Compact Commissioner from Kansas; Chief Engineer, Kansas Dept. of Agriculture, Division of Water Resources
Representative Sharon Schwartz	Compact Citizen Advisor from Kansas; State of Kansas Representative
Dale Lambley	Chair of the Water Quality Committee of the Compact; Kansas Dept. of Agriculture
John Turnbull	Manager, Upper Big Blue Natural Resource District
Mike Onnen	Manager, Little Blue Natural Resource District
Ann Bleed	Compact Commissioner from Nebraska; Director, Nebraska Dept. of Natural Resources
Phil Soenksen	U.S. Geological Survey
Steve Gaul	Nebraska Dept. of Natural Resources
Dave Clabaugh	Manager, Lower Big Blue Natural Resource District
Dan Vogel	Nebraska Corn Growers
Dan Howell	Water Quality Committee of the Compact; Member of the Kansas-Lower Republican Basin Advisory Committee
Jean Angell	Legal Committee of the Compact; Legal Counsel, Nebraska Dept. of Natural Resources
Jennifer Schellpeper	Compact Treasurer; Chair of the Budget Committee and Engineering Committee of the Compact; Nebraska Dept. of Natural Resources
Keith Paulsen	Engineering Committee of the Compact; Lincoln Field Office, Nebraska Dept. of Natural Resources
Katie Tietzort	Engineering Committee of the Compact; Water Commissioner, Topeka Field Office, Kansas Dept. of Agriculture, Division of Water Resources

Bob Lytle	Budget Committee and the Engineering Committee of the Compact; Kansas Dept. of Agriculture, Division of Water Resources
Kent Askren	Kansas Farm Bureau
Fred Rogge	Kansas River Water Assurance District No. 1

Approval of the Minutes of the 33rd Annual Meeting

The minutes as printed in the Thirty-Third Annual Report were approved.

Report of the Chairman

Chairman Mitchell had no report.

Nebraska Report

Commissioner Ann Bleed started the Nebraska report with information of key personnel changes. Governor Dave Heineman was elected as Governor in November of 2006, and took office in January of 2007. Governor Heineman appointed Commissioner Bleed as the Director of Nebraska Department of Natural Resources (DNR), and Commissioner Bleed appointed Brian Dunnigan as her Deputy Director. Jennifer Schellpeper, who has been with DNR for some time, will be the new Chairperson for the Engineering Committee of the Compact, as Jeff Shafer has left DNR. Jean Angell, a new attorney with DNR, will represent Nebraska in legal issues related to the Compact.

Legislation

A major water bill, LB701, was passed in Nebraska this year. Commissioner Bleed stated that it was a four-part bill. One element provides for Natural Resource Districts (NRDs) to negotiate one-year lease agreements in the Republican River Basin to obtain surface water rights to help the state comply with the Republican River Compact. LB701 also authorizes the NRDs to issue bonds to pay for these leases. The funding for the bonds will come from new taxes. The NRDs got authority to impose a 10-cent levy and a \$10 per acre occupation tax on irrigated lands. The NRDs also got permission to extend the existing levy of three cents per \$100 valuation in fully or over appropriated river basins through 2012.

The Republican River NRDs have been very active in staying in compliance with the Republican River Compact. There is nothing that can be done about the past pumping and past depletion, but they are trying to get involved in interlocal agreements. They are borrowing money now to be paid back later, to buy surface water rights above Harlan County Lake to provide water to Kansas.

A Water Resources Cash Fund is another part of LB701, with state funding of \$2.7 million per year. From 2012 to 2019 a 6/10¢ corn and sorghum checkoff will go into the water fund. The money will be used and spent by DNR for management actions to decrease water use

in areas that are over appropriated or fully appropriated or bound by interstate compact agreement(s).

Another provision in the bill was three million dollars given to DNR to purchase water from the Nebraska Bostwick Irrigation District to give water to Kansas.

The department had a clean-up bill in the legislature that got pulled in to LB701. It plugged up a loophole, modifying the definition of water wells to include sand pits. Sand pits will now be required to register as a well.

Another thing put in the bill, primarily for fully and over appropriated basins of the interstate compact areas, is that DNR now has the authority to do an annual forecast of the water available for compact compliance and to estimate the maximum amount of water that may be available for use in the next year. The Legislature said that the NRD's can put a moratorium in place immediately to stop the onslaught of new wells with a board vote. The moratorium would be temporarily in place for 180 days. During the 180 days there would be a hearing to make a decision on whether there should be a permanent or longer-term moratorium put in to place.

The final provision of the bill is a vegetation management provision, which essentially takes a \$2 million appropriation per year to manage vegetation throughout the State in the river channel. This would be administered by the Nebraska Department of Agriculture with a 13 member Board appointed by the Governor.

Water Administration

Commissioner Bleed discussed the issue of drought. She stated that there have been headlines in the newspapers saying the drought is over, but it is not necessarily true. There were good spring rains this year that helped with the crops, but the lakes did not fill. Also, it is true that part of the State is out of the drought; however, the western part of the State, including the Panhandle, is not out of the drought.

Keith Paulsen offered handouts. He referenced the tables on the narrative (**Exhibit F**) that showed the dates of closing orders for compliance on both Little Blue and Big Blue. He stated that there were compact issues in both basins last year.

Mr. Paulsen referred to the other set of handouts (**Exhibit G**). The first page is a rainfall distribution map showing where it rained and how much. The following pages are several hydrographs. Mr. Paulsen directed attention to the bottom of the pages that offer historical crests showing how frequent it happens. He commented on the accuracy and the usefulness of these prediction tools found on the National Weather Service site.

Natural Resources Districts

Upper Big Blue NRD. The report for the Upper Big Blue NRD (**Exhibit H**) and a copy of "Blueprint," the Newsletter of the Upper Big Blue Natural Resources District (**Exhibit I**), were distributed. John Turnbull briefly went over some of the main points of the report. The

Ground Water Levels chart on the top of the second page is based on 500 wells. Because of groundwater regulation last year, water use reporting is required, as explained on page 3 of the report. There is a section on page 3 that explains the large water user regulation. Mr. Turnbull stated that there is also a transfer rule that states no water can be transferred more than a mile. There is a proposed rule that if anyone is going to transfer water that exceeds 250 acre feet for purposes other than irrigation, a hydrologic study will have to be done, and if adverse impacts are likely to occur, the permit could be denied. Water quality in the District hadn't changed much since last year.

Commissioner David Pope had a question regarding the supplemental permit mentioned in the Large Water User section of the report. Mr. Turnbull explained that it just means a permit authorizing use of over 500 acre feet of water, where a regular permit would only be for up to 500 acre feet.

Lower Big Blue NRD. Dave Clabaugh passed out the Lower Big Blue Natural Resources latest newsletter (**Exhibit J**). He also distributed the District's report (**Exhibit K**).

The report notes that there were 29 wells decommissioned last year, most of those being domestic wells. Mr. Clabaugh acknowledged that the nitrate average of 7.73 is high due to some point source contamination problems around a couple of fertilizer plants. He said if the higher wells were not included, the average would be about 4 or 5. Mr. Clabaugh said that there are only 2200 – 2500 irrigation wells in the Lower Big Blue NRD, with about half of those being sampled.

Mr. Clabaugh made the comment that the Lower Big Blue NRD's forte is the watershed structures and soil and water conservation. There is in the District, which is a little over a million acres, roughly 70% of the land meeting NRCS requirements. There are probably more buffer strips in the District than any other. The summary notes that there are 206 contracts for over 1500 acres.

Regarding flood control, Mr. Clabaugh jokingly stated that the District brags that they are the watershed capital of Nebraska with over 250 watershed structures, noting that the Nemaha NRD to the east has more than that, but they haven't challenged, yet.

Little Blue NRD. Mike Onnen submitted a written report for the Little Blue NRD (**Exhibit L**) and gave a summary of the report.

Regarding the chart on page 2 of the report, Mr. Onnen noted that it starts point 0 on the left hand side in 1974, however they do not have a lot of data on how many wells were monitored back in that era. It may have been a high point in 1974, but because of the lack of data prior to 1974, that is not known for sure.

Another technician was hired by the District last year to do some of the field work involved with ground water management. The result of that was it freed up ground water staff to do additional work with cooperators in the management of their farms, as is reported on page 3.

Katie Tietsort asked for more information on the (public) meetings that were held (page 3 of the report). Mr. Onnen explained what type of information was gathered and how it was acquired. He said that they were able to identify about 4½ townships that had a little bit greater declines than the average in those areas. The cooperators in those areas were sent the information that was gathered. The public meetings were basically to share the data and receive feedback.

Continuing with the Nebraska report, Steve Gaul was asked to talk about the augmentation study. This study primarily looks at the situations where flows fall below the compact targets and have to be administered, and the economic impact of the administration. The study is trying to determine the total annual augmentation water needed in order to comply with the Compact, and determine the value of the water to avoid administration to the junior irrigators in Nebraska. The study is looking at a range of alternatives to administration. The flows are sporadic in terms of number of days, seasons in which it occurs, and years in which it occurs. One solution discussed is storing water during peak times for use at a later time instead of administration.

Commissioner Pope asked Mr. Gaul if the study was primarily focusing on new storage sites or using existing small reservoirs or both. Mr. Gaul said there are several options, and new reservoirs are being considered. One of the challenges will be the transfer time.

In answer to a question from Representative Sharon Schwartz regarding who would pay for the new reservoirs, Mr. Gaul said that the NRDs would probably go to DNR for funding options.

Representative Schwartz had a question regarding the Nebraska report. She inquired whether in areas where CREP was implemented if contracts had been executed. Commissioner Bleed stated that some CREP contracts have been signed, but with the price of corn at \$3.00 - \$4.00 it has slowed down, and some people want to discontinue their contracts now. Commissioner Pope asked if there was an analysis to evaluate the savings of water from CREP. Commissioner Bleed responded that there is a report done every year as required by FSA. The report looks at consumptive use to determine the reduction of water use.

Kansas Report

Climate

Commissioner Pope outlined a number of items. He remarked that Kansas has gone from multi-year drought to this year no longer being in a drought. There were large snows in Western Kansas that resulted in a lot of winter damage. This spring Kansas has faced severe storm damage. There were reports of hundreds of center pivots destroyed as a result of winds, storm systems, and tornados in Greensburg and surrounding areas. More locally there has been quite a bit of flooding. The floods have created extremely high flows in the Blue River system. It has been noted that Tuttle Creek was 25 feet up into the flood pool. There were local areas of flooding in Topeka and other communities in Eastern Kansas. Kansas Division of Water Resources (DWR) has spent a lot of time responding to the emergency conditions and working

with the Division of Emergency Management. A number of the U.S. Army Corps of Engineers reservoirs, mostly in the Eastern and Central part of the State, have been storing water in the flood pool of the reservoir; some have been storing the most water since 1993.

Legislation

Last year the Legislature enacted legislation establishing the Water Transition Assistance Program (WTAP). WTAP is being implemented this year. The State Conservation Commission is just about finished promulgating the rules and regulations for the program. Kansas Legislature appropriated money again this year, a million and a half dollars for that particular program. WTAP is targeting two main areas in the State – Prairie Dog Creek, a tributary of the Republican River in northwestern Kansas and Rattlesnake Creek, a tributary of the Arkansas River in South-central Kansas.

Funds were also made available this Legislative Session for Kansas Department of Wildlife and Parks to enter into a long term, 10-year agreement with Almena Irrigation District that captures water from the Keith Sebelius Reservoir. For the next 10 years there will not be releases of water to the irrigation project unless water levels get above a certain target level. It is an effort to enhance the recreational capabilities of the Reservoir, and it should save water, as well.

Another program Kansas has been working on is the Environmental Quality Incentive Program (EQIP). DWR has been working with NRCS with incentive payments for people to not irrigate certain land in targeted areas.

In Kansas over the past two or three years there has been a very active effort to put together a Conservation Reserve Enhancement Program (CREP), with several agencies, local ground water management districts, and other groups, both private and public. It was actively debated during the legislative session. The part that was most controversial about the proposed program was the fact that CREP requires that the land that is enrolled go into grass as compared to dry land farming on those particular lands. The final legislative bill did include a provision to allow the CREP program to move forward. CREP will be limited to 20,000 acres each of the next two years with \$1,000,000 in funds available each of those years. There are provisions in the plan ensuring that two acres of regular CRP must come out for each new acre that goes in.

Kansas continues to have an active program dealing with water appropriations with a lot of interest in ethanol plants. In Kansas it depends on where the plant is in terms of how the water is dealt with. If the plant goes in an area that is fully appropriated, such as Central and Western Kansas, there will be no new permits allowed; however, they can acquire existing water rights, and change the purpose of use so long as the net consumptive use is not increased. The same is true for any large user. In a few locations, particularly in the Eastern part of the State, proposed facilities are either under way, or under consideration, and sometimes they are able to find a place to get a new permit. Safe yield rules are applied and the amount of natural recharge to the area is evaluated on an annual average basis.

In Kansas a large amount of the State is under mandatory water meter requirements. This last year, DWR required meters on all wells in GMD #4. That is about 4,000 large capacity wells that are to be metered in a four-year period, with this being the halfway mark of that period. The same requirement is in effect for a couple counties in the Pawnee River Basin and a big area in South Central Kansas. Most of the major irrigated areas in Kansas are now under the meter restriction, and there is mandatory water use reporting that has been in place for a number of years.

In the Pawnee Buckner River Basin there is a pending situation where Commissioner Pope, in his capacity as Chief Engineer, initiated the proceedings to expand an Intensive Groundwater Use Control Area (IGUCA). There have been hearings, but no decision has been made yet. If that area is declared an IGUCA, then DWR will have to determine what criteria and restrictions will be put into effect in the area.

Litigation

The KS v CO lawsuit, which is some 20 years old, is not quite over, but is getting close. There is a lot of work going on between the States, both at the lawyer's level and at the level of the State engineers, to work through all the technical and administrative details to finalize a court decree. There is a draft of the court decree with a whole series of appendices. There are a lot of details regarding monitoring, evaluating, etc. The Special Master is shooting for late summer or early fall to have a final court decree submitted to the US Supreme Court.

Commissioner Pope noted that this is the 5th year of the 5-year accounting period regarding the Republican River Compact Settlement.

Water Conservation/Water Administration

A lot of money is committed to water conservation and water quality type activities. Kansas still has the dedicated State Water Plan fund and this year there was additional money to be allocated due to the clean water-drinking fund. Some of the approved expenditures are:

- Approximately \$350,000 for the Water Quality Buffer Initiative
- Water Transition Assistance Program
- EQIP
- \$2.7 million for Lake Restoration/Management program, which is a new area with the money being devoted to restore some of the individual lakes that have become filled with sediment or need restoration in regards to their public water supply component for example
- Technical assistance to Water Users
- Watershed Restoration and Protection Strategies (WRAPS)
- Nonpoint Source Program
- Water Resources Cost Share Program

There are a few Watershed Districts also in the Kansas portion of the Blue River Basin. The Black Vermillion has been active for a number of years and has built a number of structures. There is also the Horseshoe Creek and the Little Blue River Watersheds.

Katie Tietsort continued the Kansas report with comments on water administration activities in the basin. She stated that conditions in 2005 did not require administration of Minimum Desirable Streamflows (MDS) in the Blue River system, but administration did occur in 2006. The Little Blue River was administered for MDS between August 9 and August 29, 2006. MDS administration also occurred on the Big Blue River system between August 9 and August 22, 2006. Permits junior to the MDS date of April 12, 1984, were issued orders to cease diversions during those periods.

In the other areas, MDS administration is still in effect on the Republican River, and has been most of the time since 2002. Mill Creek at Paxico, a tributary to the Kansas River, was under MDS administration from June 16 to August 23. There was MDS administration on the Delaware River, on and off starting the beginning of the year, with a little bit in January and again in March, and then a long stretch of administration occurred from June through September, and again in November on that system. Spring River had to be administered for the very first time in 2006. It was under administration for about five months. Chapman Creek was administered for MDS for the entire year, between February of 2006, and the orders just went out again in February 2007.

Katie continued her report stating that DWR also protected releases that were made for Marketing Program purposes from Council Grove Reservoir in the Neosho system, as well as dealing with MDS administration that occurred in that system in the fall. Releases were also protected in the Marais des Cygnes system for Water Assurance District support flows, and the Kansas River was monitored. The Verdigris River System operates under a memorandum of agreement (MOA). DWR protects releases that were made under the water marketing contracts from one of the three Federal Reservoirs within the system. That resulted in significant administration last year. DWR was down to the last cfs in administering water rights under the MOA. It was not a very easy situation and difficult for everyone involved. Other areas in the northwestern part of the State were also administered for MDS and water right administration between water right priorities also occurred.

Katie ended her portion of the Kansas report by saying that DWR's Topeka Field Office appreciated the efforts of U.S. Geological Survey (USGS). USGS had to step up their measurements last year to help support DWR's activities.

Representative Schwartz commented that there was an issue on the Big Blue above Marysville where there is a dam that was built a long time ago for electricity that is deteriorating. The dam protects the wells built for all the rural water in Marshall County. Using the Water Plan Funds, they are trying to keep the dam in place.

Dale Lambley had a comment related to the WRAPS process. One key issue, he said, is that they are trying to get local water users involved, putting the State and Federal agencies in a

technical advisory role or an assistance role. This effort has shown community success in the planning and implementation of WRAPS projects at the local level.

Federal Agencies' Reports

Phil Soenksen, USGS, offered his report. He handed out a packet of handouts (**Exhibit M**), including the summary report describing how the USGS operates the gages and gave a brief summary of each of the stations.

For the Little Blue River at Hollenberg, Mr. Soenksen noted that water year 2006 is the lowest year on record. It is not in the summary, but is shown on the graph that is included in the handouts.

Chairman Gary Mitchell made the observation that the data for the Barneston Annual Mean Discharge is a lot older than that of data for Hollenberg, remarking that a trend can almost be seen. He asked if any statistical analysis has been done. Mr. Soenksen said there are a lot of studies being done with the data, including climate change studies, cycles, and prediction patterns. Mr. Soenksen said that the Chairman's question shows the value of long-term gage data, saying that there is statistical value in data.

Secretary's Report

Debra Hayes announced that she had resigned from DWR and that she would not be returning next year as the Compact's Secretary. Ms. Hayes provided the current list of members' names, addresses, and e-mail addresses, stating again that these would not be published in the Annual Report.

Treasurer's/Budget Report

Jennifer Schellpeper distributed and summarized the report of the treasurer and the budget analysis (**Exhibit N**). Mr. Soenksen said that the expenditure for the stateline gages, as estimated in the budget report, is a little bit high. The estimated amount number that Mr. Soenksen provided was \$13,480. Mr. Soenksen discussed the difference between their fiscal year and the States' fiscal year, stating that their fiscal year is from October 1 to September 31 as opposed to the States' fiscal year of July 1 to June 30. The annual rate for a gage is \$14,480. It is proposed for FY08 at \$13,570, and for next year, FY09, it would be estimated at \$13,900.

In response to a question from Commissioner Pope, it was stated that the payments to USGS were made quarterly, with two agreements being sent out to the Compact from USGS for the fiscal year, due to the difference between their fiscal year and the States' fiscal year.

Continuing with the treasurer's report, Ms. Schellpeper noted that the Compact is to be insured with a Fidelity Bond, so that if the Treasurer, or anyone else that has access to the money, absconds with the money the Compact could get the money back. She stated that a Fidelity Bond has not been purchased the past few years, but the cost is in the budget and a Fidelity Bond will be purchased.

Ms. Schellpeper also pointed out that an annual audit had not been completed for FY05-06; therefore, an audit will need to be performed for both FY05-06 and FY06-07. This will mean that the amount spent in FY07-08 will end up being \$1,400 rather than the \$700 originally estimated in the budget. Ms. Schellpeper proposed that the \$700 estimated for the current fiscal year be changed to \$1,400. The \$1,400 would go in FY07-08 under the Adopted May 2007.

To reiterate, for the gages, in the proposed May 2007 of FY07-08, the number would be \$13,570, and the estimate for FY08-09 would be \$13,900. Regarding the Annual Audit, in the Report of the Treasurer, the \$700 expenditure shown was spent during the month of July in the year 2006 for the FY04-05 audit. The spending which occurred in FY06-07 normally would have been spent in FY05-06. The changes would affect the FY starting July 1, 2007.

Mr. Pope brought up the issue of Ms. Hayes resignation and payment for her duties as Secretary. It was noted that Ms. Hayes would get payment for her work in FY07-08 completing the minutes for the May 2007 meeting. Ms. Hayes recalled that when the then Compact Treasurer retired a few years back, those duties were assumed by the State of Nebraska DNR. There was some discussion on whether the duties of the Compact Secretary should be assumed by the State of Kansas DWR now that Ms. Hayes has left her position at DWR. Mr. Pope stated that he would like to have that discussion at the May 2008 meeting, since it does not affect the proposed budget this year.

Legal Committee Report

There was no Legal Committee report.

Engineering Committee Report

The signed report of the Engineering Committee was given to Ms. Hayes to be included in the Annual Report (**Exhibits A – E**). Ms. Schellpeper quickly summarized the report.

Water Quality Committee Report

Dale Lambley distributed the Water Quality Committee report (**Exhibit O**), including a copy of the Big Blue River Compact Water Quality Committee Meeting agenda as an attachment. The first part of the report is a background of the Water Quality Committee, as a reminder to everyone on what the focus of the Water Quality Committee is.

Mr. Lambley stated that Phil Barnes, Kansas State University (KSU), has been leading the charge on the water quality monitoring on both the Kansas side and the Nebraska side. It was noted that KSU has received a grant to work on quality concerns on the Black Vermillion Watershed of Kansas.

Ethanol plants are a topic that concerns the Water Quality Committee. There is no way of predicting the water quality future due to ethanol plants.

Commissioner Pope commented that over the years the Water Quality Committee has taken on a major role in State cooperation, and it is appreciated.

Old Business

There was no old business to report.

New Business

The annual meeting will be hosted by Kansas again next year, and will be held at the Kansas Farm Bureau in Manhattan. The tentative date is Wednesday, May 21, 2008.

Committee membership for the upcoming year will be:

Budget Committee

Jennifer Schellpeper, Chairperson
Bob Lytle

Legal Committee

Lee Rolfs, Chairperson
Jean Angell

Engineering Committee

Jennifer Schellpeper, Chairperson
Keith Paulsen
Bob Lytle
Katie Tietsort

Water Quality Committee

Dale Lambley, Chairperson
Tom Stiles
Dan Howell
Annette Kovar
Rich Reiman
Pat Rice

Chairman Mitchell declared the meeting adjourned at 1:05 p.m.



Gary Mitchell, Compact Chairman



for David L. Pope, Kansas Commissioner



for Ann Bleed, Nebraska Commissioner

**REPORT OF THE ENGINEERING COMMITTEE
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
May 16, 2007**

The 2006 data were collected in accordance with the agreements with the United States Geological Survey (USGS) and the Lower Big Blue Natural Resources District (LBBNRD).

REVIEW OF STREAMFLOW DATA

The Compact sets forth the following stream flow targets:

	Big Blue River	Little Blue River
May	45 cfs	45 cfs
June	45 cfs	45 cfs
July	80 cfs	75 cfs
August	90 cfs	80 cfs
September	65 cfs	60 cfs

During the 2005 water year (October 1, 2005 thru September 30, 2006) the mean daily streamflow at the Barneston gage on the Big Blue River (Exhibit A) fell below the target flow a total of 23 days and the Hollenberg gage on the Little Blue River (Exhibit B) fell below the target flow a total of 25 days.

Recent and Historical Data for the two gages can be found at the following USGS websites:

Big Blue River - http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06882000

Little Blue River - http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06884025

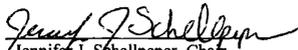
REVIEW OF GROUNDWATER DATA

The USGS provided the data for hydrographs for two wells in Gage and Jefferson Counties (Exhibit C). The LBBNRD provided the groundwater data for the portion of the Big Blue River near Beatrice listed in Exhibit D.

REVIEW OF WELLS IN REGULATORY REACHES

The lists of wells within the regulatory reaches are shown in Exhibit E. The irrigation well, G-139240, was registered in the last year and is located in the regulatory area. It was drilled in 1956.

Respectively Submitted,


Jennifer J. Schellpeper, Chair
Nebraska

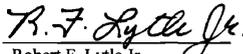
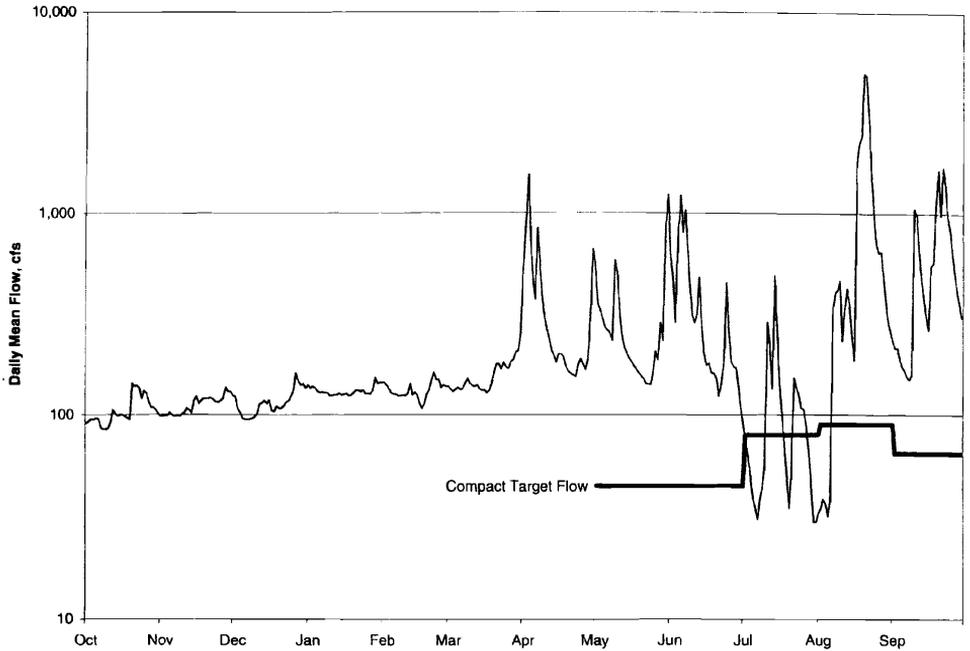

Robert F. Lytle Jr.
Kansas

Exhibit A

BIG BLUE RIVER AT BARNESTON, NEBRASKA - 06882000

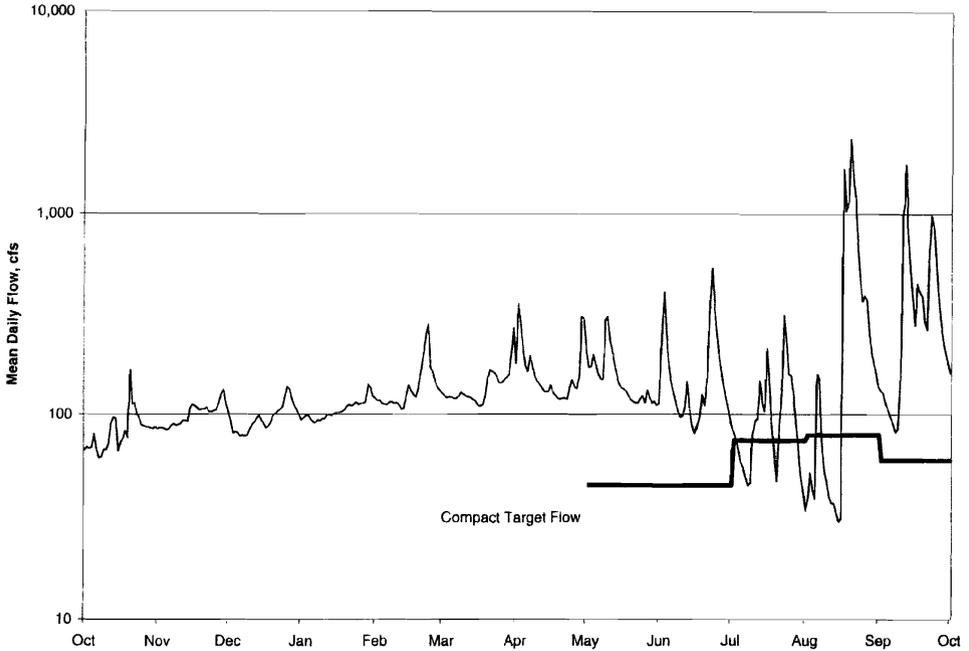


DAILY MEAN	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06
TOTAL	3,283	3,367	3,579	4,079	3,727	4,860	11,033	9,461	11,003	3,281	28,728	17,750
MEAN	106	112	115	132	133	157	368	305	367	106	927	592
MAX	144	137	161	153	163	252	1,540	1,230	1,220	491	4,960	1,690
MIN	85	99	95	125	108	129	155	142	109	30	32	150
AC-FT	6,510	6,680	7,100	8,090	7,390	9,640	21,890	18,770	21,830	6,510	57,000	35,220

SUMMARY STATISTICS	FOR 2005 CALENDAR YEAR		FOR 2006 WATER YEAR		WATER YEARS 1933-2005		
ANNUAL TOTAL	268,210		104,200		-		
ANNUAL MEAN	370		285		841		
HIGHEST ANNUAL MEAN	-		-		2,781		
LOWEST ANNUAL MEAN	-		-		115		
HIGHEST DAILY MEAN	9,430	May-17	4,960	Aug-20	50,000	Jun-09	1941
LOWEST DAILY MEAN	54	Jul-15	30	Jul-30	1	Nov-30	1945
ANNUAL SEVEN-DAY MINIMUM	64	Jul-11	34	Jul-30	15	Aug-03	1934
MAXIMUM PEAK FLOW	-		n/a		57,700 Jun-09 1941		
MAXIMUM PEAK STAGE	-		n/a		34.30 Jun-09 1941		
ANNUAL RUNOFF (AC-FT)	268,200		206,600		609,103		
10 PERCENT EXCEEDS	671		571		1,710		
50 PERCENT EXCEEDS	176		141		273		
90 PERCENT EXCEEDS	97		95		104		

Exhibit B

LITTLE BLUE RIVER AT HOLLENBERG, KANSAS - 06884025



DAILY MEAN	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06
TOTAL	2,608	2,996	3,007	3,268	3,894	4,301	5,000	4,798	5,157	3,201	12,961	11,911
MEAN	84	100	97	105	139	139	167	155	172	103	418	397
MAX	166	132	137	141	281	269	353	305	532	312	2,340	1,740
MIN	61	84	78	91	106	110	119	111	81	42	30	82
AC-FT	5,170	5,940	5,970	6,480	7,730	8,530	9,920	9,520	10,230	6,350	25,710	23,630

SUMMARY STATISTICS	FOR 2005 CALENDAR YEAR		FOR 2006 WATER YEAR		WATER YEARS 1933-2006	
ANNUAL TOTAL	161,260		63,100		-	
ANNUAL MEAN	223		173		496	
HIGHEST ANNUAL MEAN	-		-		1,891	
LOWEST ANNUAL MEAN	-		-		173	
HIGHEST DAILY MEAN	2,850	Jul-27	2,340	Aug-20	39,300	Jul-26 1941
LOWEST DAILY MEAN	43	Jul-13	30	Aug-15	26	Oct-01 1945
ANNUAL SEVEN-DAY MINIMUM	47	Jul-17	34	Aug-16	27	Sep-27 1934
MAXIMUM PEAK FLOW	-		n/a		47,800	Jul-26 1941
MAXIMUM PEAK STAGE	-		n/a		21.21	Jul-26 1941
ANNUAL RUNOFF (AC-FT)	268,200		125,200		328,712	
10 PERCENT EXCEEDS	456		282		817	
50 PERCENT EXCEEDS	141		115		195	
90 PERCENT EXCEEDS	74		75		102	

Exhibit C

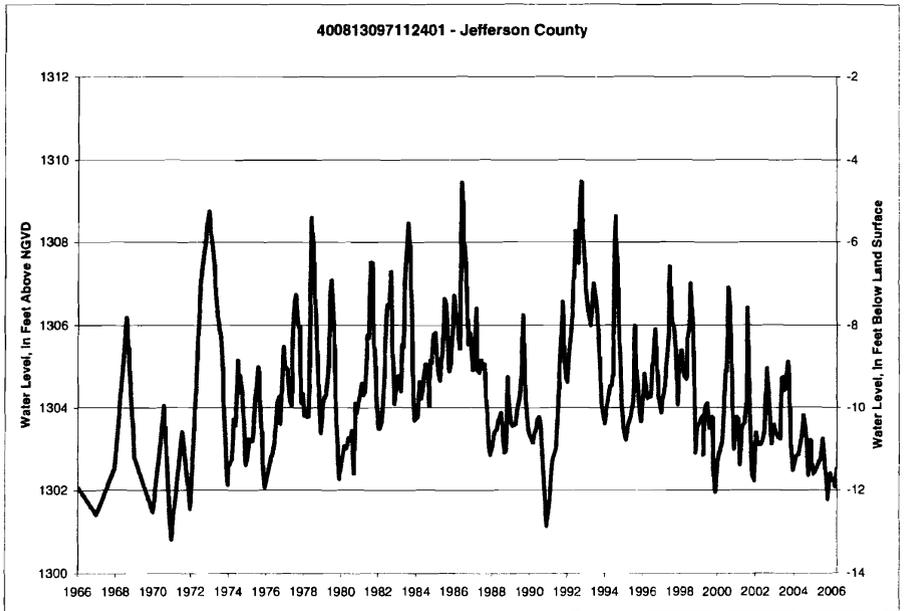
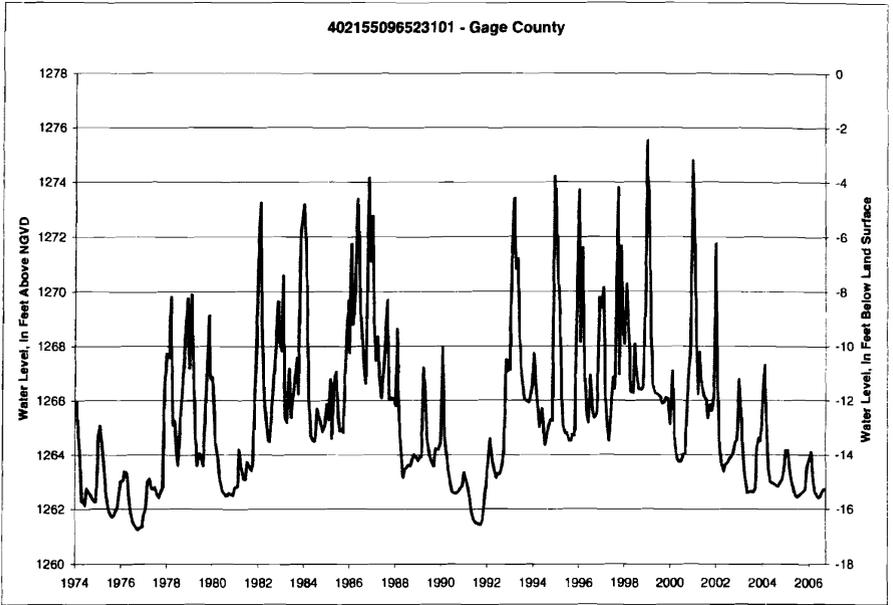


Exhibit E

BLUE RIVER BASIN
REGULATORY AREA WELLS

Big Blue River

Registration Number	Location T-R-S	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)	Filing Date
G-036485	4N-5E-11BC	3-28-1972	82	750	4/24/1972
G-038314	4N-5E-2DD	1-16-1973	188	1300	1/29/1973
G-047820	4N-5E-12BB	11-1-1975	117	1200	12/4/1975
G-050086	5N-5E-33AD	5-26-1976	123	800	6/9/1976
G-054047	4N-5E-24BB	3-1-1976	84	800	1/6/1977
G-054260	4N-5E-14AA	6-1-1974	70	800	1/14/1977
G-054261	4N-5E-14AB	5-2-1970	70	800	1/14/1977
G-056152	4N-5E-4BB	4-14-1977	91	1000	5/11/1977
G-059128	5N-5E-29AA	4-25-1977	60	400	1/4/1978
G-059727	5N-5E-33CB	4-19-1978	91	1200	4/20/1978
G-081769	4N-5E-13CD	4-22-1994	65	250	6/24/1994
G-100788	5N-5E-29AB	3-19-1999	65	500	6/2/1999
G-110669	4N-5E-13CC	7-12-1995	64	375	6/29/2001
G-110847	4N-5E-3DA	5-4-1979	82	800	7/2/2001
G-110849	5N-5E-29DD	4-30-1983	102	800	7/2/2001

Little Blue River

Registration Number	Location T-R-S	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)	Filing Date
G-058158	2N-2E-16AA	8-15-1977	29	650	9/6/1977
G-139240	2N-2E-9DD	0-0-1956	50	400	3/23/2006

2007 Big Blue River Compact Administration Report
Nebraska Report

Surface Water Administration Activities in the Blue River Basin in 2006

There were surface water shortages in both the Big and Little Blue Basins Nebraska in 2006.

Little Blue River Basin

Flows in the Little Blue River were insufficient to meet the demands of the Blue River Compact with Kansas for four periods this summer. This resulted in the issuance of closing orders to those surface water irrigators junior to the compact as follows:

<u>Closed</u>	<u>Opened</u>
July 5	July 14
July 20	July 21
July 31	Aug. 7
Aug. 9	Aug. 17

Big Blue River Basin

Localized shortages on the upper end of the Big Blue River Basin began on July 1 and persisted until August 8. Closure requirements varied during this period but the North Fork of the Big Blue Basin above the confluence with the West Fork of the Big Blue River was closed down to a November 26, 1956 priority date for two periods in the last half of July through the first week in August.

Shortages in the Big Blue River Basin resulting in closures for the state-line compact flows occurred for three periods in 2006. Closing and opening orders for the benefit of the compact state-line flows were issued as follows:

<u>Closed</u>	<u>Opened</u>
July 3	July 14
July 19	July 24
July 29	Aug. 7

Rains so far this year give us hope that the drought may be lessening. Rainfall totals in the 5-inch range were reported on the lower end of the basin during the first week of May. Early last week the lower end of the Big Blue River in Nebraska was in flood stage for several days. I have some handouts showing the scale and scope of the early May rains and some hydrographs following these rains for selected gages in Nebraska.

We are currently experiencing another high water event on the Little Blue River at the state line following a four-inch rain centered in Thayer County in Nebraska.

After seven years of drought, perhaps more normal flows in the basin are returning.



National Weather Service

NEW Precipitation Analysis

This is an experimental product



Local weather forecast by "City, St" or zip code

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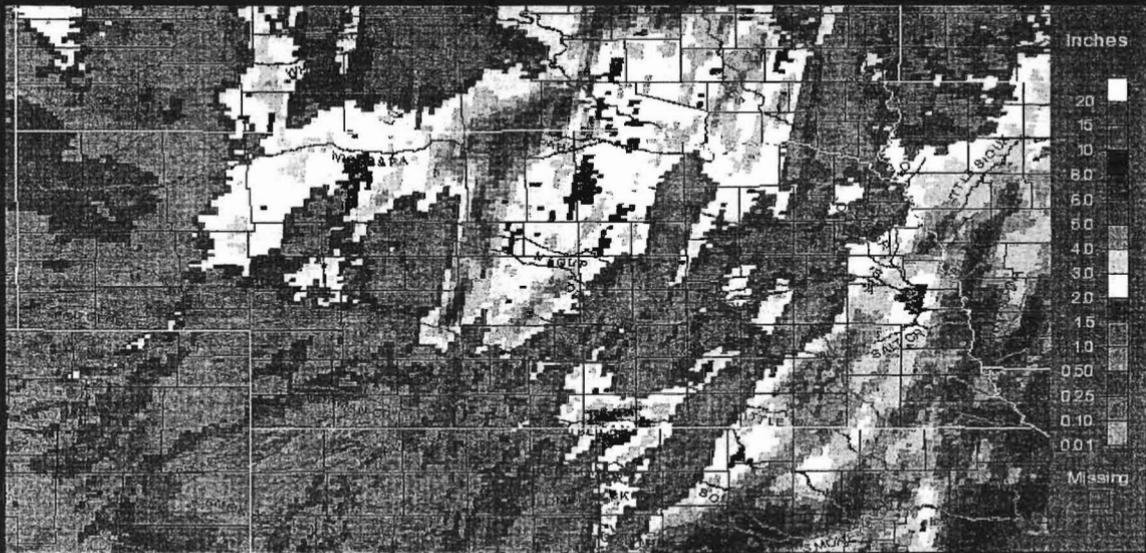
[Survey &
Feedback](#)

[Original
Precip Analysis](#)

Nebraska

7-Day Observed Precipitation - Valld 5/8/2007 1200 UTC

*Click on the image to zoom in
Click on "States" to zoom out*



Topo

Pcpn Amount

Counties

Rivers

States

Highway/City

RFC Boundary

Last Update: 5/8/2007 1527 UTC

Exhibit G



Advanced Hydrologic Prediction Service



Home News Organization Search for NWS All NOAA

Weather Forecast Office Omaha/Valley NE

Missouri Basin River Forecast Center

Local weather forecast by "City, ST"

National Conditions
Rivers
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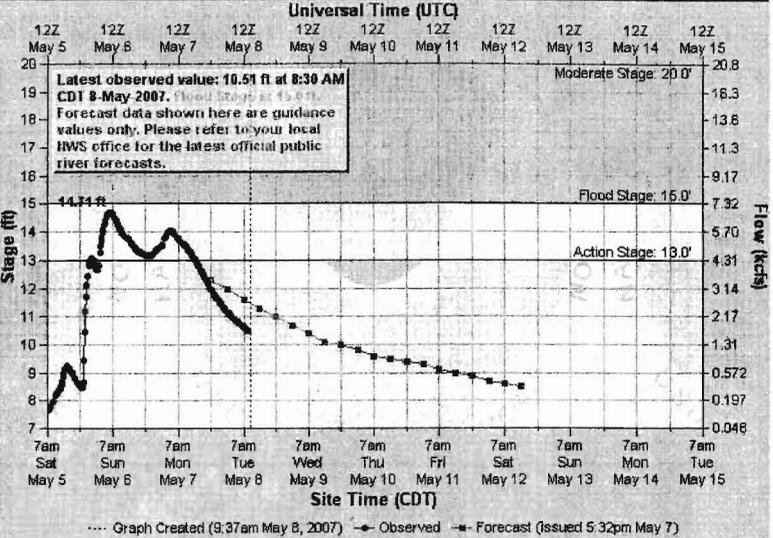
Feedback/Questions
Provide Feedback
Ask Questions

Observations courtesy of



Hydrograph River at a Glance Weekly Chance of Exceeding Levels Chance of Exceeding Levels During Entire Period

Little Blue River 1 W Fairbury



FRBN1 (plotting HQIRG) "Gage 0" Datum: 1277.2 Observations courtesy of the US Geological Survey

Printable Image
About this graph
Tabular Data

NOTE: Forecasts for the Little Blue River near Fairbury are issued as needed during times of high water, but are not routinely available.

Default Hydrograph

Upstream Gauge Downstream Gauge

Flood Categories (in feet)
Major Flood Stage: 26
Moderate Flood Stage: 20
Flood Stage: 15
Action Stage: 13

Historical Crests
(1) 24.33 ft on 07/25/1992
(2) 23.96 ft on 10/12/1973
(3) 23.17 ft on 06/24/2003
(4) 21.98 ft on 06/13/1984
(5) 21.17 ft on 07/27/1993
[Show More Historical Crests](#)

Low Water Records
(1) 0 ft on 11/22/1929



National Weather Service Advanced Hydrologic Prediction Service



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Weather Forecast Office Omaha/Valley, NE

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Local weather forecast by "City, ST"

Flood Warning

Flood Statement

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Hydrograph River at a Glance Weekly Chance of Exceeding Levels Chance of Exceeding Levels During Entire Period

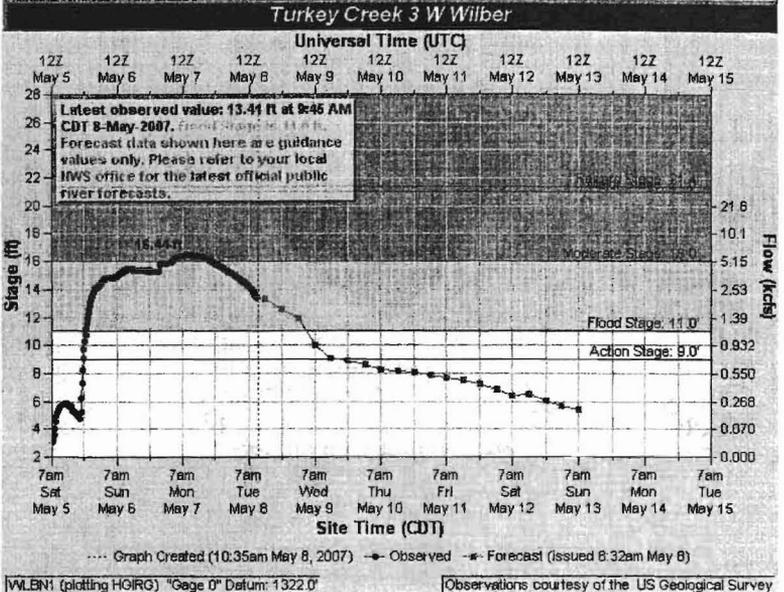
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Climate
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Ask Questions

Observations courtesy of



WLBNI (plotting HGIRG) "Gage 0" Datum: 1322.0'

Observations courtesy of the US Geological Survey

NOTE: Forecasts for the Turkey Creek near Wilber are issued as needed during times of high water, but are not routinely available.

Default Hydrograph

Flood Categories (in feet)
Major Flood Stage: 21
Moderate Flood Stage: 16
Flood Stage: 11
Action Stage: 9

Historical Crests
(1) 21.43 ft on 06/13/1984
(2) 18.33 ft on 07/01/1986
(3) 17.92 ft on 10/12/1973
(4) 17.90 ft on 03/25/1987
(5) 17.44 ft on 07/25/1993
[Show More Historical Crests](#)

Low Water Records

Advanced Hydrologic Prediction Service



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Local weather forecast by "City, ST"

Weather Forecast Office Omaha/Valley, NE

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Flood Warning

Flood Statement

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Hydrograph

River at a Glance

Weekly Chance of Exceeding Levels

Chance of Exceeding Levels During Entire Period

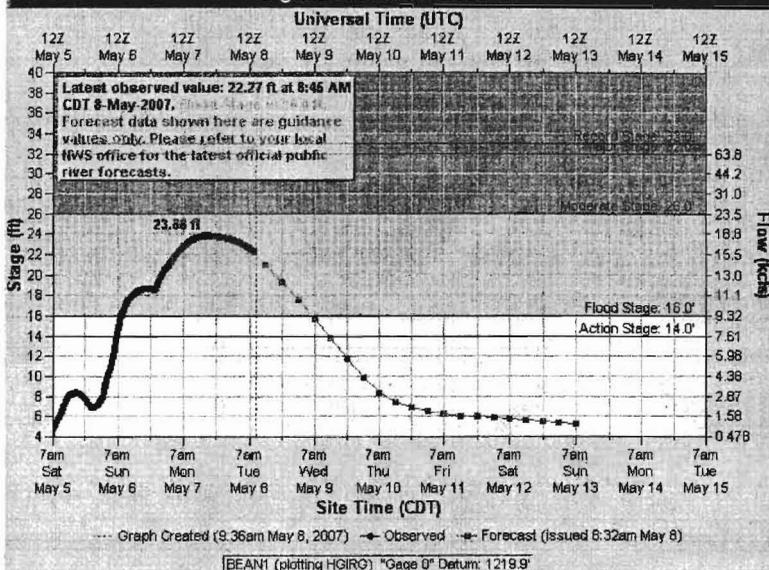
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Big Blue River AT Beatrice



Printable Image
About this graph
Tabular Data
XML:

NOTE: Forecasts for the Big Blue River at Beatrice are issued as needed during times of high water, but are not routinely available.

Default Hydrograph

Return to Area Map

Upstream Gauge ←

→ Downstream Gauge

Flood Categories (in feet)

Major Flood Stage:	32
Moderate Flood Stage:	26
Flood Stage:	16
Action Stage:	14

- Historical Crests**
- 33.02 ft on 10/12/1973
 - 31.27 ft on 06/14/1984
 - 28.77 ft on 07/26/1993
 - 28.30 ft on 06/04/1951
 - 27.65 ft on 06/23/1947
- Show More Historical Crests



National Weather Service Advanced Hydrologic Prediction Service



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Hydrograph River at a Glance Weekly Chance of Exceeding Levels Chance of Exceeding Levels During Entire Period

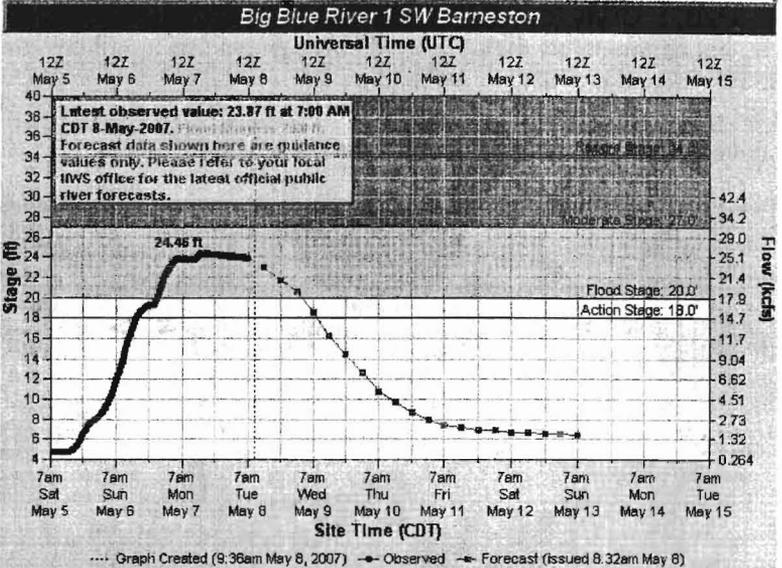
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Observations
courtesy of



BARN1 (plotting HGRG) *Gage 0' Datum: 1162.2' Observations courtesy of the US Geological Survey

- Printable Image
- About this graph
- Tabular Data
- XML**

NOTE: Forecasts for the Big Blue River near Barneston are issued as needed during times of high water, but are not routinely available.

Default Hydrograph

Return to Area Map

Upstream Gauge Downstream Gauge

Flood Categories (in feet)
 Major Flood Stage: 34
 Moderate Flood Stage: 27
 Flood Stage: 20
 Action Stage: 18

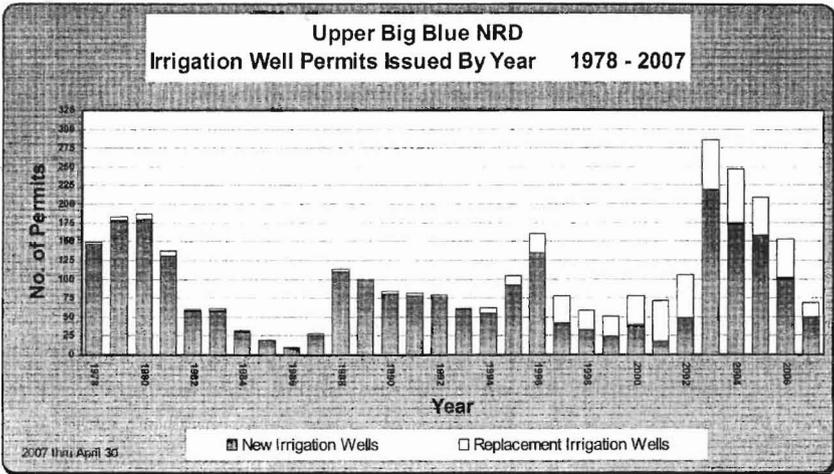
Historical Crests
 (1) 0 ft on 05/01/1903
 (1) 0 ft on 10/03/1923
 (1) 0 ft on 09/25/1931
 (1) 0 ft on 06/18/1925
 (1) 0 ft on 06/22/1929
 Show More Historical Crests

**Kansas - Nebraska Big Blue River Compact
Nebraska Report - Upper Big Blue NRD
John C. Turnbull, General Manager**

May 15, 2007

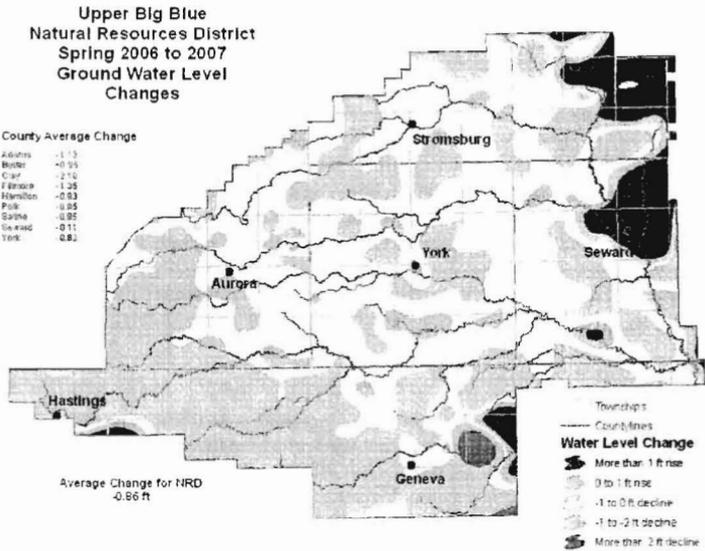
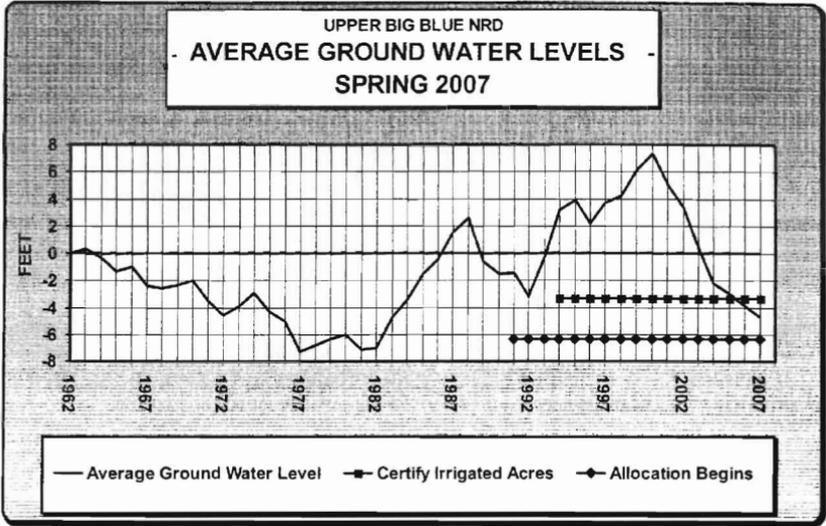
Well Drilling Activities

153 well permits were issued for irrigation wells in the Upper Big Blue NRD in 2006. Of those, one third (51) were replacement wells and two thirds (102) were new wells. At the end of 2006 there were 11,941 active irrigation wells. The peak year was 2003 with 286 irrigation well permits, of which 67 were replacement wells. Since January, 2007, 69 permits have been issued for irrigation wells (includes 19 replacement wells).



Groundwater Levels

The average groundwater level change for the District from Spring 2006 to Spring 2007 was a decline of 0.86 feet, compared to 0.87 of a foot decline the previous year. This is the seventh consecutive year of declines from the all time high in the Spring of 2000. The chart shows the changes in groundwater levels since 1961. The map shows the changes across the District since the spring of 2006.



Groundwater Quantity Regulations

Certification and Water Use Reporting

The District is certifying irrigated acres because the declines hit the reporting trigger last year (spring of 2006). The certification effort began in June of 2006 with the hiring of two additional staff members. (The District now has 7 employees dealing with groundwater regulations.) The computerized procedure was developed and put in place so that the actual work with landowners could begin in mid October. The basis for certifications are the county assessor records from parts of nine counties. According to the assessors records, the total groundwater irrigated lands in the Upper Big Blue NRD are 1,136,783 acres, of which 95 % has been verified by the landowners as of May 9, 2007. The Board of Directors makes the final certification based on staff recommendations. Only those acres certified as irrigated will receive an allocation.

Because of the groundwater declines reaching the trigger point last spring, the NRD regulations call for each water user to report total water use for calendar year 2007. Meters are not required for this reporting but are encouraged. These reports are required of irrigators, municipalities and industries alike. Water meters are required now for all new and replacement wells.

Allocation

Allocation of groundwater and water meters are required on all high capacity wells when the groundwater declines another 1.62 feet from the spring 2007 readings. The goal of the District is to hold the groundwater decline at or above the low point reached in 1978.

Large Water User

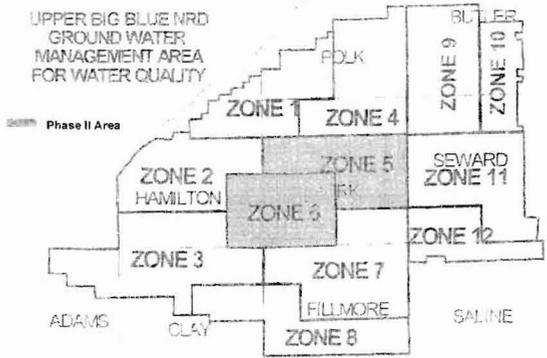
The District's large water user regulation, adopted in 1999, requires any water user, who proposes to withdraw 500 acre feet or more per year, to conduct a detailed hydrologic study to show the impacts to the surrounding aquifer, domestic, municipal and irrigation wells in the vicinity. If the impacts are not significant, the supplemental permit is to be issued. The ethanol plants proposed have all indicated water use in excess of 1,400 acre feet annually per plant. To date five ethanol plants have submitted studies. All five studies were sent back for more work. Three studies have been re-submitted by the ethanol plants at Aurora, Fairmont, and Sutton. Those three supplemental permits have been granted. The plant at Fairmont is under construction. The proposed plants at Tamora and Bradshaw are working on more detailed hydrologic studies. Both of those proposed sites are in water short areas. The Tamora plant was looking for a more suitable site when they last made contact with the District.

Changes in the Groundwater Regulations

The Board is considering amendments to the existing regulations to further restrict well spacing to 1,000 feet between all high capacity wells, not just wells of different ownership. The changes also will require a permit for any water transfer out of a government survey section. All transfers are limited to the adjacent section. Irrigation transfers will be limited to 160 acres. Other transfer applicants will have to conduct a hydrologic study if the transfer amount exceeds 250 acre feet annually. If adverse impacts of the non-irrigation transfers are likely to occur then the permit may be denied.

Groundwater Quality Regulations

The District is divided into twelve management zones for groundwater quality management, primarily for nitrates.



The median nitrate levels in Zone 6 are 9.3 ppm. The nitrate levels in Zone 5 have reached 12 ppm. Those two zones remain in Phase II regulation which requires farm operators to attend a training session on best management practices related to fertilizer and irrigation water management. Deep soil sampling (36") is also required as well as irrigation scheduling and annual reports from farm operators in those two zones. Compliance is very good

The rest of the District is in Phase I management which restricts the application of anhydrous ammonia until November 1. Dry and liquid fertilizer applications are restricted until March 1

Fully Appropriated Basin

The Upper Big Blue NRD has a small fully appropriated area in northwest Hamilton County along the Platte River. That declaration by the Department of Natural Resources was in December of 2005. A stay is in place on well drilling, surface water diversions, and the expansion of irrigated acres. The NRD is beginning work with the Department on an integrated management plan. It is expected that the integrated management plan will continue the restriction on well drilling and the expansion of irrigated acres.

Recent and Current Studies

Confined Aquifer Study

In 2002 the NRD contracted with the University's Conservation and Survey Division to conduct a confined aquifer study for a part of the NRD. Artesian conditions exist in about 1/4 of the District. The study outlined the area involved and is the basis for consideration of regulation changes to protect existing water uses in those areas. The NRDs share of the study cost was \$10,990.

COHYST (Cooperative Hydrology Study)

The Upper Big Blue NRD joined several others in an effort to study groundwater of the Platte River Basin. This ongoing groundwater computer modeling study began in 1999. The area of the study extends from Columbus to Scottsbluff and from the Loup River to the Republican. This 7 year study has been funded by the Environmental Trust, 7 NRDs including the Upper Big Blue, NPPD and CNPPID, Department of Natural Resources, and the Game and Parks Commission. The Upper Big Blue has contributed \$92,000 in cash and more than \$100,000 in staff time to the effort.

Upper Big Blue NRD Platte River Study

State law requires DNR to study river basins to determine if they are fully appropriated. The District undertook a detailed groundwater computer modeling study to determine the area of surface and groundwater connection of the Platte River area in Hamilton County. The study was used by DNR to determine the boundary of the ensuing fully appropriated area. The study was based on the COHYST study and was completed in 2005. In 2005 and 2006 Conservation and Survey was contracted to study where and how fast water in the Platte River seeps into the aquifer. That information was used in the Upper Big Blue NRD Platte River Study. The District costs to date for that effort have been \$83,761. Considerable staff time was spent on the Platte River study by the District's staff engineer.

Big and Little Blue River Basin Study

The Upper Big Blue NRD has started another detailed groundwater computer model of the Big and Little Blue River Basins. This study is to determine the boundary of connected surface water and groundwater for potential fully appropriated areas of the Blue Basin. The data will be provided to the Department of Natural Resources for their consideration in any fully appropriated determination. The other partners in the study are the Lower Big Blue and the Little Blue NRDs. Assistance is being provided by the Department, Conservation and Survey, and the Central Platte NRD. The \$132,000 study is being funded by a \$105,600 grant from the Interrelated Water Management Plan Program through DNR (\$26,400 is being funded by the 3 NRDs in the Blue Basins).



Newsletter of the Upper Big Blue
Natural Resources District

Volume #107 • May 2007



BLUEPRINT

What has the NRD Done Lately?...And the Past 35 Years?

In April 1969, four Nebraska senators introduced L.B. 1357 in order to consolidate 154 special-purpose districts into a series of multipurpose Natural Resources Districts (NRDs) based on watershed boundaries.

Not surprisingly, the NRD concept proved controversial. The idea of dividing governmental units along natural boundaries such as watershed lines was embraced by some and scorned by others. Some officials of existing districts were concerned about losing local control and were apprehensive of the taxing and regulatory authority given to the proposed NRDs. Still, others welcomed the chance to carry out large-scale projects that were not bound by county lines or other artificial political boundaries.

After two years of intense debate and a last minute injunction trying to block the formation of NRDs, L.B. 1357 finally passed on September 18, 1969 and directed the special-purpose districts to merge into 24 Natural Resources Districts by July 1, 1972.

Statewide, the NRDs are now celebrating their 35-year anniversary.

So what has the Upper Big Blue NRD done lately?

On March 8, 2007, Curt Friesen, Chairman of the Upper Big Blue NRD Board of Directors, testified in opposition to the well drilling moratorium bill L.B. 594, before the Natural Resources Committee of the Nebraska Legislature.

The Upper Big Blue NRD Board of Directors oppose a statewide well drilling moratorium because such action infringes on the basic local control that has been mandated to the NRDs by the Legislature as far back as 1975 with the passage of the original Ground Water Management Act. The Nebraska Ground Water Management Act was amended in 2004 with the passage of L.B. 962. The revised act calls for the declaration, if warranted, of fully appropriated basins after the conduct of studies by the Department of Natural Resources. Stays on well drilling are ordered when a basin is declared fully appropriated. The stay is a timeout for well drilling in order to give the NRD and the Department of Natural Resources time to conduct studies and to adopt regulations (an integrated water management plan).

Mr. Friesen's testimony contained a summary of the proactive actions that the Upper Big Blue NRD has taken and continues to take regarding the quantity and quality of ground water use. The following history came directly from Mr. Friesen's testimony. This is what the media failed to mention:

"The Upper Big Blue NRD began considering ground water man-

agement at its third board meeting just 94 days after the NRDs official beginning in 1972, and has been active in ground water studies, planning and management ever since. The District has had a significant financial commitment to ground water management as well. In fact, the District has spent over \$2,500,000 on ground water quantity management since the Ground Water Management Area for quantity was established in 1977. An additional \$1,400,000 has been spent on ground water quality management since 1993. Of this \$3,900,000 total, \$2,325,000 has been spent in the last 10 years. These total expenditures have been funded by \$2,300,000 from District property taxes (9% of that collected from 1973 - 2006).

Three things of importance:

1. The Department of Natural Resources has officially determined for two years in a row that the Big Blue River Basin is not fully appropriated.
2. The Upper Big Blue NRD adopted ground water regulations in 1979 and has been implementing and enforcing them since that time.
3. The Upper Big Blue NRD, along with the Lower Big Blue and Little Blue NRD is conducting a detailed ground water hydro-logic computer study of the Big and Little Blue River Basins.

Continued on Page 2

What's Inside BLUEPRINT:

What has the NRD Done Lately?	Pg 1-2	Directors & Staff	Pg 5
Certification of Irrigated Acres Reporting through April 19, 2007 - UPDATE	Pg 3	Thirty Years Still Not Enough - Ken Feather Has No Urge to Retire from the Job He Loves ...	Pg 6-7
Out of the Blue - Two New NRD Board Members	Pg 3	Trees and Shrubs Still Available for Purchase	Pg 7
"Turnbull's Turn - "What has the NRD Done Lately?"	Pg 4-5	District Average Ground Water Levels for spring 2007	Pg 8
		Kezan Creek Dam Proposal UPDATE	Pg 8



What has the NRD Done Lately?

(continued from page one)

Ground water studies involving the NRD began early in the District's history because the Board of Directors were concerned about ground water use and management. The principle early studies are listed here:

- **1974** - *Predicted Water Level Declines for Alternative Ground Water Developments in the Upper Big Blue River Basin* - Peter Huntoon, UNL Conservation and Survey Division.
- **1978** - *Ground Water Recharge Reconnaissance Study Interim Report* - Dave Thomsen, Hoskins-Western-Sonderegger, Inc.
- **1978** - *Artificial Recharge from Reservoirs, Canals, and Streams in the Upper Big Blue NRD* - Deane Manbeck, Terry Stork, and Dean Eisenhower, UNL Conservation and Survey, and Department of Ag Engineering.
- **1979** - *Interpretive Study and Numerical Model of the Hydrogeology of the Upper Big Blue NRD* - Ralph Cady, Marilyn Ginsberg, UNL Conservation and Survey
- **1979** - *Development of Quantitative Planning Technologies for the Upper Big Blue NRD* - Dr. Gary Lewis, Dennis Gilbert, and Dori Comer, UNL Nebraska Water Resources Center.
- **1983** - *Report on the Big and Little Blue River Basins Area Planning Study, Tech Appendix A Ground Water Resources, Development, Calibration, Verification, and Utilization of Ground Water Models* - Nebraska Natural Resources Commission.
- **1987** - *Update Study for the Interpretive Study and Numerical Model of the Hydrogeology of the Upper Big Blue NRD* - John Baxter, UNL Conservation and Survey Division.

While these studies were underway, and because of concerns about ground water declines, the Upper Big Blue NRD requested the Department of Water Resources to declare the NRD a Ground Water Management Area. The request was made before the original Nebraska Ground Water Management Act, adopted in 1975, was two years old. The Department agreed with the request. In fact, two Ground Water Management Areas were declared in 1977, the Upper Republican area and the Upper Big Blue area.

RECENT and CURRENT STUDIES:

Confined Aquifer Study - In 2002, the NRD contracted with the University's Conservation and Survey Division to conduct a confined aquifer study for a part of the NRD. Artesian conditions exist in about one quarter of the District. The study outlined the area involved and is the basis for consideration of regulation changes to protect existing water uses in those areas. The NRD's share of the study cost was \$10,990.

COHYST (Cooperative Hydrology Study) - The Upper Big Blue NRD joined several others in an effort to study ground water of the Platte River Basin. This ongoing ground water computer modeling study began in 1999. The area of the study extends from Columbus to Scottsbluff and from the Loup River to the Republican. This seven year study has been funded by the Environmental Trust, seven NRDs including the Upper Big Blue, Nebraska Public Power District, Central Nebraska Public Power and Irrigation District, Nebraska Department of Natural Resources, and the Game and Parks Commission. The Upper Big Blue NRD has contributed \$92,000 in cash and more than \$100,000 in staff time to the effort.

Upper Big Blue NRD Platte River Study - State law requires Nebraska's Department of Natural Resources (DNR) to study river basins to determine if they are fully appropriated. The District undertook a detailed ground water computer modeling study to determine the area of surface and ground water connection of the Platte River area in Hamilton County. The study was used by DNR to determine the boundary of the ensuing fully appropriated area. The study was based on the COHYST study and was completed in 2005. In 2005 and 2006, the UNL Conservation and Survey Division was contracted to study where and how fast water in the Platte River seeps into the aquifer. That information was used in the Upper Big Blue NRD Platte River Study. The District costs to date for that effort have been \$83,761. Considerable staff time was spent on the Platte River study by the District's staff engineer.

NRD Big and Little Blue Rivers Study - The Upper Big Blue NRD has started another detailed ground water computer model of the Big and Little Blue River Basins. This study is to determine the boundary of connected surface water and ground water for potential fully appropriated areas of the Blue Basin. The data will be provided to the Department of Natural Resources for their consideration in any fully appropriated determination. The other partners in the study are the Lower Big Blue and the Little Blue NRDs. Assistance is being provided by the DNR, Conservation and Survey Division, and the Central Platte NRD. The \$132,000 study is being funded by a \$105,600 grant from the Interrelated Water Management Plan Program through DNR (\$26,400 is being funded by the three NRDs in the Blue Basins)."

So as you can see from Mr. Friesen's testimony, the Upper Big Blue NRD has been very active in ground water management. The District has been monitoring and regulating ground water quantity and quality from the District's beginning 35 years ago. Contrary to statewide perception, well drilling moratoriums are not the only method of regulation. The District has ground water regulations, which require well permits, well spacing, transfer restrictions, large water user studies, certification or acres, water use reports, and allocation of ground water. The District amends the regulations when necessary (last changes to the regulations were in January 2004), and implements stiffer phases of regulations as the ground water declines reach pre-defined points. The District planned its regulations and is now regulating according to plan. The Upper Big Blue NRD remains proactive in a fair and balanced approach to water management.



A student from the Sutton Public School Youth Conservation Tour is pictured holding an Upper Big Blue NRD sign at a flood control project on the Eiden Percival farm (Saronville, NE) on May 4, 1976.

CERTIFICATION of IRRIGATED ACRES REPORTING IN THE UPPER BIG BLUE NRD through April 19, 2007 – UPDATE:



Marie Krausnick, Upper Big Blue NRD Lead Water Resources Technician, assists Mr. Mike Hoffschneider of Beaver Crossing, Nebraska, with his certification of acres paperwork. Approximately 6,600 producers representing nearly 12,500 parcels of land are reporting their acres to the NRD during a five month period from November 2006 to March 2007.

A total of 1,078,428 acres (representing 11,825 parcels of land) have been certified by the Upper Big Blue NRD as of April 19, 2007. Approximately 6% of the total irrigated acres shown on the county assessors' records still need to be certified. All ground water users were required to report information related to their ground water uses by March 1, 2007 as a result of the District Average Ground Water Level Reporting Trigger becoming activated. If a landowner has not reported this information to the Upper Big Blue NRD, then they are strongly encouraged to do so immediately.

The Upper Big Blue NRD's focus in the decision making process in monitoring ground water usage through the certification of irrigated acres is to use the technology at-hand, and to act in

both a proactive and protective way to manage the abundant supply of ground water available. With this in mind, the Upper Big Blue NRD Board of Directors first established its Ground Water Management Area during 1977-78 to prepare for the conditions that we are facing today.

The initial goal of the management area regulations in 1979 was to hold the rate of decline in the Upper Big Blue NRD's Average Ground Water Level to 0.50 feet per year. The Upper Big Blue NRD's Observation Well Program includes a network of over 500 wells within the NRD that are measured each year to calculate the average ground water level. Through the conservation efforts of ground water users, and because of an extended period of above average rainfall in the 1980s and 1990s, the Average Ground Water Level in the Upper Big Blue NRD rose significantly to a level in the year 2000 that was approximately seven feet higher than the 1961 level, and fourteen feet higher than the low level of 1976 to 1981. In 1990, the Upper Big Blue NRD established the goal of holding the Average Ground Water Level to above the 1978 level.

In January 2004, the Upper Big Blue NRD changed Rule 5 of the Ground Water Management Area Rules and Regulations, which now requires that producers will be responsible for installing flowmeters on existing wells if the average ground water level declines to the allocation level. Once the allocation level is reached, producers must install meters. If the allocation level is reached, and if producers and other users have not installed flowmeters by the next calendar year, then those ground water users will not be allowed to pump ground water until a flowmeter is installed. As of March 1, 2004, all new wells and replacement wells installed in the Upper Big Blue NRD are required to have a flowmeter.

OUT OF THE BLUE

Two New NRD Board Members...

The Upper Big Blue NRD has replaced two retired board members with Paul Weiss of York and William "Bill" Stahly of Milford. Weiss replaces Jim Jackson of Fairmont representing Sub-district 4. Before retiring from the board, Jackson served for 17 years.

Stahly replaced Wayne Hansen of Dorchester representing Sub-district 3. Hansen served on the Upper Big Blue NRD board for 34 years and also as a director on the Dorchester Watershed Conservancy District board for seven years.

We humbly thank Jim Jackson and Wayne Hansen for their outstanding contributions and we wholeheartedly welcome Paul Weiss and Bill Stahly as they begin serving their constituents as new NRD board members.



(Left to right) Paul Weiss of York represents Sub-district 4 and Bill Stahly of Milford represents Sub-district 3.

DISTRICT BLUEPRINT 2007 NEWSLETTER

Certification of Irrigated Acres Reporting through April 19, 2007 - Update

Out of the Blue - Two New NRD Board Members

PAGE 3 of 8



"Turnbull's Turn..."

By John Turnbull,
General Manager of the
Upper Big Blue NRD



John Turnbull,
General Manager

You may have read the lead story in this issue of *Blueprint* entitled "What has the NRD Done Lately?...And the Past 35 Years?" If you have not read this article I suggest that you do as a cross-reference to the information discussed in this issue of "Turnbull's Turn"

The Upper Big Blue NRD Ground Water Management Area encompasses all or parts of nine counties with a total of 1.1 million acres of ground water irrigated land. This amounts to 15% of the total irrigated acres in Nebraska. The ground water declined from 1960 to 1981. Above average rainfall allowed the ground water table to recover and the required allocation has not been implemented. The high point was in the spring of 2000 when the water table was seven feet above the 1960 levels. The current drought has caused rapid declines, which have resulted in the water level being four feet below the 1960 levels, but still above the historic lows.

GROUND WATER LEVELS AND REGULATION HISTORY:

- 1972 - Upper Big Blue NRD was created (all 23 NRDs started on the same date).
- 1974-76 - Dry period, drought coupled with increase of ground water wells being drilled.
- 1975 - Nebraska Ground Water Management Act adopted by the Legislature.
- 1977 - Upper Big Blue Ground Water Management Area established.
- 1978 - Upper Big Blue average ground water level hits all-time low of seven feet below the 1961 baseline.
- 1979 - Ground Water Management Area regulations go into effect with the goal of keeping the declines to less than ½ foot per year. The rules included well permits and 1,000 foot well spacing. Ground water allocation required if decline rate was exceeded.
- 1980-87; 1991-94; 1997-99 - Wet periods: Abundance of precipitation; ground water levels rise; rising average ground water levels mirror rising accumulated rainfall.
- 1990 - Rules changed the goal to hold the Average Ground Water Level at or above the 1978 level (sustainability).
- 1999 - Rules added to require large ground water users (withdrawal of 500 acre feet from one parcel of land per year) to conduct a hydrologic study showing the impacts of the ground water withdrawal. If the impact is not adverse, a permit is granted.

- 2000-04 - Dry periods and extreme drought conditions, ground water levels decline.
- 2004 - Regulations amended establishing a Reporting Trigger (when the District ground water level declines to a point three feet above the 1978 level) and an Allocation Trigger (another three-foot drop beyond the Reporting Trigger). A flow meter must be installed on any new or replacement well prior to the use of the well.
- 2005 - A small area in northern Hamilton County parallel to the Platte River is declared fully appropriated and is under a stay on well drilling and expansion of irrigated acres. The rest of the NRD does not have a well drilling moratorium, but is still subject to the ground water management regulations.
- 2006 - Reporting Trigger is reached requiring the certification of all irrigated acres. The certification process of the 1,100,000 irrigated acres is based on county assessor records. The deadline was set as March 1, 2007. All water users are also required to report water use beginning in 2007.
- FUTURE: The regulations are already in place for meters and allocation: If the District ground water level falls to the 1978 ground water level (three feet below the point where certification of irrigated acres was required) allocation will be implemented. Agricultural and municipal allocations are comparable. Industrial allocation is initially set at 100% of historic use. All wells must be equipped with a flow meter and the irrigated acres certified before the ground water user will be granted an allocation.

WELL PERMITS AND DRILLING

The District has been issuing well permits since 1978. Well drilling always increases in dry times and decreases in wet times. Drilling is also spurred by the statewide discussions about well moratoriums. The current rate of well drilling increases our total irrigation wells in the NRD by about 1% - 2% per year. The early wells were drilled in the late 1930s and early 1940s in the Upper Big Blue NRD and more of those are now being replaced. About one-third of the current drilling is now replacement wells.

FULLY APPROPRIATED AREA:

The Upper Big Blue NRD has a small fully appropriated area in northwest Hamilton County along the Platte River. That declaration by the Nebraska Department of Natural Resources was in December of 2005. A stay is in place on well drilling, surface water diversions, and the expansion of irrigated acres. The NRD is beginning work with the Department on an integrated management plan. It should be noted that The Upper Big Blue NRD spent nearly \$100,000 and four months of staff time to make sure that accurate ground water modeling data was used in the determination of the Platte River Basin that makes up a portion of the District. Once the NRD model was constructed via extensive geological and hydrological studies, river bed conductance, and drilling of test wells, the ground water model was then independently reviewed and verified as accurate. As a result, the Nebraska Department of Natural Resources accepted the NRD

model as the best possible data available for this area in the Upper Big Blue NRD.

CERTIFICATION OF IRRIGATED ACRES

The Upper Big Blue NRD began certifying 1,100,000 irrigated acres in October of 2006 because of the existing NRD ground water regulations. The certification is required because the ground water levels declined to the trigger point in the spring of 2006. All irrigated lands are required to be certified. The certification is based on county assessor records of irrigated lands. Reporting packets were sent to nearly 5,000 producers. As of April 3, 2007, a total of 1,078,428 irrigated acres (94%) have been reported by producers. Only those acres certified will receive an allocation if that trigger point is reached in the ground water declines.

WATER USE REPORTING

Because of the ground water declines reaching the trigger point last spring, the NRD regulations call for each water user to report total water use for calendar year 2007. Meters are not required but are encouraged. These reports are required of irrigators, municipalities and industries alike.

WATER METERS COST SHARING

The Upper Big Blue NRD is cost sharing on water meters through a \$900,000 grant from The Nebraska Environmental Trust Fund. The cost share is up to \$500 per meter per landowner. The grant should be able to provide enough cost-share funding for at least 1,800-2,000 new flowmeters across the Upper Big Blue NRD. The three-year grant started in FY 2007 and runs through FY 2009, however all the funds are spoken for.

ETHANOL PLANTS

The District's large water user regulation, adopted in 1999, requires any water user, who proposes to withdraw 500 acre feet or more per year, to conduct a detailed hydrologic study to show the impacts to the surrounding aquifer, domestic, municipal and irrigation wells in the vicinity. If the impacts are not significant, the supplement permit is to be issued. To date, five ethanol plants have submitted studies. All five studies were sent back for more work. Three

studies have been re-submitted by the ethanol plants at Aurora, Fairmont, and Sutton. Those three supplemental permits have been granted. The proposed plants at Tamora and Bradshaw are working on more detailed hydrologic studies. At the moment, The Upper Big Blue NRD is the only NRD that requires such a study.

In conclusion, the Upper Big Blue NRD has been working to ensure that the quantity and quality of ground water is sustainable for current and future needs. The NRD Board continually reviews District regulations, such as allocation of ground water, in response to existing conditions. However, District producers also need to help themselves by re-examining exactly how much water is really needed for use.



Pictured left to right: Ray Griffen (NRCS), and Upper Big Blue NRD Board members Wayne Hansen, Raymond Burke, Morris White, and Larry Moore, during the summer of 1975, discuss issues concerning Plum Creek, Beaver Creek, and the Waco Basin. Coincidentally, Larry Moore is still serving on the NRD Board after 32 years, and is beginning a term as a Nebraska Natural Resources Commission Board of Director Wayne Hansen who just retired in February of 2007 after 34 years, served as one of the original NRD board members since 1972. Hansen was also a board member of the Dorchester Watershed Conservancy District from 1965-1972.



BLUEPRINT

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"The Upper Big Blue Natural Resources District is an Equal Opportunity Provider and Employer"

Thirty years still not enough

Ken Feather Has No Urge to Retire from the Job He Loves

By Steve Moseley, Managing Editor of the York News-Times (York, Nebraska)

YORK — Ken Feather is one lucky man. After three decades on the job, he's still as passionate as ever about managing recreation, forestry, and habitat for the Upper Big Blue Natural Resources District.

Feather, who started with the NRD in January 1977, was honored recently by the board and administration for achieving 30 years on the job.

It's a job that requires him to oversee five separate recreation areas under the ownership and control of the Upper Big Blue NRD.

"We see an increase each year in the number of people coming and going," he said. "It's a different way to use taxpayers' money. We're fortunate to be able to develop such areas."

Feather is a Bridgeport, Neb., native, but after graduating from Southeast Nebraska Community College he never returned to the state's far western regions.

The five recreation areas over which he presides

include Recharge Lake in the Bruce L. Anderson Recreation Area just west of York near the Center for Women. It offers the best fishing of the five, according to Ken. That and the area's immediate proximity to York and Highway 81 make it the leader in total visits.

The others are: Overland Trails, located two miles east and one south of York; Smith Creek which lies 1/2 south, one east and 3/4 south of the Utica exchange on I-80; Oxbow Trails near Ulysses; and Pioneer Trails east and



Ken Feather, Upper Big Blue NRD Forestry and Parks Department Manager, looks out over Recharge Lake west of York, Nebraska. He manages the NRD's five recreation areas covering a combined 480 acres of land and 160 acres of water storage, as well as running the very successful District tree/shrub planting and wildlife conservation programs.

north of Aurora.

Feather said Smith Creek "gets a lot of use from campers," including regular visitors from as far away as Lincoln. "It probably gets more use from campers than some of the others."

Visitors to the areas have discovered they are ideal for camping, hiking, fishing, or just relaxing and picnicking in outdoor Nebraska. The possibilities are many. Recharge Lake, for example,

features an archery range with some 25 targets scattered along a path through 14 acres under the care of the Upper Big Blue Archers club.

There are no fees charged to users of the areas.

For his workload, Feather has one full time staffer to help with maintenance and other chores related to the recreation areas.

Those five locations do not occupy all of Feather's

time, however. The job includes a multitude of public as well as public/private partnership projects to enhance Nebraska lands with trees and diverse wildlife-friendly plantings. Pivot corners and farmstead windbreaks are among many focuses of Feather's wildlife and habitat efforts.

In 2006, he said, the NRD had a hand in getting 35,000 new trees into the ground.

(Continued on page 7)

"He's got a really easy nature about him. People respect him. He's very knowledgeable. You'd have to go to school until you were blue in the face to obtain the real special public relations qualifications he has."

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Thirty Years Still Not Enough -
Ken Feather Has No Urge to Retire
from the Job He Loves

UPPER BIG BLUE NATURAL RESOURCE

Thirty Years Still Not Enough

(Continued from page 6)

"It looks like this year we could probably exceed that," he said. Trees planted by the NRD staff itself numbered 15,000 last year. "We've already reached that plateau this year."

Feather said, "We probably didn't sell 10,000 trees in 1977," the year he came aboard. The peak years of the '80s saw 50,000 to 60,000 a year go into the ground. "The numbers have dropped a little bit" since those days, but have held fairly steady since. "Corn prices at \$4 don't entice people to plant trees," he said with a grin.

The NRD also stands ready to help other agencies, parks and recreation boards with cost-share for a variety of local projects within the NRD's multi-county footprint.

"We used to do a lot of renovating ball diamonds," said Feather, "now it's more tree plantings in parks. The Upper Big Blue NRD board still has the option to take projects on a case-by-case basis."

Feather works with towns on street tree plantings, a program in which a dollar-for-dollar match is possible.

"I enjoy what I do," he said of 30 years in which no two days have been exactly alike. "If you didn't enjoy it why would you stay around? There's always the challenge of working with the public. When some irate guy comes in and deals you a fit, that's life."

If there's any aspect of the job Feather doesn't enjoy it's vandalism, a constant problem in any and all public areas across the state and nation.

"When we do catch somebody, I still want to be friends," he said, "but the discipline has to be there. I hold no grudges ... kids are kids. I just hope they don't continue on that road."

What lies over the horizon for the NRD in terms of recreation?

A new area near Garrison is in the preliminary planning stages and awaits funding. The lake would be much larger than York's Recharge Lake at about 200 surface acres. Dubbed Kezan Creek, if it comes to pass it will be the sixth and largest recreation area overall.

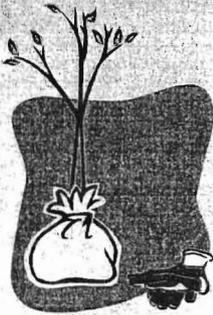
A less visible but equally important part of Feather's work, said Scott Snell of the NRD staff, is that, "Ever since he came to the job, he's handled all the easements and land acquisitions" for projects. Testament to Feather's ability to get along with folks is that, in all those years, only a single time was eminent domain action required. At Recharge Lake alone, said Snell, Feather had to get a "yes" from at least 15 different entities in addition to landowners.

The one-time Army medic, who was a Christmas tree farm proprietor at one time, too, said he'll "probably still keep working for a few years yet."

The comment brought a sigh of relief from Snell, who said, "He's got a really easy nature about him. People respect him. He's very knowledgeable. You'd have to go to school until you were blue in the face to obtain the real special public relations qualifications he has."

[This article was reprinted with permission from the *York News-Times* newspaper in York, Nebraska from the March 3-4, 2007 weekend edition.]

Trees and Shrubs are Still Available for Purchase



The Upper Big Blue NRD has some extra trees and shrubs available for purchase.

The species we have on hand are as follows:

American Plum, Amur Maple, Buffaloberry, Caragana, Diamond Willow, Elderberry, False Indigo, Golden Currant, Gray Dogwood, Honeylocust, Honeysuckle, Jack Pine, Nanking Cherry, Norway Spruce, Sandcherry, NE Scotch Pine, Silver Maple, Skunkbush Sumac, Swamp White Oak, and White Pine.

We may have a few other varieties as the planting season progresses. For more information call 362-6601 and ask for Linda. Make sure to ask for your free copy of the Upper Big Blue NRD's "*Waterwise Plants for Central Nebraska*" booklet. ↓

DISTRICT

BLUEPRINT

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Thirty Years Still Not Enough (continued from pg. 6)

Trees and Shrubs Still Available for Purchase

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DISTRICT AVERAGE GROUND WATER LEVELS for spring 2007:

The Upper Big Blue Natural Resources District released the spring 2007 average ground water level reading showing an average District-wide drop of 0.86 feet.

During April 2007, the NRD measured 510 observation wells throughout the District and then averaged the data of all these wells. The findings show that the spring 2007 average ground water level is 1.38 feet below the "Reporting Trigger" and 1.62 feet above the "Allocation Trigger." Observation wells are measured in the spring of each year, allowing the water table to rebound from the previous irrigation season.

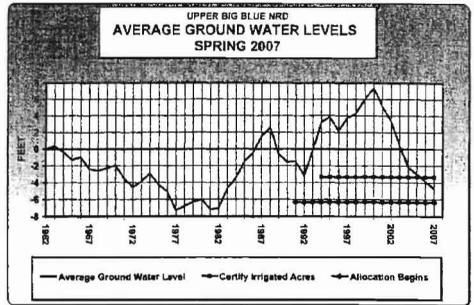
Overall, the spring 2007 average measurement for the ground water level change shows a decline of 0.86 feet from last spring. This compares with a District-wide decline of 0.87 feet the previous spring of 2006. Over the last seven springs (counting 2007), the total decline is 12.25 feet. Coincidentally, the State of Nebraska has been experiencing a drought for the last seven years as well.

The Upper Big Blue NRD's Observation Well Program includes a network of over 500 wells within the NRD that are measured each year to calculate the average ground water level. Through the conservation efforts of ground water users, and because of an extended period of above average rainfall in the 1980s and 1990s, the Average Ground Water Level in the Upper Big Blue NRD rose significantly to a level in the year 2000 that was approximately seven feet higher than the 1961 level, and fourteen feet higher than the low level of 1976 to 1981.

The District goal is to hold the average ground water level to above the 1978 level. Because the District average ground water level dropped this spring below to a point within three feet above the 1978 District average level, ground water users are now required to report annual ground water use to the District and to certify their irrigated acres. If the District average level falls below the 1978 level, the use of flow meters will be required and ground water allocation will begin.

The Upper Big Blue NRD rules and regulations mandate that producers will be responsible for installing flow meters on existing wells if the ground water level hits the allocation trigger. When the allocation trigger is reached and producers and other users have not installed flow meters by the next calendar year, then they will not be able to pump any amount of water until a flow meter is installed. Since March 1, 2004, all new wells and replacement wells require a flow meter.

Also, wells, or a series of wells with a pumping capacity of 50 gallons per minute or more are regulated. The purpose of the rule is to ensure that a viable supply of ground water will be available for current and future generations of agricultural, municipal and other users. For a complete summary of all the new rules and regulation changes, please contact the Upper Big Blue NRD.



Kezan Creek Dam Proposal UPDATE

By Jay Bitner, Upper Big Blue NRD Projects Department Manager

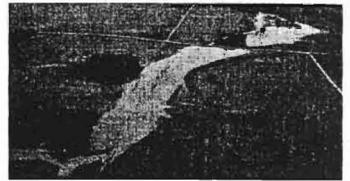
The Kezan Creek Project is a multi-purpose dam and reservoir being proposed by the Upper Big Blue Natural Resources District. The project is located near the village of Garrison, Nebraska in Butler County. Expected benefits from the project include flood control, water quality improvement, stream flow augmentation, water-based recreation, land based recreation, camping, upland game hunting areas, and fish and wildlife habitat improvement. The lake would have a surface area of 250 acres and the land based recreation facilities would include 287 acres for upland game hunting, 65 acres for waterfowl hunting, 13 tent camping sites, 15 RV camping sites with electrical hookup, and 5 miles of hiking trails. In 2005, the project cost was estimated to be \$6.5 million.

The Butler County Board has taken a position in favor of the project, and on April 11, 2006 the NRD held a public meeting and public hearing, at the Garrison Community Building, to answer questions about the project and present a summary of project planning. To date, the NRD has completed the dam design and studies to support grant applications. The dam design has been approved by the Nebraska Department of Natural Resources as suitable for a water storage right application, and the Nebraska Department of Environmental Quality has approved the water quality plan.

The next step in project development is to obtain funding in the form of grants to assist with land purchase and project construction. The NRD is in the process of applying for grant funds from the Nebraska Natural Resources Commission's Resources Development Fund. The NRD also intends to apply for grants from the Nebraska Department of Environmental Quality Clean Water Fund, Nebraska Game and Parks Sport Fishery Fund, and the Nebraska Game and Parks Trail Development Assistance Fund.

In January 2005, the NRD submitted a preliminary grant application to the Nebraska Natural Resources Commission. The Commission then determined that the project would be eligible for a Resources Development Fund grant, and that a formal feasibility study would be required before the grant could be approved. The required feasibility study is completed, and the process is now awaiting a revision of the Commission's grant application guidelines.

Questions about the status of the Kezan Creek Project should be directed to Jay Bitner, Projects Department Manager of the Upper Big Blue Natural Resources District by calling (402) 362-6601. Currently we do not expect any further activity on this project until we hear from the Commission on funding.



Flooding of Kezan Creek in May 2005, continued to warrant the need of possibly constructing a dam southeast of Garrison, Nebraska.

PAGE 8 of 8	District Average Ground Water Levels for spring 2007	Upper Big Blue Natural Resources District	BLUEPRINT 2007 NEWSLETTER
	Kezan Creek Dam Proposal UPDATE		

SPRING 2007

Lower Big Blue

NRD Newsletter

WATERSHED CAPITAL OF NEBRASKA

FREE FAMILY FISHING DAY!

MAY 19, 2007

ADULTS & KIDS FISH FREE!! (NO LICENSE REQUIRED)

6TH ANNUAL YOUTH FISHING & CASTING DERBY



9:30AM - 11:00AM

REGISTRATION: 8:30AM - 9:30 AM

Bait Available, Rods/Reels Available by Pre-Registration Only.
Medals in four age groups for Largest, Smallest, & Most Fish Caught.

PRIZES FOR ALL PARTICIPANTS!

Hands On Archery, Fishing, Fishing Academy Club Members, Swan 5 and Conservation Displays, Game of Fish, Game of Fish Nebraska Game and Parks Game, Fishing Boat, Fish Sampling Demo, Youth Fishing Grip Throw.

WILLARD MEADOWS RECREATION AREA (SWAN LAKE

(3 miles East and 2 miles North of Tobias.)

1/2 mile from Hwy 74, 2 1/2 miles West and 2 miles North)

FREE HOTDOG LUNCH

Kids bring your parents and make a day of it!

For more information call: 402-228-3402

Email: sobotka@bbnrd.org

Sponsored by Optimist Club of Bearice, Lower Big Blue NRD and Swan 5 Advisory Council

PRE-REGISTRATION FORM

Pre-registration is not required but will help speed up registration before the contest. Please fill out the registration below and mail it to Lower Big Blue NRD or call: (402) 228-3402 or e-mail sobotka@bbnrd.org.

Please Print Clearly

NAME: _____ City: _____ Age: _____

NAME: _____ City: _____ Age: _____

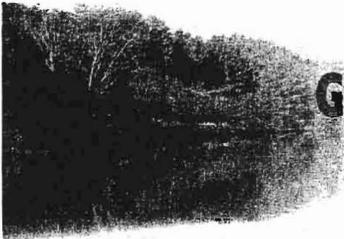
NAME: _____ City: _____ Age: _____

Total Number That Will Be Eating Lunch: _____

Total Number Of Rods/Reels Needed. _____
(Limited Rods/Reels Available)



Mail to: Lower Big Blue NRD • P.O. Box 8237 Bearice, NE 68310



Spring 2007 Groundwater Level Measurements

The Lower Big Blue NRD has finished measuring wells this spring. From November to April, the average recharge was 3.76 feet.

Gage County wells showed an average increase in water levels from the spring of 2006 to the spring of 2007 of +0.11 feet in twenty-one wells measured. Sixteen of the twenty-one wells declined with the largest decline of -1.42.

Saline County had an average increase of +0.66 feet in the twenty-two wells measured. Five of the twenty-two wells declined with the largest decline being -0.83 feet.

Jefferson County had an average increase of -0.11 feet in sixteen wells. Six of the sixteen wells showed decline with the largest decline being -0.72 feet.

Spring readings taken before irrigation season and after winter recharge months are used to measure groundwater levels. Spring readings were taken at the beginning of April and compared to the previous spring. The typical winter recharge rate is between 1.5-3.0 feet.

Spring 2007 Groundwater Level Measurements		
COUNTY	WELLS	CHANGE FROM SPRING '06 TO SPRING '07
GAGE	21	+0.11 FT.
SALINE	22	+0.66 FT.
JEFFERSON	16	+0.11 FT.
NRD AVE.	59	+0.29 FT.

Change from Fall 2006 to Spring 2007		
COUNTY	WELLS	CHANGE FROM SPRING '06 TO SPRING '07
GAGE	21	+3.53 FT.
SALINE	20	+5.22 FT.
JEFFERSON	15	+2.53 FT.
NRD AVE.	56	-3.76 FT.

Change from Spring 1982 to Spring 2007		
COUNTY	WELLS	CHANGE FROM SPRING '05 TO SPRING '07
GAGE	18	+1.12 FT.
SALINE	17	-2.06 FT.
JEFFERSON	10	-2.29 FT.
NRD AVE.	45	-1.07 FT.



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Blue River Compact Wells

SPRING 2003 - SPRING 2004	-0.71
FALL 2003 - FALL 2004	-1.68
SPRING 2004 - SPRING 2005	-0.36
FALL 2004 - SPRING 2005	1.37
SPRING 2005 - SUMMER 2005	-3.32
SPRING 2005 - SPRING 2006	-0.65
SUMMER 2005 - SPRING 2006	3.02
SPRING 2006 - SUMMER 2006	-2.24
SPRING 2006 - FALL 2006	-1.63
FALL 2006 - SPRING 2007	1.54
SPRING 2006 - SPRING 2007	0.56



GROUNDWATER QUALITY MONITORING

The Lower Big Blue NRD will again be sampling irrigation wells across the district for nitrate content. Monitoring of nitrate levels in groundwater to determine overall water quality in the district began in 1987. If you have any questions, please contact Travis Porter at 228-3402 or at porter@lbbnrd.org

Abandoned Well Cost-Share Program



Abandoned wells are a serious threat to people, livestock, and groundwater. If you have an abandoned well on your property, the Lower Big Blue Well cost share on the decommissioning of that well. The District will provide assistance in the amount of 60% of the actual cost to plug a well, up to a maximum of \$500.00. Wells must be decommissioned by a licensed well or pump installation contractor.

LBBNRD Directors

- Steven Keller, *Director*
- Ken Brinkman, *Beattie, Treasurer*
- Ronald Wiens, *Beattie*
- Orville Zimmernann, *Beattie, Secretary*
- James Danrow, *Tiller, Chairperson*
- Lawrence Gronwald, *Beattie*
- Larry Barta, *Swanton*
- Bob Lorenz, *Clute*
- Dean Roehlf, *Beattie*
- Wilmar Schlake, *Blue Springs*
- Rodney Skieba, *Wilber, Vice Chairperson*
- Harold Stokebrand, *De Witt*
- Norman Stokebrand, *De Witt*

DON'T FORGET!

Permits Are Needed For Wells

Permits are needed from the NRD before wells capable of pumping more than 50 gallons per minute are constructed. Regulations of the districtwide Groundwater Management Area require the permits. The permit fee is \$50.00. Failure to obtain a permit prior to construction will result in a \$250.00 late permit fee.

WATER QUALITY COST-SHARE PROGRAMS	C/S	MAXIMUM
Fertilizer Control Meter/Manifold (\$25,000 limit - anhydrous or liquid, sign-up in November)	50%	\$1,000
Deep Nitrate Sampling - Phase II Area Only	\$50/analysis	\$150
Deep Nitrate Sampling - Phase II Outside Area	\$50/analysis	\$50
Irrigation Surge Valve & Controller (Sign up at NRCS)	50%	\$1,000
Irrigation Tailway Recovery Pits (Sign up at NRCS)	50%	\$5,000
Underground Pipe for Reuse Pits and Lagoons (Sign up at NRCS)	50%	\$5,000
Irrigation Water Flow Meter (Sign up at NRCS)	50%	\$500
Replacement Parts for Irrigation Wells (Sign up at NRCS)	50%	\$500
Irrigation and Domestic Well Nitrate Testing	FREE	FREE
Irrigation Well Output Measurement (GPM)	FREE	FREE

Maximum Cost Share Limited to \$5,000 Annually

JUNE 1ST - CHEMIGATION PERMIT DEADLINE

The Nebraska Chemigation Act requires that any person who intends to apply chemicals through an irrigation system must first obtain a permit from the NRD. The person who applies the chemicals must be a certified Chemigation applicator. This law defines a chemical as any fertilizer, herbicide or pesticide that is mixed with irrigation water. Prior to permit approval, the NRD must complete an on-site inspection for required safety equipment.

Chemigation Permits: Hanewick-Chemigation permits issued in 2006 need to be renewed by June 1, 2007. Permit holders in the Lower Big Blue NRD have been mailed renewal forms. Chemigation renewal fee is \$10.00 for each renewal. New permits are \$30.00.

Inspection and Certification: All initial and renewal (Chemigation permit applications must have an on-site inspection for required safety equipment prior to approval by the Lower Big Blue NRD). No permit can be issued without a certified Chemigation applicator listed on the permit application. Applicants can become certified by attending a training course provided by the Cooperative Extension Office. The certification is good for four years. Applicants whose certifications have expired will be notified by the Cooperative Extension Service for more information contact Travis Porter, Lower Big Blue Resource Water Resource Specialist, 229-3402.



to these Volunteers!

Front Row, from left, Mark Stinson, President; Terry Bures, Maintenance; Jeff Rudder, Assembly Supervisor; Roy Hereth, welder; Randy Fugett, Maintenance; Mike Grabowski, Maintenance; Scott Soborka, Asst. Manager LBBNRD; Ron Fee, Director of Operations; Back row, Dave Holland, Maintenance; Don Durlinger, Maintenance.

The Toro Giving Program is proud to honor its employee's extraordinary volunteer efforts in the community. The Hands of Hope volunteer award recognizes group volunteer efforts, and this year's award was presented to a team from Exmark, consisting of Jeff Rudder, Roy Hereth, Randy Fugett, and Mike Grabowski, for their work in maintaining the Big Indian Archery Range, Recreation Area, and Walking Trail. The Toro Giving Program donated \$500 to the Lower Big Blue NRD for the maintenance of the Big Indian Recreation Area.

ULTRASONIC FLOW METER IRRIGATION EFFICIENCY CHECK

How much water are you really putting on your acre with your center pivot? Do you think you're pumping less than it takes? Could the estimate of the gallons per minute pumping rate be wrong? Why does it take so long to get water through a gravity irrigated field? Maybe you're losing a lot more water in your gated pipe system than you think. Are you concerned about leaching nutrients into the ground/water?

The Lower Big Blue NRD will again be offering ultrasonic flow meter tests to irrigators during the summer. The meter, which is attached to the outside of the pipe, can determine exact, accurate flow rates of the irrigation system while in operation. Knowing the gallons per minute of flow at a well lets an irrigator compare measurements at other points in the system and estimate the amount in inches/acre/hour being applied. Determining accurate pump discharge rates is an important part of irrigation management.

The meter can measure flow anywhere along a full pipe. There is no charge for this measurement, but irrigators do need to contact Travis Porter at 228-3402 or (porter@lbbnr.org) to set up an appointment.

HOUSEHOLD HAZARDOUS WASTE COLLECTIONS

The LBBNRD is the recipient of a grant to conduct household hazardous waste collections in Gage, Jefferson and Saline counties. Collections will be held in the following communities:

JEFFERSON COUNTY:

Fairbury at the City Shop, 3rd & Frederick St
8am - 10:30am, Friday, April 27, 2007
Contact Mick Hynek 729-2476

SALINE COUNTY:

Crete at the Community Center Parking lot, 14th & Main St.
12:30pm - 3:30pm, Friday, April 27, 2007
Contact Crete Chamber 826-2136 or Willis Luedke 826-9341

GAGE COUNTY

Beatrice at the Gage County Fairgrounds, 1115 West Scott
8am - 3pm, Saturday, May 5, 2007
Contact Linda Grell at keep Beatrice Beautiful 228-4576

Items which will be accepted include old paint, pesticides, herbicides, cleaning chemicals, yard and garden chemicals. Oil will be accepted at the Jefferson & Saline counties. Car, truck and tractor batteries will be collected at the Crete and Beatrice, but not Fairbury. Items not accepted include tires, antifreeze, electronic equipment, appliances, PCB's, Pestic Acid, Science Lab materials, radioactive materials or biological hazards.

There is no charge and only household quantities will be accepted. Financing was provided through the Litter Reduction and Recycling Grant Program, Nebraska Department of Environmental Quality.

For more information contact the Lower Big Blue NRD at 402-228-3402 or the Five Rivers RC&D at 402-335-3347. HHW program personnel reserve the right to reject any materials.

**VOLUNTEERS NEEDED.
PLEASE CALL TO VOLUNTEER!**

Beavers a Concern

Beavers continue to be a major problem for the District and in some cases have caused complete blockage of water flow out the primary overflow tubes. The district encourages landowners to continually monitor for beaver activity around watershed structures on their land and report any activity to the district office. The NRD has a special use permit to remove beaver if they are causing safety problems.



LOWER BIG BLUE NRD RECREATION AREAS

KIDS MARK YOUR CALENDARS!

- CASTING DERBY
- CASTING CONTEST
- PRIZES - HOT DOGS
- HANDS-ON ASSEMBLY
- BOAT RIDE & SAFETY PRESENTATION
- FISHING DEMONSTRATIONS
- VICE-Grip THROW



1. Willard L. Meyer & Captain Area (Swan Lake), 2 miles east and 2 miles north of York, showing Rehabilitation project just a week completed in Spring 2004.



FISHING CONTEST HERE!



4. Leisure Lake Wildlife Management Area, located 3 miles south of Plymouth, is a favorite hunting and fishing spot.



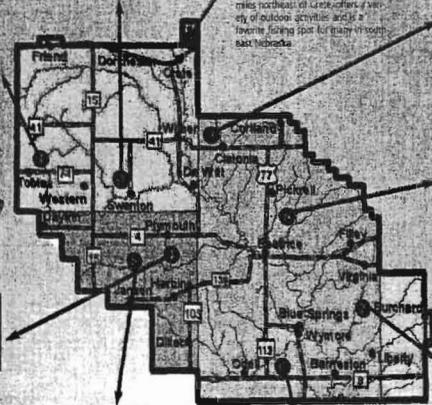
8. Swanton Wildlife Management Area, located on 150 acres, 3 miles north of York, is a great place for an excellent fishing, hunting and bird-watching area.



2. Walnut Creek Wildlife Management Area, located 2.5 miles northeast of York offers a variety of outdoor activities and is a favorite fishing spot for many trout and bass fishermen.



3. Clarissa Public Use Area, located 2 1/2 miles north of Clarissa, is a nice area to hike and fish.



5. Cub Creek Recreation Area, located 3 miles west and 4.5 miles south of Plymouth, offers outdoor activities for all seasons.



6. Big Indian Recreation Area, located 6 miles east of Udiel, is one of Nebraska's most popular lakes, offering facilities for a wide variety of outdoor activities.



4. Bear Creek Wildlife Management Area, located 4 miles north of York, offers a variety of hunting and fishing opportunities.



7. Wolf-Wildcat Wildlife Management Area, located 6 miles south of Virginia, has facilities for hunting and fishing on 150 acres of public access land.

2007 YOUTH FISHING & CASTING DERBY

On May 19, 2007, the Lower Big Blue NRD, and Optimist Club of Beatrice will host the 6th annual fishing derby at the Willard L. Meyer Recreation Area (Swan Lake). This day is also the Nebraska Game and Parks Statewide FREE Fishing Day.

LBBNRD Staff

- David S. Clabaugh
Manager
- J. Scott Sobotka
Assistant Manager
- Scott Theis
Operations Supervisor
- Randy Meyer
Operations Supervisor
- Assistant
- Travis Porter
Water Resource Specialist
- Teresa Langley
Administrative Secretary
- Lucy Mohlman
Saline County NRCS Clerk
- Tammie Janzen
Gage County NRCS Clerk
- The Lower Big Blue NRD is an Equal Opportunity Provider and Employer.

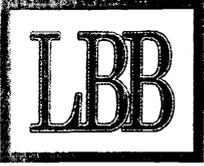
This newsletter is the official publication of the Lower Big Blue NRD, 805 Dorsey, P.O. Box 826, and is published in Beatrice, NE 68310. It is a supplement to the Beatrice Daily Sun, Crete News, Friend Sentinel, Wilber Republican, and Nebraska Signal. Anyone not receiving a newsletter may be placed on the mailing list by contacting the above address, phone (402) 228-3402, or FAX (402) 223-4441. Comments regarding any information in this newsletter should be directed to the editor, Scott Theis.



RECREATION AREAS MANAGED BY LOWER BIG BLUE NRD											
RECREATION AREA	ACRES	ESTABLISHED	MANAGED BY	LOCATION							
WILLARD L. MEYER	150	1972	NRD	2 MILES EAST OF SWAN LAKE							
WALNUT CREEK	150	1972	NRD	2.5 MILES NORTHEAST OF YORK							
CLARISSA	150	1972	NRD	2 1/2 MILES NORTH OF CLARISSA							
LEISURE LAKE	150	1972	NRD	3 MILES SOUTH OF PLYMOUTH							
CUB CREEK	150	1972	NRD	3 MILES WEST & 4.5 MILES SOUTH OF PLYMOUTH							
BIG INDIAN	150	1972	NRD	6 MILES EAST OF UDIEL							
WOLF-WILDCAT	150	1972	NRD	6 MILES SOUTH OF VIRGINIA							
BEAR CREEK	150	1972	NRD	4 MILES NORTH OF YORK							
SWANTON	150	1972	NRD	3 MILES NORTH OF YORK							
CLARISSA PUBLIC USE	150	1972	NRD	2 1/2 MILES NORTH OF CLARISSA							



Lower Big Blue
Natural Resources District
P.O. Box 826
Beatrice, NE 68310



Lower Big Blue Natural Resources District

Exhibit K

Established in 1972 for the Development and Conservation of Soil and Water Resources

Lower Big Blue NRD Highlights of 2006-2007 **Blue River Compact Annual Meeting - May 16, 2007**

Water Quality & Quantity Summary

- Decommissioned 29 wells last year.
- Average cost \$685/well – Average cost-share \$321/well
- 542 wells have been decommissioned since 1992
- Water quality sampling – 155 wells – nitrate/nitrogen 7.73 ppm average
- 1002 of the 2200 irrigation wells have been sampled
- 52 Well Permits approved for wells pumping more than 50 gpm
- 461 Well Permits have been issued since 1997
- Groundwater levels – 59 wells measured
 - > Spring 2006 to Spring 2007 showed an increase of 0.29 ft.
 - > Fall 2005 to Spring 2006 showed an increase of 1.16 ft.
 - > Fall 2006 to Spring 2007 showed an increase of 3.76 ft.
- Blue River Compact Well Readings
 - > Spring 2006 to Spring 2007 averaged 0.56 ft. higher
 - > Spring 2005 to Spring 2006 averaged 0.65 ft lower.
 - > Spring 2004 to Spring 2005 averaged 0.36 ft. lower.
 - > Fall 2006 to Spring 2007 increased 1.54 ft.

- The Lower Big Blue NRD is part of the recently 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 landowner meeting in Nebraska was held March 12, 2007 in Odell; with 37 people in attendance.

- The Lower Blue River Basin Flow Augmentation Study Group met May 10th, 2007, at the Lower Big Blue NRD to continue 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 1st each year. The Phase II area has nitrate-nitrogen levels in the groundwater that are between 6 ppm and 9ppm. 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 purchases of equipment that allow 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

Future

Continuing drought has started to push static water levels close to the districts trigger levels. If levels continue to decline, the NRD will enact policies set forth in the groundwater management 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 will be used for evaluating the hydrologic connectivity of streams and groundwater in the Blue River Basin of Nebraska. Where possible, the COHYST database will be used. Additional data, such as streambed conductance, estimates of stream base flow, and geologic layer refinements will also be used in the model. Objectives on the study will be a creation of a database of geologic and hydrologic data, stream flow and stream bed data and topographic information that will be used to develop the groundwater model. The model will be used to estimate the extent of hydrologic connectivity between streams and groundwater in the Blue River Basin.

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 is planning to start 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 – 70% of Land in the NRD meets NRCS soil erosion standards

- **NSWCP – NRD Funds:** \$65,000, State: \$106,263 \$171,263 total funds
- 142 applications requesting \$562,374
- Approved 75 applications for \$219,054
- In the last year :
 - > 155 miles of terraces
 - > 22 miles of tile outlets
 - > 70 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

- 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

\$3,540,000	Construction
TOTAL COST	\$5,992,000

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

Kansas-Nebraska Blue River Compact

Little Blue Natural Resources District Report

May 16, 2007

Watershed Project Construction

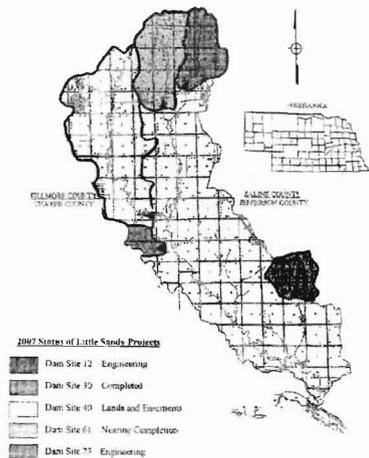
The Little Sandy Creek Watershed Project is now about half completed. Dam Site 61 in the southeast Fillmore county was completed last summer. This dam controls 5,500 acres of drainage and provide a 76 acre permanent reservoir with numerous public recreation facilities.



Dam Site 40

A construction contract was approved for the largest dam in the Little Sandy project with a 14,500 acre drainage and 144 acre reservoir. Construction on Dam Site 40 is expected to begin around the first of June 2007 and should be completed by the end of the year. Engineering is also underway on the last two dams of the watershed with anticipated construction of these structures in the summer of 2008.

LITTLE SANDY CREEK WATERSHED PROJECT
Nebraska Natural Resources Development Fund
Progress Report



When completed, the five Little Sandy Creek dams will provide 5,543 acre feet of flood storage, valued at \$45,000 annually, \$38,500 annually in groundwater recharge benefits, and \$144,000 per year in recreation benefits (Benefits were calculated in 2001)

NRD Board Adopts New Ground Water Rules and Regulations

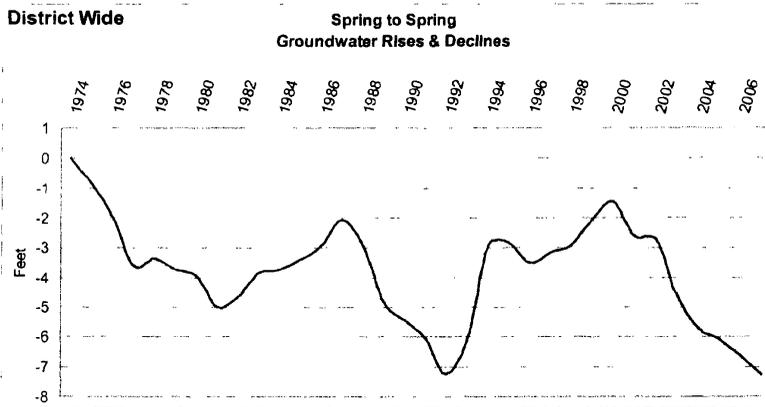
The Little Blue NRD Board adopted new Ground Water Rules and Regulations in April 2007. Some key elements of these new rules include:

- Requirements that intended high capacity water users (> 500 ac. ft annually) provide a hydrologic evaluation to determine potential impacts to the aquifer and existing water users;
- Requirements that intended high capacity water users who intend to transfer water for uses greater than 500 ac. ft annually, provide a hydrologic evaluation to determine potential impacts to the aquifer and existing water users;

- Described the preference of uses for consideration of in approval of permits for water development: 1) domestic, 2) agricultural, and 3) industry and manufacturing;
- Spelled out specific procedures for establishing controls in Sub-Areas;
- Clarified some issues that have arisen during certification of irrigated acres, especially regarding set-aside acres or lands that have an irrigated history but may not have been irrigated in recent years;
- Clarified procedures for soil sampling in water quality sub-areas
- Clarified matters for relaxation of controls in the event that quantity or quality goals are reached; and
- Established grievance procedures to allow process in the event of conflict with a decision of the Board.

Groundwater Monitoring

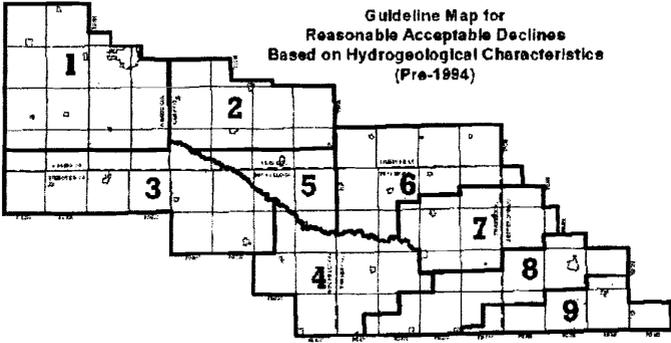
The District completed its measurements of 335 irrigation wells to determine changes in the water levels from the spring of 2006 to spring of 2007. Average water level changes by township varied this spring from + 0.04' to - 1.38' with the District-wide average decline of - 0.66'. Since the drought began in 2000, our water levels have tracked downward an average of 0.88' per year.



Most monitoring wells in the District's network reached their lowest historical level in 1992. Thus our Ground Water Management Plan uses that year as a benchmark year for determining the triggers for further ground water restrictions. Comparing 1992 to 2007 water levels, some monitored wells have now established a new historic low level. As a result, this spring the average District water level dropped below the District-wide '92 level by 0.29'. Our board feels that this drop is primarily drought related but are watching closely the areas where declines have appeared more consistent. Triggers have not yet been reached for any region of our District.

Figure 13-26

Guideline Map for
Reasonable Acceptable Declines
Based on Hydrogeological Characteristics
(Pre-1984)



A well moratorium was imposed in 2006 in Hydrologic Unit # 8, in the southeast area of the Little Blue Basin. No high capacity wells or expansion of irrigated acres is permitted in that area. NRD Staff have been busy throughout the last year certifying irrigated acres in this Unit with all certification completed by April 1st. A hydrologic study of this area was scheduled to be completed in March of this year to determine the ground water characteristics of the aquifer and a water balance, but due to personnel changes at the University of Nebraska, the study is not completed. Hydrologic Unit # 8 is approximately 1/2 foot from Level 2 controls where a quantity demonstration field and irrigation scheduling are required. The Unit is approximately 2 feet from an allocation level.

The District is investigating two additional areas of the District where ground water fluctuations have been more variable and drops more dramatic than the average. One is right on the river in the Oak area, the other near Bladen in the far west part of the District. Public meetings have been held to share our findings, gather information and seek information about possible conflicts between users. The meetings did not expose any information that we weren't already aware of.

Ground Water Management

Little Blue NRD staff worked last year with numerous cooperators in irrigation scheduling and training. We have selected 20 new cooperators this year who will also be trained; the soil moisture and crop water use information gathered from these scheduled sites will be available on the District's web site for reference by other irrigators. The District obtained a grant from the Nebraska Environmental Trust to offer cost-share assistance for the purchase of irrigation flow meters, soil moisture probes, ET gauges and moisture meters in this area.

Ground Water Modeling

The Little Blue NRD has contracted with the Upper Big Blue NRD for assistance in modeling our District to determine those areas where ground and surface water are hydrologically connected. River bed conductance sampling was done in 2006 and we expect the final report sometime this fall.

Water Quality Activities

The District continues to monitor irrigation wells for nitrates and atrazine. In 2006, we monitored 404 wells in Clay and Nuckolls Counties on a three year rotation, plus wells in our Water Quality Sub-Areas. The average nitrate levels for 2006 were 10.06 ppm in Nuckolls County and 7.81 ppm in Clay County. Both of these areas where higher nitrate levels are found are already in Special Water Quality Sub-Areas where operator training, soil testing, fertilizer limitations and reporting are in place. It is interesting to note that work with operators in the earliest Sub-Area has shown a gradual decrease in residual soil nitrate levels without hurting crop yields. We are hopeful that the trend continues and these Best Management Practices are adopted in other areas. All higher level nitrate samples collected were also tested for atrazine. With 92 samples collected, atrazine was barely detectable in only a few samples.

The Little Blue NRD now has over 354 square miles (15% of our district's land area) involved in these Special Water Quality Management Sub-Areas and we are seeing some positive results from our work.

Super Fund Site

A new water issue the NRD is dealing with is a Super Fund cleanup site near Hastings, Nebraska. The Corps of Engineers is preparing to install and pump 14 deep wells of varying outputs to contain and withdraw detected plumes of VOCs and explosives in the ground water below the old Naval Ammunition Depot. According to plans, the water will be piped to a new coal fired energy center east of Hastings and used as cooling water for the system. Approximately 2,000 gpm will be withdrawn from the aquifer for the next 40 to 50 years. The air stripping process will take care of the VOCs, however minute amounts of the explosives will remain in the approximate 700 gpm (1.6 cfs) discharge water. Because of the DEQs antidegradation clauses for such discharges, it is believed that the excess water will have to be discharged in the perennial stream flow of the Upper Big Blue River approximately 2 miles away. However, the Corps is now discussing on-site treatment of the water so perhaps discharge can occur in the Little Blue Basin, it's basin of origin, if residual contaminant levels can be virtually eliminated. With the NRD's largest flood control/groundwater recharge project located on Federal ground just downstream of the project, we are hopeful that the water can be released into the Meat Animal Research Center (MARC) Dam to help offset some of the impacts of the withdrawals over time. Details are still being worked out.

KANSAS-NEBRASKA BIG BLUE RIVER COMPACT REPORT
U.S. Geological Survey—Water Year 2006

The U.S. Geological Survey (USGS) continues to operate two streamflow gaging stations for the Compact Administration—Big Blue River at Barneston, NE (06882000), and Little Blue River at Hollenberg, KS (06884025). An electronic data logger (EDL) at each station automatically records streamflow stage every 30 minutes. These instantaneous values are transmitted via GOES satellite to USGS offices, where they are used to compute preliminary values of instantaneous and daily discharge that are immediately posted to the Web (addresses shown below). Before the data are finalized, updates and revisions are made as needed, based on a series of quality checks and reviews. Finalized values of daily discharge and summary statistics are now published annually on a site-by-site basis on a national Web page (addresses shown below).

During water year (WY) 2006 (October 1, 2005 to September 30, 2006), periodic visits were made to the stations to maintain and calibrate the sensing and recording equipment, make discharge measurements, and download the data directly from the EDLs, as a backup to the satellite data. The discharge measurements were used to determine shifts from the stage-discharge relations (rating curves) that were then used to convert stage values to corresponding values of discharge.

For **Big Blue River at Barneston**, 7 discharge measurements ranging from 36.1 ft³/s at a stage of 3.05 ft to 5,030 ft³/s at a stage of 10.16 ft were made. The WY 2006 annual mean discharge of 285 ft³/s was less than the 376 ft³/s for WY 2005, and less than the 848 ft³/s mean discharge for the prior period of record (WYs 1933–2005). The maximum and minimum daily discharges during WY 2006 were 4,960 ft³/s on Aug 20 and 30 ft³/s on July 30. New record daily minimums were equaled or set July 6–7. The annual seven-day minimum flow (lowest average flow for seven consecutive days) was 34 ft³/s for the period beginning July 30.

For **Little Blue River at Hollenberg**, 8 discharge measurements ranging from 58.3 ft³/s at a stage of 1.96 ft to 1,460 ft³/s at a stage of 5.10 ft were made. The WY 2006 annual mean discharge of 173 ft³/s was less than the 224 ft³/s for WY 2005 and the 507 ft³/s mean discharge for the prior period of record (WYs 1975–2005). The maximum and minimum daily discharges during WY 2006 were 2,380 ft³/s on August 20 and 30 ft³/s on August 15. A record daily maximum was equaled or set August 22. Record daily minimums were equaled or set December 6–7, 9–11; January 6; March 7; May 18–22; June 15–17; July 3–9, 20; July 29 – August 5; and August 11–16. The annual seven-day minimum flow was 36 ft³/s for the period beginning August 10.

For each of the State delegations and the Compact chairman, copies of the WY 2006 published data (manuscript, discharge daily values, statistics tables, and discharge hydrograph) from Water-Data Report NE–2006 are attached for each station. PDF files of the WY 2006 published data are available online at <http://pubs.water.usgs.gov/wdr2006> via the MAPPER interface. Previous online reports, including WYs 2002–2005 for Nebraska, are available at <http://pubs.usgs.gov/wdr/>. Also attached are plots of the annual mean discharges for the periods of record, and plots of the daily discharges for WY 2006 compared to those for the lowest and highest years on record and to the historic minimum, median, and maximum values for each day of the year.

Current (real-time) and historic data on surface water, ground water, and water quality for the Nation can be downloaded via the general Water Resources website (<http://water.usgs.gov/>) or from the National Water Information System Web (NWISWeb) website (<http://waterdata.usgs.gov/nwis/>). Daily, monthly, and annual streamflow statistics are also available from NWISWeb. Real-time data—up to 31 days of unit values or 18 months of daily values—for Nebraska and nearby sites (including both Compact stateline streamflow sites) can also be accessed from the USGS Nebraska Water Science Center website (<http://ne.water.usgs.gov/>).

Phil Soenksen
Chief, Hydrologic Data Section
May 12, 2007



Water-Data Report 2006

06882000 Big Blue River at Barneston, Nebr.

Big Blue Basin
Middle Big Blue Subbasin

LOCATION.--Lat 40°02'41", long 96°35'14" referenced to North American Datum of 1983, in NE ¼ NW ¼ sec.24, T.1 N., R.7 E., Gage County, NE, Hydrologic Unit 10270202, on right bank at right downstream end of bridge on State Highway 8, 0.6 mi southwest of Barneston, 1.3 mi upstream from Plum Creek, and 4.3 mi upstream from Nebraska-Kansas State line.

DRAINAGE AREA.--4,447 mi² of which 77 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1932 to current year.

REVISED RECORDS.--WSP 896: 1932, 1935. WSP 1919: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,162.2 ft above sea level. Prior to June 9, 1941, water-stage recorder at site 0.3 mi downstream at datum 1.56 ft higher. June 9 to Nov. 17, 1941, non-recording gage and Nov. 18, 1941 to Sept. 30, 1979, water stage recorder at site 0.7 mi upstream at datum 2.0 ft higher. Data collection platform at station.

REMARKS.--Records good except for estimated daily discharges, which are poor. Low flow regulated by dam at unused power plant 0.7 mi upstream. No large tributaries between station and Nebraska-Kansas State line. Some pump diversions for irrigation above station. Natural flow of stream affected by ground-water withdrawals for irrigation and return flow from irrigated areas.

Water-Data Report 2006

0682000 Big Blue River at Barneston, Nebr.—Continued

FROM DCP
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	91	99	125	141	145	139	511	556	620	91	33	231
2	93	99	124	136	145	135	882	355	487	75	35	215
3	95	99	e108	139	140	131	1,540	334	289	62	39	215
4	95	100	e103	136	134	134	774	302	762	50	37	190
5	96	103	e96	131	129	137	476	275	1,220	39	32	175
6	96	100	e95	129	127	134	375	264	805	35	39	166
7	87	99	e95	130	127	135	839	256	1,030	31	343	155
8	85	100	e95	129	125	144	568	235	692	39	407	150
9	85	99	e96	129	125	152	379	586	437	44	420	159
10	86	101	e98	125	126	143	304	510	311	59	465	1,060
11	91	103	e101	125	125	140	267	327	288	289	234	990
12	106	108	e113	126	128	139	236	247	315	215	340	655
13	102	106	e115	126	143	141	210	216	482	136	426	479
14	99	103	e118	128	126	135	197	203	287	491	343	373
15	100	117	e114	126	130	133	183	191	205	267	239	307
16	100	124	e119	127	e126	133	201	183	177	145	187	266
17	99	114	e105	128	e114	129	201	175	180	105	1,790	546
18	97	118	e104	125	e108	133	195	168	163	75	2,230	573
19	95	121	e111	126	e113	143	174	162	161	51	2,380	1,090
20	144	121	e108	129	e126	163	165	156	152	35	4,960	1,640
21	139	121	e108	133	e134	179	161	151	124	52	4,850	983
22	140	122	e111	133	150	179	158	143	144	153	3,030	1,690
23	136	120	e116	131	163	169	155	143	182	136	1,500	1,410
24	121	116	e117	133	150	182	178	142	453	127	951	964
25	132	116	e123	128	151	173	190	163	259	109	709	858
26	129	118	e132	128	137	170	178	206	183	107	639	637
27	117	121	161	127	141	183	168	188	174	88	647	508
28	109	137	148	133	139	187	189	286	172	68	504	409
29	109	131	141	153	---	205	318	235	140	47	367	349
30	107	131	143	144	---	208	661	873	109	30	295	307
31	102	---	136	145	---	252	---	1,230	---	30	257	---
Total	3,283	3,367	3,579	4,079	3,727	4,860	11,033	9,461	11,003	3,281	28,728	17,750
Mean	106	112	115	132	133	157	368	305	367	106	927	592
Max	144	137	161	153	163	252	1,540	1,230	1,220	491	4,960	1,690
Min	85	99	95	125	108	129	155	142	109	30	32	150
Ac-ft	6,510	6,680	7,100	8,090	7,390	9,640	21,880	18,770	21,820	6,510	56,980	35,210

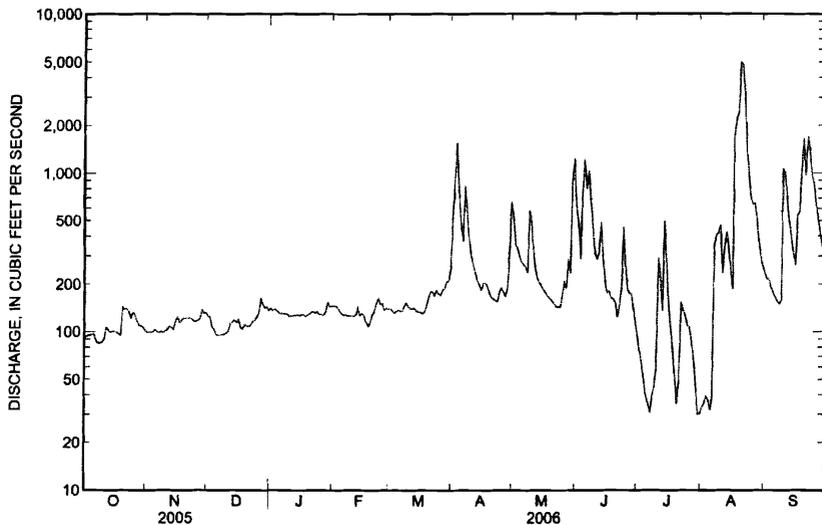
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	526	304	237	282	624	1,319	835	1,288	2,003	1,287	685	694
Max	7,451	1,526	851	1,596	2,876	10,560	5,280	5,207	10,460	12,270	5,227	3,420
(WY)	(1974)	(1999)	(1998)	(1973)	(1984)	(1979)	(1984)	(1995)	(1951)	(1993)	(1954)	(1989)
Min	61.5	77.5	87.4	67.6	116	137	132	96.0	69.3	30.7	21.1	50.6
(WY)	(1941)	(1937)	(1977)	(1937)	(1940)	(1968)	(1934)	(1934)	(1934)	(1934)	(1934)	(1939)

06082000 Big Blue River at Barneston, Nebr.—Continued

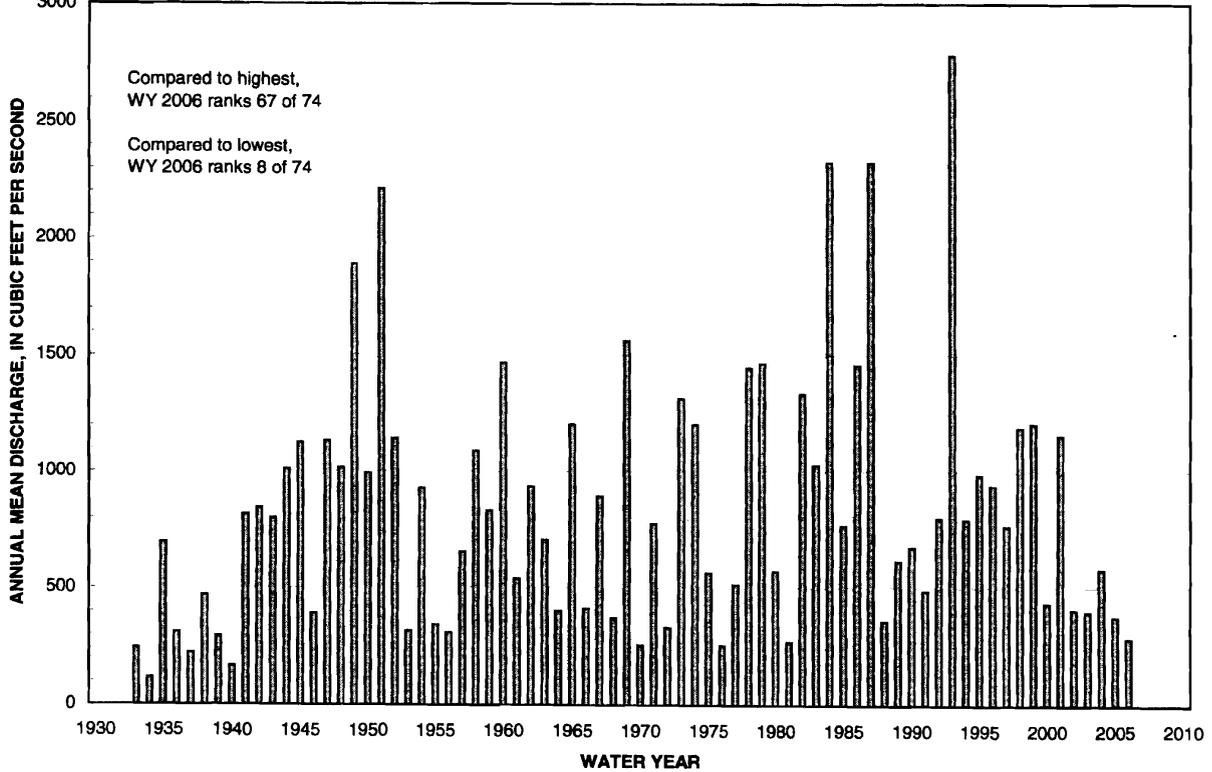
SUMMARY STATISTICS

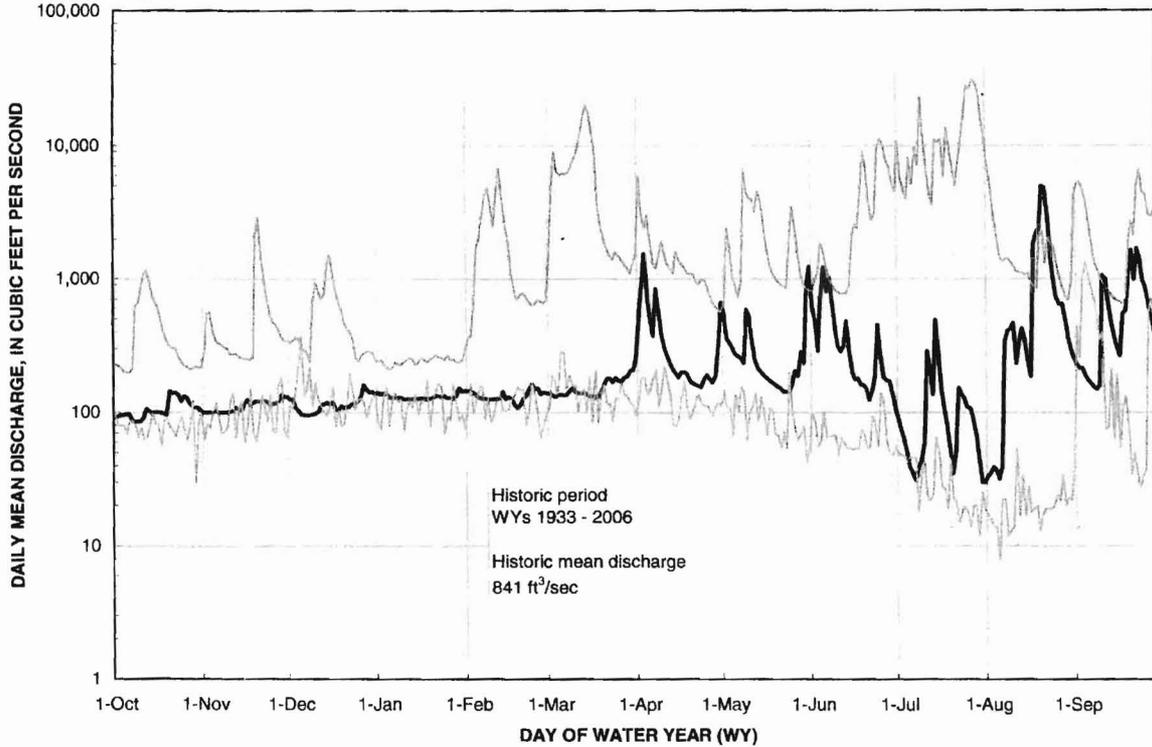
	Calendar Year 2005		Water Year 2006		Water Years 1933 - 2006	
Annual total	135,184		104,151		841	
Annual mean	370		285		115	
Highest annual mean					2,781	1993
Lowest annual mean					115	1934
Highest daily mean	9,430	May 17	4,960	Aug 20	50,000	Jun 9, 1941
Lowest daily mean	54	Jul 15	30	Jul 30	1.0	Nov 30, 1945
Annual seven-day minimum	64	Jul 11	34	Jul 30	15	Aug 3, 1934
Maximum peak flow			5,310	Aug 21	57,700	Jun 9, 1941
Maximum peak stage			10.41	Aug 21	34.30	Jun 9, 1941
Annual runoff (ac-ft)	268,100		206,600		608,900	
10 percent exceeds	680		578		1,710	
50 percent exceeds	176		141		273	
90 percent exceeds	97		95		104	



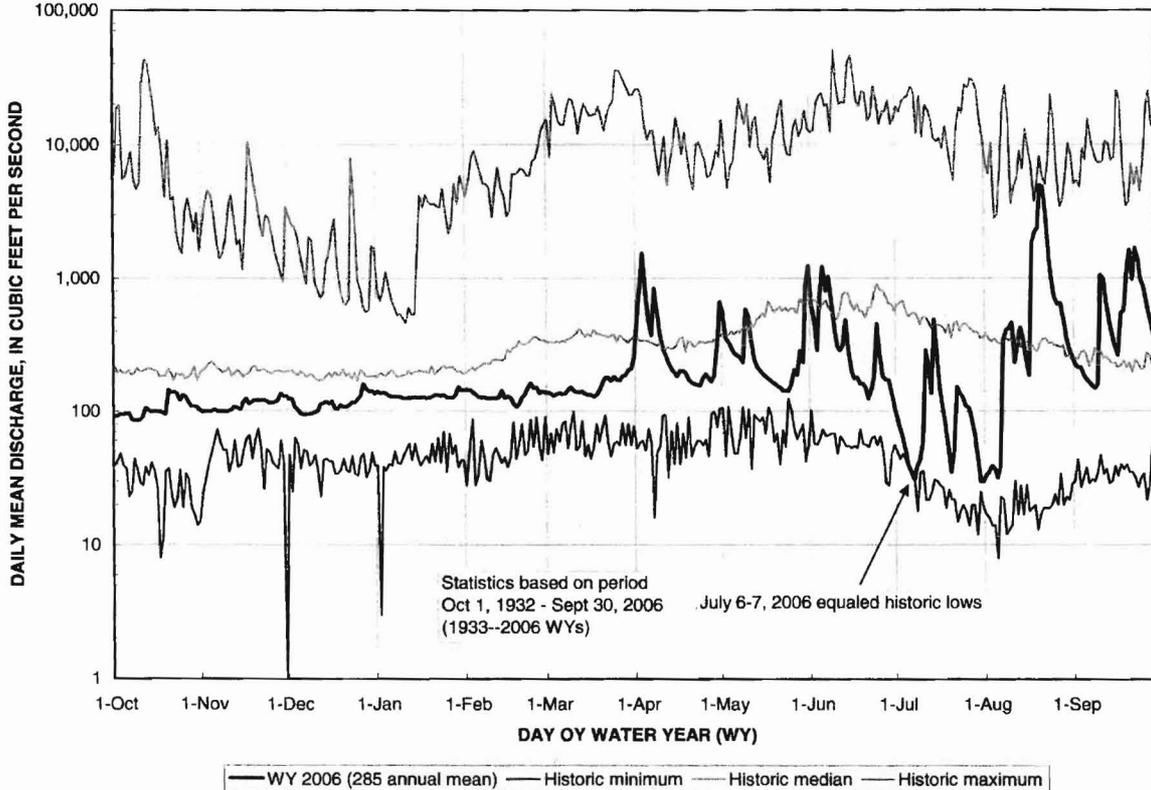


06882000 Big Blue River at Barneston, NE





— WY 2006 (285 annual mean) — Historic low WY 1934 (115 annual mean) — Historic high WY 1993 (2,781 annual mean)





Water-Data Report 2006

06884025 Little Blue River at Hollenberg, KS

Big Blue Basin
Lower Little Blue Subbasin

LOCATION.--Lat 39°58'49", long 97°00'17" referenced to North American Datum of 1983, in NE ¼ SW ¼ sec.8, T.1 S., R.4 E., Washington County, KS, Hydrologic Unit 10270207, on right bank 2 ft downstream from bridge on county road, 0.6 mi west of Hollenberg, 1.75 mi downstream from Nebraska-Kansas State line, and at mile 43.1

DRAINAGE AREA.--2752 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1973 to February 1974 (discharge measurements only), March 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,216.10 ft above sea level. Data collection platform at station.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

06894625 Little Blue River at Hollenberg, KS—Continued

FROM DCP
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	67	85	e103	94	120	128	179	204	113	89	34	136
2	69	86	e93	96	117	124	353	171	252	82	39	131
3	68	86	e81	99	117	121	285	172	405	76	52	127
4	69	85	e82	99	113	122	211	197	243	68	43	113
5	80	84	e81	95	112	122	173	175	176	59	39	106
6	68	85	e78	92	112	120	163	157	148	55	158	97
7	61	88	e79	91	115	120	195	150	131	49	149	90
8	62	90	e78	94	115	123	174	148	118	45	74	82
9	67	88	e79	93	113	128	155	291	105	46	54	85
10	67	89	e84	95	114	126	147	305	97	79	47	145
11	72	90	e88	95	e112	123	141	230	98	92	40	924
12	91	93	e91	100	e106	122	137	203	109	95	37	1,740
13	97	93	e95	100	e107	121	130	172	145	146	37	839
14	95	92	e99	99	123	118	129	153	108	113	33	559
15	66	108	e94	101	139	116	129	141	89	104	30	380
16	73	112	e90	102	131	111	139	135	81	213	31	279
17	76	110	e86	102	e125	110	128	133	87	144	1,650	448
18	83	108	e87	103	e122	112	124	129	97	91	1,030	403
19	77	105	e91	105	e134	124	120	123	125	68	1,160	391
20	166	106	e99	109	e166	152	119	118	111	47	2,340	290
21	113	106	e101	112	199	166	120	115	151	78	1,520	266
22	114	108	e104	110	249	163	120	114	358	124	1,190	659
23	102	103	e106	112	281	160	119	113	532	312	755	970
24	96	103	e109	115	171	153	135	119	332	225	507	851
25	89	104	e123	112	162	143	147	123	244	158	367	547
26	88	105	e137	113	150	143	137	114	188	156	391	364
27	87	113	e133	113	137	148	134	131	156	128	371	282
28	87	126	119	116	132	152	152	121	136	96	251	229
29	86	132	111	141	---	157	305	114	118	71	201	199
30	85	113	106	135	---	204	300	116	104	50	176	179
31	87	---	100	123	---	269	---	111	---	42	155	---
Total	2,608	2,996	3,007	3,266	3,894	4,301	5,000	4,798	5,157	3,201	12,961	11,911
Mean	84.1	99.9	97.0	105	139	139	167	155	172	103	418	397
Max	166	132	137	141	281	269	353	305	532	312	2,340	1,740
Min	61	84	78	91	106	110	119	111	81	42	30	82
Ac-ft	5,170	5,940	5,960	6,480	7,720	8,530	9,920	9,520	10,230	6,350	25,710	23,630

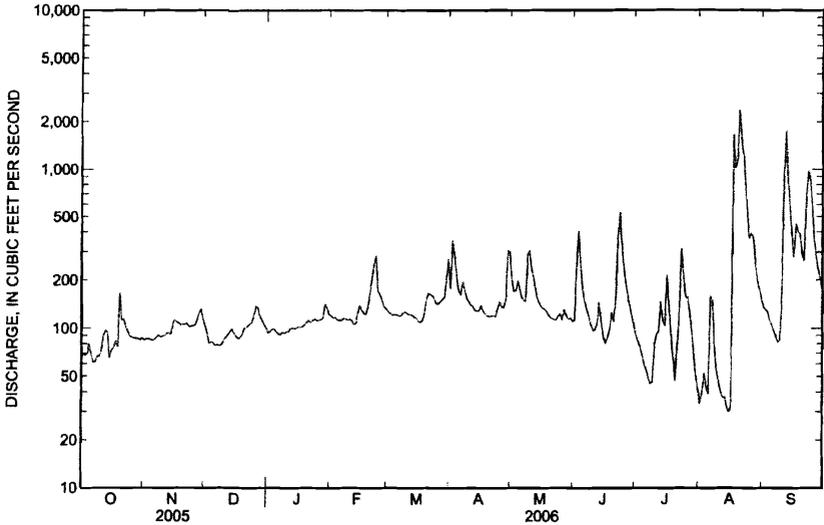
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2006, BY WATER YEAR (WY)

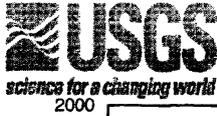
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	290	231	174	170	310	746	506	770	935	945	491	369
Max	2,163	1,113	424	576	1,059	3,816	2,379	2,302	4,373	9,014	2,572	1,320
(WY)	(1987)	(1997)	(1993)	(1984)	(1993)	(1993)	(1987)	(1995)	(1984)	(1993)	(1985)	(1977)
Min	45.3	81.1	96.7	98.5	115	118	123	108	151	83.8	72.5	32.0
(WY)	(1992)	(1992)	(2001)	(1977)	(1992)	(1981)	(2003)	(1992)	(1981)	(2002)	(1991)	(1991)

06894025 Little Blue River at Hollenberg, KS—Continued

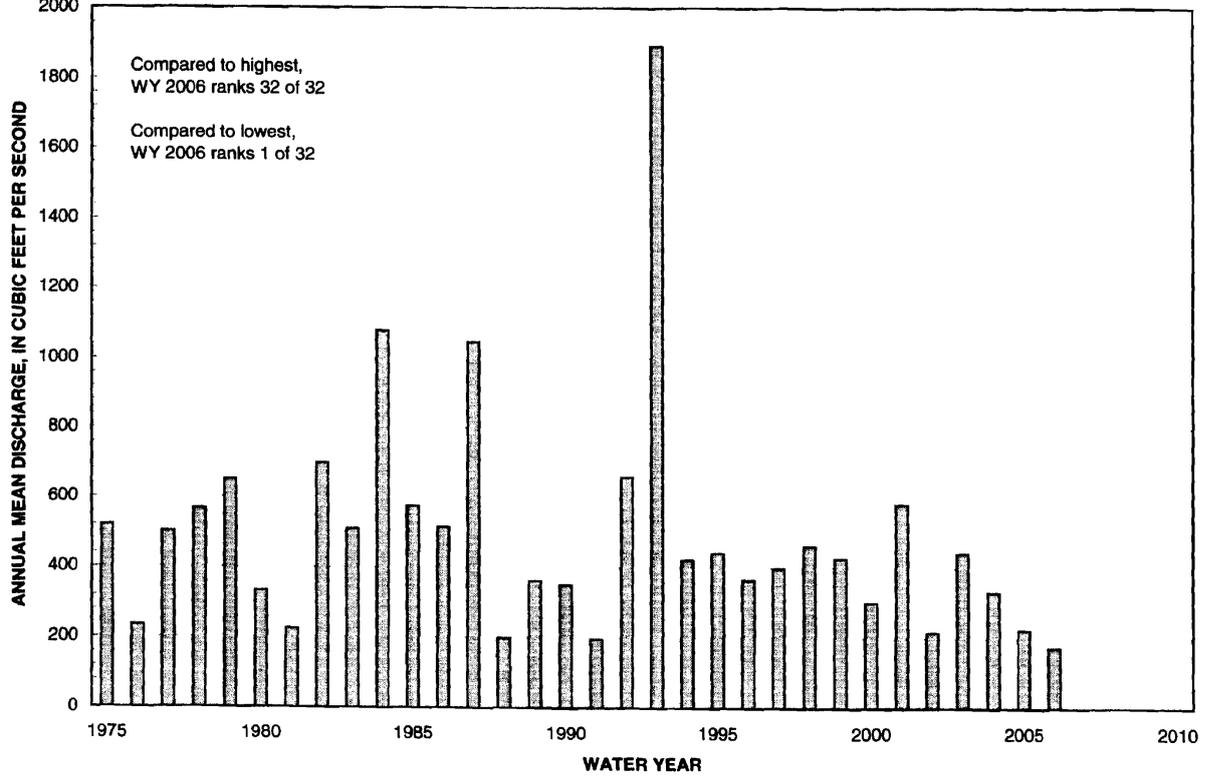
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1975 - 2006	
Annual total	81,281		63,100			
Annual mean	223		173		496	
Highest annual mean					1,891	1993
Lowest annual mean					173	2006
Highest daily mean	2,850	Jul 27	2,340	Aug 20	39,300	Jul 26, 1992
Lowest daily mean	43	Jul 13	30	Aug 15	26	Oct 1, 1991
Annual seven-day minimum	47	Jul 11	36	Aug 10	27	Sep 27, 1991
Maximum peak flow			3,620	Aug 19	47,800	Jul 26, 1992
Maximum peak stage			7.24	Aug 19	21.21	Jul 26, 1992
Annual runoff (ac-ft)	161,200		125,200		359,400	
10 percent exceeds	461		283		818	
50 percent exceeds	141		115		195	
90 percent exceeds	74		74		102	



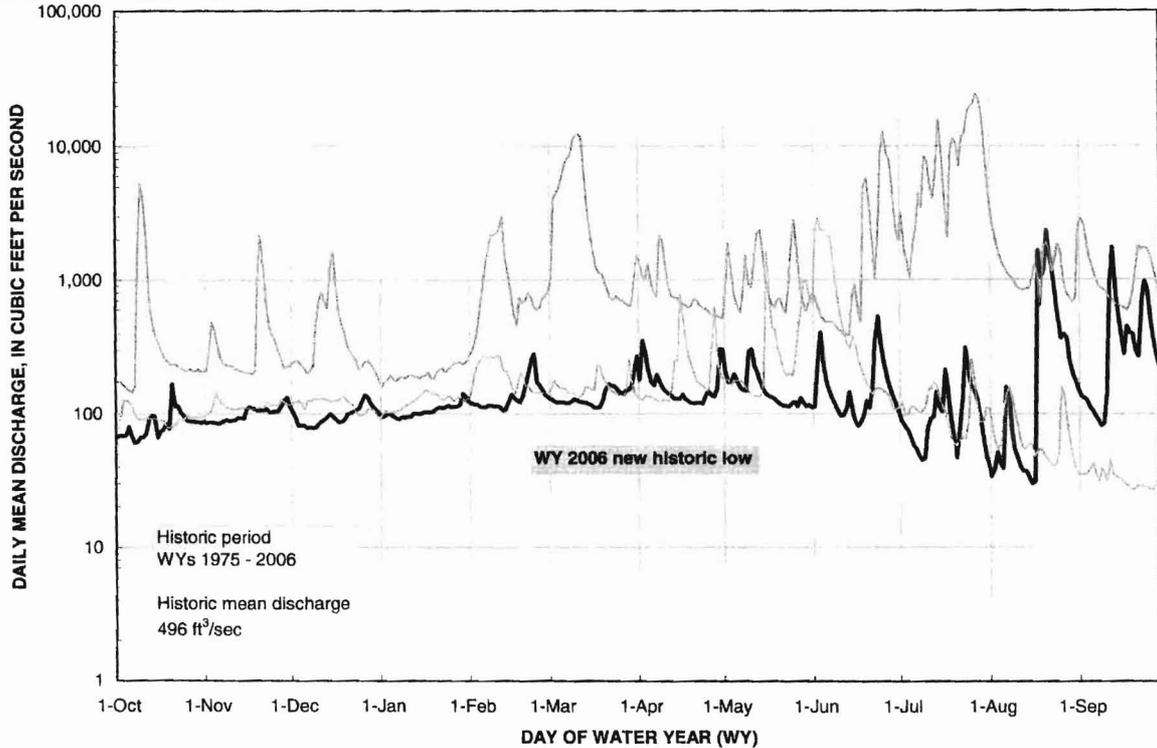


06884025 Little Blue River at Hollenberg, KS





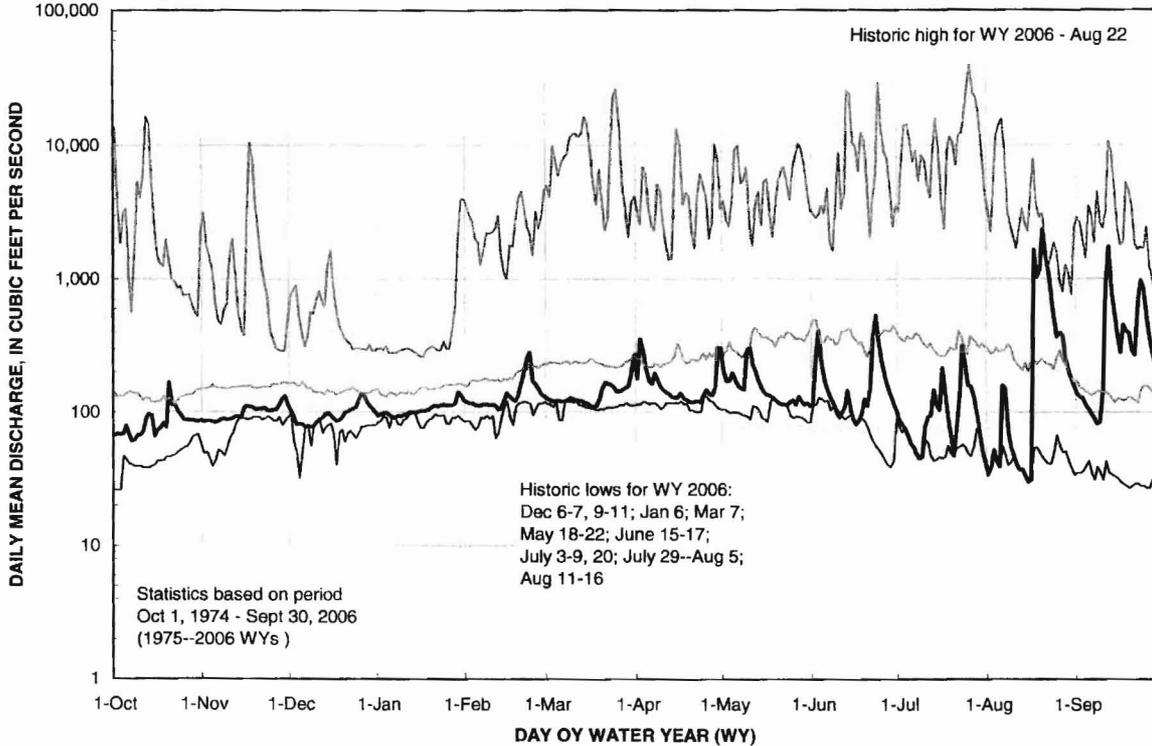
06884025 Little Blue River at Hollenberg, KS



— WY 2006 (173 annual mean) — Previous historic low WY 1991 (195 annual mean) — Historic high WY 1993 (1,891 annual mean)



06884025 Little Blue River at Hollenberg, KS



— WY 2006 (173 annual mean) — Historic minimum — Historic median — Historic maximum

**REPORT OF THE TREASURER
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION**

Updated July 27, 2007

Balance on Hand July 1, 2006	\$ 20,115.47
Income	
State Assessments	\$ 16,000.00
Interest Income	<u>\$ 724.80</u>
Funds Available	\$ 36,840.27
Expenditures	
USGS	\$ (10,110.00)
Treasurer Bond	\$ -
Secretary Honorarium	\$ (750.00)
Dana Cole - Audit	\$ (700.00)
Postage/Supplies	\$ (55.65)
Printing	\$ -
Secretary Travel Expenses	\$ (7.81)
Lower Big Blue Natural Resources District	\$ (700.00)
Miscellaneous	\$ -
Water Quality Committee	<u>\$ -</u>
Total Expenditures	\$ (12,323.46)
End of Fiscal Year Balance	<u>\$ 24,516.81</u>

BIG BLUE RIVER COMPACT BUDGET ANALYSIS May 2007							
	FY 2005-2006		FY 2006-2007		FY 2007-2008		FY 2008-2009
	Actual	Adopted May 2005	Estimated 4/30/2007	Adopted May 2006	Estimated May 2006	Adopted May 2007	Estimate
EXPENDITURES							
Operations							
Stalene Gages	\$ (13,220.00)	\$ 13,350.00	\$ 13,480.00	\$ 14,000.00	\$ 14,500.00	\$ 13,570.00	\$ 13,900.00
Observation Wells	\$ (700.00)	\$ 760.00	\$ 700.00	\$ 700.00	\$ 760.00	\$ 700.00	\$ 760.00
Water Quality Committee	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fidelity Bond	\$ -	\$ 100.00	\$ -	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Secretary Honorarium	\$ (750.00)	\$ 750.00	\$ 750.00	\$ 750.00	\$ 750.00	\$ 750.00	\$ 750.00
Staff Travel Expenses	\$ (10.00)	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00
Annual report	\$ (168.39)	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00	\$ 200.00
Annual Audit	\$ -	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 1,400.00	\$ 700.00
Postage and Office Supplies	\$ (82.43)	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Miscellaneous Expenses	\$ -	\$ 100.00	\$ -	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Total Expenses	\$ (14,930.82)	\$ 16,110.00	\$ 15,980.00	\$ 16,700.00	\$ 17,260.00	\$ 16,970.00	\$ 16,660.00
INCOME & CARRY OVER							
Assessments (Both States)	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00
Interest earned	\$ 545.81	\$ 200.00	\$ 724.63	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00
Carry Over from Prior Year	\$ 18,500.48	\$ 15,153.64	\$ 20,115.47	\$ 15,950.43	\$ 15,750.43	\$ 20,860.10	\$ 20,390.10
Total Income and Carry Over	\$ 35,046.29	\$ 31,353.64	\$ 36,840.10	\$ 32,450.43		\$ 37,360.10	\$ 36,890.10
Balance End of Year	\$ 20,115.47	\$ 15,243.64	\$ 20,860.10	\$ 15,750.43		\$ 20,390.10	\$ 20,230.10

**KANSAS - NEBRASKA BIG BLUE RIVER
COMPACT ADMINISTRATION
REPORT**

**Water Quality Committee
May 4, 2007**

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 2007 annual meeting of the Kansas - Nebraska Big Blue River Compact Administration's Water Quality Committee was held on Friday, May 4 from 9:30 a.m. to 2:30 p.m. at the offices of the Lower Big Blue Natural Resource District, 805 Dorsey Street, Beatrice, NE. WQ Committee members present at this year's meeting included Rich Reiman (NDA), Annette Kovar (NDEQ), Tom Stiles (KDHE), Dan Howell (KLR/BAC) and Dale Lambley (KDA). Dan Howell serves to represent the Kansas Water Office. Other meeting participants included Dave Clabaugh (Lower Big Blue NRD), Rod DeBuhr (Upper Big Blue NRD), Daryl Anderson (Little Blue NRD)..

Phil Barnes (KSU), Craig Romary (NDA), Don Vogel (NE Corn Growers Association), Steve Gaul (NDNR), Larry Dedic (NE Sorghum Board), Wally Valasek and Jeremy Bowers (NRCS/Beatrice Office), Jessica Caylor (KS Corn/Grain Sorghum Associations), Kristie Raymond and Heather Duncan (EPA Region VII), and Jack Dutra (Syngenta). A copy of the meeting agenda is provided in Attachment A.

The bulk of this year's meeting was devoted to updates on the status of the Tuttle Creek Lake Targeted Watershed Grant Project and on partner reports. Steve Walker (NDEQ) was unable to attend because of illness, but subsequently provided information which has been circulated to meeting participants. His information is included as a part of this report.

Water Quality Monitoring and TMDL Status Reports: By way of background, a basin water quality monitoring program was initiated in 1997. In broad terms there has been a general downward trend in atrazine levels in waters of the Big Blue River system. The time duration in which Tuttle Creek Lake exceeds atrazine TMDL standards has generally been reduced to the May and June period. Phil Barnes has been overseeing the WQ monitoring effort for both NE and KS portions of the basin.

For this meeting, Phil provided the WQ Committee with a brief update of planned activities relative to the Tuttle Creek Lake Targeted Watershed Grant Project. A GIS map has been completed of the four county state line area which defines priority areas in which additional BMPs should be established. The priority KS focus is Horseshoe Creek watershed. Nebraska will be working with Big Indian Creek, with primary focus from Crete south. Two automatic samplers would be installed in each watershed (1 mid watershed/1 lower watershed). This should allow monitoring or tracking of impacts resulting as BMPS are established. Since the April through mid-August period was shown through earlier studies as the primary loading period, this time interval will be the main focus of the sampling program.

Phil also wanted the committee to know that KSU has received an EPA grant to support study of sheet and rill erosion, ephemeral gully formation and channel degradation in the Black Vermillion watershed of Kansas. That watershed has received much attention on the Kansas side of the border because it is a major feeder stream just upstream of Tuttle Creek Reservoir and because it has historically been a source of bacterial, sediment and atrazine loading.

Tom Stiles updated the committee on TMDL issues. The Tuttle Creek TMDLs have been revisited as required by the Clean Water Act and submitted to EPA for review.

Because of a court case, EPA is now requiring states to express TMDLs in terms of “daily” load, so both NDEQ and KDHE are revising language and resubmitting TMDLs. Tuttle Creek TMDL documents have been resubmitted to EPA for review. A TMDL is also in place for Horseshoe Creek. Monitoring programs are not detecting significant alachlor levels in Tuttle Creek, so that TMDL may come off the list (be delisted) on the 2012 revision cycle.

Tom also wanted to advise participants that Turkey Creek has a problem with atrazine exceedances. Although this watershed is in the Missouri Basin rather than the Big Blue, it is another example of a watershed which crosses the KS-NE state line.

Annette Kovar reported that on a state wide basis, NE has now completed 57 TMDLs and another 27 are in the works. Projections are that it will take 10 to 12 years to complete the process. NDEQ is also starting to look at mercury and develop criteria for mercury. Steve Walker notes in his report that there are five completed TMDLs for the Big Blue Basin (2 for the Big Blue River/1 for the West Fork Big Blue River/2 for the Little Blue River).

NDEQ has opted to develop a watershed management plan for Swan Creek Reservoir in lieu of developing a TMDL. EPA has not yet given it’s approval of this effort. Preparation of a TMDL for Big Indian Lake is in progress and should be complete this fall.

Dan Howell noted that we may see changes which would impact TMDLs because of increased corn demand and changes in crop rotation and pesticide use. In the immediate future we could see more corn on corn production, but at this point much remains unknown.

Cooperative Blue River Grant Proposal: By way of background, in 2006 NDEQ working in behalf of the WQ Committee received grant funding approval from the EPA Targeted Watersheds Grants Program for water quality work in the basin. Funds made available totaled \$810,000. The project is entitled “Tuttle Creek Lake Interstate Targeted Watersheds Grant Project Proposal: A Cooperative Proposal by Tuttle Creek Lake Watershed Partners in Nebraska and Kansas”. 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.

For this meeting, Don Jones(SCC) provided an update on Kansas plans for the Horseshoe Creek incentive program and Wally Valasek and Jeremy Bowers (NRCS) provided details of plans for the Nebraska effort. Also, Steve Walker provided a written summary of activities and project status. In the big picture, project status is as follows:

- Both KS and NE participants have plans laid as to the type of practices which they wish to incentivize. For Horseshoe Creek, the focus will be on creating a No-Till incentive program. For Big Indian Creek, a broader array of practices will be incentivized including No-Till, Nutrient & Pest Management, Riparian Buffer Strips or Filter Strips and others. In a large part, the difference in approach has been brought about because there is already a much higher rate of No-Till adoption in the NE portion of the basin. Although the principal NE program focus will be on Big Indian Creek, they will also include participants from the small portion of the Horseshoe Creek watershed which lies in NE.
- NDEQ contracted with NE NRCS to hire a watershed specialist for the project. Jeremy Bowers was selected and began work November 2006. The existing Riparian Buffer Coordinator for Marshall County, KS will work the Horseshoe Creek area.
- Verbal commitments have been obtained from several landowners in NE and KS to sign-up for eligible conservation practices, but to this point no contracts have been finalized.
- The primary hurdles remaining lie in the area of finalizing contractual language and agreements between NDEQ and SCC relative to the process and procedures for making landowner payments, and, between NDEQ and KSU relative to WQ monitoring and modeling. Also the contract between NDEQ and LBBNRD which was signed in March, 2007 will likely need to be revised to comply with certain EPA requirements. KSU also must submit additional information for completion of the Quality Assurance Project Plan for the next monitoring component.

There is an old adage that says “the devil is in the details”. We are currently in the detail phase. On the brighter side, this is a first time experience for the two states and the various state and local entities involved. Once the process is completed, it will likely provide a path for future joint efforts.

Wally and Jeremy provided two other items of information which I thought were worthwhile of mention at this compact administration meeting. First, the Blue River grant is a three year grant. Therefore grant incentives do not piggy-back well with the CRP program where contracts are of 10 to 15 year duration. Secondly, FSA is in the process of evaluating CRP rental rates. A logical outcome might be that incentive rates offered under future grants may need to be increased from those offered at present.

The Water Quality Committee owes a large debt of gratitude to Steve Walker for the hard work he has expended in stewarding the grant, and to both Steve and Don Jones for their work with local partners and contracts.

Agencies and Partners Reports:

Dale Lambley, Kristie Raymond and Craig Romary updated the committee on current EPA-OPP activities relating to pesticides and water. EPA has released a summary of aquatic life benchmarks that states can use to guide their water quality monitoring efforts. Also, OPP is initiating in cooperation with states an evaluation of pesticides to determine which, if any, are pesticides of water quality concern in the various states. KDA and NDA will be working with EPA Region VII to develop the methods and strategies for the evaluation of these pesticides and, if necessary, develop management plans. EPA has also asked the state pesticide lead agencies to aid in collection of available water quality data for submission to OPP. Pesticides pinpointed by the state's TMDL program will automatically be included in this effort.

Dave Clabaugh gave update information relative to activities in the Lower Big Blue NRD. A particular bright spot is that well readings show a significant increase in groundwater levels. Dave plans to attend the Compact Administration meeting in Manhattan, KS on May 16 and will present more detailed information.

Heather Duncan wanted partners to know that Region VII's Strategic Agricultural Initiative (SAI) grant solicitation is currently active. Successful grant proposals target transition away from high risk pesticides to use of less and reduced risk pesticides, alternative methods of controlling agricultural pests, and sustainable practices in food production. Proposals are due June 5th. The solicitation can be found on the EPA Region VII website (http://www.epa.gov/region7/economics/r7_grant_opportunities.htm). Typically these are grants of up to \$50,000 and of 2 year project duration. Another grant program which can be used to address some additional watershed issues is the USDA SARE grant program.

Kristie Raymond advised that a forum to discuss and promote drinking water and water treatment sustainability is being planned. Likely the forum will be held November 13 and 14 in St. Louis, MO. More information will be forthcoming.

Daryl Anderson discussed Little Blue NRD activities. Daryl noted that their most newly constructed dam has filled. The NRD has a grant to implement practices upstream to protect the water. During the last year, 92 wells were sampled and analyzed with minimal hits for atrazine. The NRD is becoming more active in promotion of irrigation management. An earlier effort showed positive results with about 1.5 inches reduced use. Daryl is also planning to attend the May 16th meeting of the compact administration and provide a report.

Larry Dedie noted that Lumax herbicide is now labeled for use on grain sorghum. This should lower the rate of atrazine applied per acre. CIBUS is also developing a system using genes within the species that would offer resistance to grass herbicides. This could possibly further lower the atrazine need in grain sorghum production.

Rich Reiman, Don Vogel and Craig Romary discussed the NE buffer strip program. Rich noted that NDA is still promoting buffer strips and still has money on hand. However the value of these lands has increased such that there may be a need to increase payments above the current \$150 per acre rate. Lifting the \$150 cap will require legislative action.

Don Vogel gave an update of enhanced options for NE landowners in creation of streamside buffers. The program is state-funded (from pesticide registration fees) and is designed to be used by itself or in conjunction with the Central Basin CREP and Continuous CRP programs. This has been a very successful program in NE, but Don noted that contracts and programs tend to get set in stone while times and conditions change. The \$150 per acre rate cap is an example of something getting set in stone, but now needs a change.

Craig Romary noted that there were 11,000 acres enrolled in the NE buffer program with \$600,000 per year annual payments. The contracted acres which went into place in 2002 – 2003 will start expiring in 2 years.

Craig also reported that he had been working with NDEQ on atrazine limited segments in the basin and with Tom Franti (UNL Cooperative Extension) to include additional atrazine prevention measures into pesticide applicator training programs. Craig has also been working with Tom to try to gather some information which might be used to compare with the agricultural production survey done in 1996. USDA is also conducting some survey work, but this appears to be more in the arena of gauging producer attitudes

and behavior relative to conservation practices.

With some prompting from several participants, Steve Gaul briefly discussed LB 962 implementation. It does not appear that implementation will be a problem for the LBBNRD.

Rod DeBuhr discussed activities in the Upper Big Blue NRD. The NRD is in the process of certifying irrigated acres. The district has seen seven years of groundwater decline and levels are now about that reached in 1970s. This is the first year of mandatory use reporting. The area is not fully appropriated. There have been 3 new ethanol plants built, and the district has had requests relating to 6 proposed for construction. Rod is also planning to attend the May 16th meeting of the compact administration and will provide further details on status of the UBB.

Sincerely

Dale Lambley, Chair
Water Quality Committee

Agenda

Big Blue River Compact Water Quality Committee Meeting

May 4, 2007 – 9:30 a.m. to 2:30 p.m.
Lower Big Blue NRD Office, Beatrice, NE

- I. Roundtable Introductions
- II. Update on WQ monitoring and TMDLs - Phil Barnes (10 min.)
 - Tom Stiles (10 min.)
 - Steve Walker (10 min.)
- III. Update on status of Tuttle Creek Lake - Steve Walker
Target Watershed Grant Project & Don Jones
- IV. Lunch Break: 11:30 a.m.
- V. Agencies & Partners Reports
- VI. Further Discussion

Proposed adjournment at 2:30 p.m.