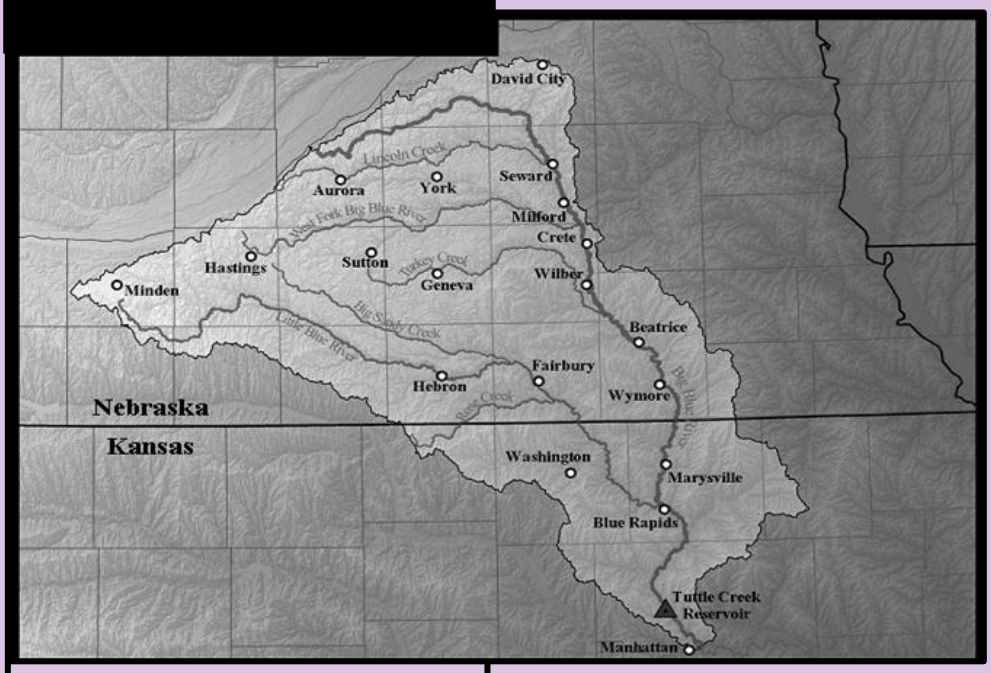
KANSAS-NEBRASKA
BIG BLUE RIVER COMPACT

FORTY THIRD
ANNUAL REPORT



FISCAL 2016

Manhattan, KS
May 18, 2016

KANSAS – NEBRASKA BIG BLUE RIVER

COMPACT ADMINISTRATION

May 17, 2017

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

The Honorable Sam Brownback
Governor of Kansas

The Honorable Pete Ricketts
Governor of Nebraska

Pursuant to Article VIII, Section 1of the Rules and Regulations of the Kansas-Nebraska Big Blue River Compact Administration, I submit the Forty Second Annual Report. The report covers the activities of the Administration of the Compact for the Fiscal Year 2016 while I was the presiding Federal Chairman.

Respectfully,

W. Don Nelson

Federal Compact Chairman

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Jackie McClaskey, Secretary

Governor Sam Brownback

May 2, 2016

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Dear Compact Members:

Kansas is hosting the annual meeting of the Big Blue River Compact Administration on May 18th, 2016 at 9:30 a.m. The meeting will be held in the Large Assembly room at the Offices of the Manhattan Fire Department, located at 2000 Denison Ave, Manhattan, KS.

A tentative agenda has been included with this meeting notice.

Sincerely,

David W Barfield

David W. Barfield, P.E.
Chief Engineer, Division of Water Resources
Kansas Commissioner

Kansas-Nebraska Big Blue River Compact Administration
43rd Annual Meeting

May 18, 2016
9:30 am
Manhattan Fire Department
2000 Denison Ave.
Manhattan, KS

AGENDA

1. Call to Order
2. Introductions and Announcements
3. Minutes and Report of the Forty Second Annual Meeting
4. Chairman's Report
5. Nebraska Report
6. Kansas Report
7. Secretary's Report
8. Treasurer and Budget Report
9. United States Geologic Report
10. Legal Committee Report
11. Engineering Committee Report
12. Water Quality Report
13. Resolutions Recognizing Former Compact Members
14. Old Business
15. New Business
16. Committee Membership and Special Assignments
17. Adjourn

MINUTES OF THE 43rd ANNUAL MEETING
OF THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION

Call to Order

The Forty-Third annual meeting of the Kansas-Nebraska Big Blue River Compact Administration was held on May 18, 2016 at the Manhattan Fire Department Headquarters in Manhattan, Kansas. The meeting was called to order at 9:40 am by Compact Chairman, W. Don Nelson.

Chairman Nelson invited those in attendance to introduce themselves.

Introductions

Those in attendance were:

W. Don Nelson	Compact Chairman
Chris Beightel	Kansas Department of Agriculture, Division of Water Resources, Secretary
Sharon Schwartz	Kansas State Representative, Kansas Compact Advisor
David Barfield	Chief Engineer, Kansas Department of Agriculture, Division of Water Resources
Jeff Fassett	Nebraska Department of Natural Resources, Nebraska Compact Representative
Amy Zoller	Nebraska Department of Natural Resources, Treasurer
Jeremy Gehle	Nebraska Department of Natural Resources, Data Collection
Kari Burgert	Nebraska Department of Natural Resources
LeRoy Sievers	Nebraska Department of Natural Resources, Legal Counsel
Robert Large	Chief Council for Kansas Department of Agriculture
Larry Moore	Nebraska Compact Advisor
Marie Krausnick	Upper Big Blue Natural Resources District, Water Department Manager
John Miller	Upper Big Blue Natural Resources District
David Eigenberg	Upper Big Blue Natural Resources District, General Manager
Kayla Sharp	Nebraska Department of Natural Resources
Jim Ostdiek	Nebraska Department of Natural Resources
Tom Stiles	Kansas Department of Health and Environment
Katie Tietsort	Topeka Field Office Water Commissioner, Kansas Department of Agriculture, Division of Water Resources
Ginger Pugh	Kansas Department of Agriculture, Division of Water Resources
Jason Lambrecht	United States Geological Survey
Robert Swanson	United States Geological Survey
Bob Lorenz	Lower Big Blue Natural Resources District, Director
Pam Dankenbring	Kansas Farm Bureau
Karen Hunter	Kansas Department of Agriculture, Division of Water Resources
Katie Burke	Kansas Department of Agriculture, Division of Conservation
Mike Onnen	Little Blue Natural Resources District, General Manager
Dave Clabaugh	Lower Big Blue Natural Resources District, General Manager

Approval of the Minutes of the 42nd Annual Meeting

Bob Lytle, Kansas, previously handled the annual meeting minutes. Bob retired in November 2015 and Chris Beightel, Kansas, will take over Bob's duties. Thanks to good coordination between the states, a draft report was ready to review at the annual meeting. The draft report had two pages to be signed, then scanned

to be added to the report to finalize it. The commissioners discussed producing the annual report in-house due to the reduced need for hard copies. Hard copies can be produced for those that would like them and a PDF file would be posted online for easy viewing, downloading and printing for others. Mr. Nelson suggested that the commission proceed with the assumption to do what is most expeditious and most cost effective to produce the report. Mr. Barfield noted that he read in the Compact Rules Article 4 on meetings, number 5 says that the minutes shall be preserved in a suitable manner and that the administration should determine what a suitable manner is. Mr. Beightel also noted that it stated that the compact secretary would distribute the minutes at the direction of the administration. Mr. Barfield stated that both states maintained websites with the reports available for download on them. Mr. Barfield moved that the minutes for the 42nd annual meeting be approved. The motion was seconded by Mr. Fassett, and passed.

Chairman's Report

Chairman Nelson noted that he has continued to meet with the water managers and the agencies involved at the state and local levels for planning and land management, and that he has attended a lot of conferences over the past year and continued to travel throughout the basin to keep abreast of water issues.

Nebraska Report

Jeff Fassett, Director of the Nebraska Department of Natural Resources (NeDNR), started the report for Nebraska (Attachment A) noting that there were several new staff members in attendance for NeDNR. 2015 was a pretty variable water supply year. There were high rainfall events in parts of this basin that some folks are still suffering from, and other places not so much. There was no water administration in the Big Blue system. There were a few periods of water administration in the Little Blue during the year; Mr. Ostdiek will report more on those administration efforts. There were some intense rainfall events that affected this basin and other parts of Nebraska last year and already this year.

Concerning integrated water management planning, law changes about 12-14 years ago established Nebraska's approach to managing surface water and groundwater together in a manner that, over the long term, maintains a balance and prioritizes sustainability as the goal. NeDNR has been active in the integrated water management planning process all over the state, with approximately 20 integrated water management plans underway and at different levels of development or implementation. Two new voluntary integrated water management plans that address management of hydrologically connected groundwater and surface water in the Little Blue Basin have been initiated with the Little Blue Natural Resources District and the Tri-Basin Natural Resources District. These new planning processes, along with some new voluntary water use reporting processes, have been progressing well.

In addition to smaller natural resources district (NRD) specific voluntary integrated management planning activities, NeDNR is also involved in overarching basin planning projects that cuts across multiple NRDs. The basin planning processes are currently occurring in the Republican, Platte, and Niobrara River basin areas. These are challenging from a logistical standpoint but the processes are quite valuable, as has been heard from the water users.

Nebraska did not have a lot of legislative activity in the water arena this past year. There was one interesting proposal in the Niobrara River area. It instituted a new use of water right in Nebraska, driven by a unique situation in the Niobrara River Basin. The legislature had to work very hard but ultimately authorized the NeDNR to consider changes in types of use, from Hydro-Power water rights to other purposes.

In 2014 the Nebraska Legislature created a new Water Sustainability Fund. Authorized for ten years, it was a new way for Nebraska to invest in water projects across the state. The first round of applications resulted in nearly $11.5 million dollars in projects. The City of Hastings, located in the Little Blue River Basin, was

the recipient of some of these funds to help offset costs associated with new municipal water treatment facility.

Nebraska Water Administration Report

The Water Administration Activities in Nebraska was reported by Jim Ostdiek (Attachment B). The precipitation in the basin was up for the second straight year. Flow was good up until August when it fell off in the Little Blue only. There were only 9 days of administration for the year and everyone hopes that this year will be another good year. In the last ten days there have been reports of 3 to 7 inches of rain in the basin.

Upper Big Blue NRD Report

The new Upper Big Blue NRD Manager, David Eigenberg, provided his report along with a copy of the district's newsletter (Attachments C & D). The report covers well drilling activities and groundwater levels. Some data collection was delayed by wet field conditions. The newsletter is a quarterly newsletter and is not currently available electronically, but the district is in the process of updating its website to include this.

Little Blue NRD Report

Mike Onnen, Little Blue NRD Manager, provided his report (Attachment E) on the Little Blue. There were 46 new wells installed which is down considerably from the past years; higher installation prices seemed to be a factor. Currently there are 6,675 wells in the district. Groundwater levels were almost identical to last year. The district continues to monitor irrigation pumping across the district. Last year's average was 7.3" for all acres.

The district has held one integrated water management planning stakeholder meeting. The district has 22 stakeholders that are providing input for the plan.

The district performed a significant amount of water quality sampling again last year. Most of the samples were taken from areas where more intensive management strategies are being implemented. Those levels were 9.88 ppm. This summer the plan is to monitor the western portion of the district.

Last year the district cleaned debris out of portions of the Little Blue basin with funding from the environmental trust. Unfortunately, a storm washed the debris piles back into the stream.

The district completed its watershed management plan and is now looking for projects that might qualify for funding from Nebraska's Water Sustainability Fund.

Lower Big Blue NRD Report

Dave Clabaugh, Manager of the Lower Big Blue NRD, gave his report and provided handouts along with a copy of their most recent newsletter (Attachments F & G). Mr. Clabaugh recounted the effects of the May 6th, 2015 flood in the district. The Lower Big Blue NRD considers itself the watershed capital of Nebraska, and claims to have more watershed dams than any other NRD in the state. The district has over 280 dams and 12 different watersheds. On May 6, 2015, the district experienced a 500-year or perhaps 1000-year rain event. Less than two weeks later the district experienced a 100-year storm in about the same areas. The town of DeWitt is protected by one of the district's watershed dam systems, the Swan Creek structures. The district has 19 flood control dams in Swan Creek above DeWitt. During the storm 14 of those ran water through their emergency spillways. The emergency spillways are designed to take the water around the side of the dam and not over the top. The risk of the emergency spillway flow is that it could cut around the

back side of the dam. That caused concern but ultimately did not happen. The district is finishing the last project in the watershed this year. This was the last watershed in the Lower Big Blue that did not have any flood protection. The district cost shared with the state on this project. The town of Western on the map is in the middle of the Swan Creek watershed. Corn stalks were a big problem on the face of the dam. The district worked with FEMA to get them removed.

Spring groundwater levels in the district were up 1.34 ft. compared to last year. This last year the LBBNRD put in 45 extra monitoring wells for groundwater quantity and quality.

For all NRDs, high-capacity wells require a permit. Permits applications and approvals increased sharply when the district was discussing a well moratorium and groundwater controls after the 2012 dry year. The district amended its groundwater rules in 2014 and implemented a scoring criteria system for high-capacity wells. The number of well permits that get approved reduced significantly. Existing wells are exempt from the scoring requirements.

Kansas Report

David Barfield started the Kansas report (Attachment H). There was a Legislative session that had number of bills related to water. Several were in response to the water vision processes. The principal bill was Houses substitute for SB 337. Kansas does lot of work with compliance and enforcement in water use reporting. In 1989 KDA-DWR obtained the authority to levy civil penalties on water users who did not report their water use as required by law. Still, there are a small number who never report and just pay their fine and there was no further way to compel reporting. KDA-DWR went to the Legislature to remedy this. The legislature increased the penalty for non-reporting and gave KDA-DWR the ability to go after those not reporting.

KDA-DWR has been busy implementing some of the water management and conservation tools passed by last year's Legislature. One of the principal ones is Water Conservation Areas whereby an individual, or group of water users with a suite of water rights, can come to the chief engineer and seek a consent agreement that would facilitate the flexibility to move water around between their water rights in exchange for conservation to extend the life of the aquifer.

KDA-DWR is also working with Northwest Kansas Groundwater Management District No. 4 to implement a district-wide Local Enhanced Management Area (LEMA).

It has been a very active year developing new and amended regulations. KDA has a new, more public process by which it promulgates new regulations. The new process has been well received by the public and the regulations have been better because of it. One significant body of regulation currently under development is related to compliance and enforcement activities. In the past KDA-DWR has used a matrix relating fines to violation. Violators would first receive a notice of non-compliance (NONC) then, upon the second violation they would receive a civil penalty and a reduction in next year's use, and a third violation would receive a stronger penalty yet. Previously these were not in regulation and through the vision process it was determined that these should be put into regulation and more consistently applied.

Kansas continues to work with Nebraska and Colorado to implement the states' plans to ensure compliance with the Republican River Compact.

The United States Fish & Wildlife Service's Quivira National Wildlife Refuge in southcentral Kansas is a semi-saltwater complex, a wetland of international significance, and critical habitat for migratory birds, including some threatened and endangered species, along the Central Flyway. Quivira has complained for years that the flows necessary to maintain its wetland habitat have been impaired by upstream groundwater

use that is connected to the stream system, Rattlesnake Creek, that goes through Quivira. When voluntary efforts did not achieve reductions and improvement in flows, Quivira filed an impairment complaint. About 1600 water rights upstream are implicated in this complaint.

The City of Hays has very limited options for water. They are sort of the 'Las Vegas of Kansas' as they have very stringent water conservation requirements unlike anything else in Kansas. They purchased a ranch about 80 miles to the south after an extensive search for water resources, intending to use the ranch's water rights for their long-term water supply. The ranch was purchased in 1995, and the city is now in the process of converting the water rights from irrigation to municipal use. The Kansas Water Transfer Act requires an extra hearing process and other considerations when moving 2,000 acre-feet of water more than 35 miles.

Lastly, KDA-DWR has been very active in using the several regional groundwater models. The models are very good tools to inform water management decisions in groundwater systems and connected surface water systems. These groundwater models are helping in many of these complex water management decisions including Quivira and the City of Hays.

Larry Moore asked Mr. Barfield if water rights are site specific to the water right. Mr. Barfield confirmed that every water right has a specific point of diversion and authorized place of use. Mr. Moore then asked if there a distance that water can be moved from the original site. Mr. Barfield responded that Kansas law allows for change in water right, point of diversion, point of use, or use made of water or any combination. There is no specific limitation, but the Water Transfer Act says that if more than 2,000 acre-feet of water is moved more than 35 miles there is an extra process to go through. Mr. Moore said his question was more toward transferring surface water rights downstream. Mr. Barfield explained that in changes in point of diversion, for both surface water and groundwater, one of the requirements is that the proposed location has to be in the same local source of supply. So in terms of actually changing a point of diversion Kanas has restrictions.

Representative Swartz noted that the City of Hays transfer issue has been very controversial among farmers and agri-businesses because irrigated land will be turned to dry land and the ripple effects to those communities are significant. Mr. Barfield indicated that the City of Hays is finishing up converting three-fourths of the farm to dry land. But there is still a very active interest in this change process with respect to the quantity being allowed to change and to ensure the state is not allowing more water to come out of this area than can be sustained. Mr. Moore noted that the issue is somewhat similar to concerns with the NCORPE project up in the Republican River area.

Kansas Advisor, State Representative Sharon Schwartz reported on legislative issues providing a handout (Attachment I). Ms. Schwartz noted last year's report on the Republican River litigation between Nebraska and Kansas and was pleased to know that the states have formed a working group to resolve things rather than pursue lawsuits. Ms. Schwartz noted that with all the flooding last year the erosion is just as bad on the Kansas side as it is on the Nebraska side.

Ms. Schwartz co-chairs the joint committee for rules and regulations in Kansas. From the prospective of constituents and policy makers which is different, most people want to have things in statute, but they do not like the administration or agencies proposing something that they do not have a chance to review. The fact that some agencies now have open meetings to review new rules and regulations has helped.

There is one bill that has not passed out of the House Ag Committee or Senate Committee having to do with funding for the future of water projects. The bill proposes further taxing water users. Obviously that issue has been controversial behind the scenes, agriculture uses the largest percent of water in Kansas for irrigation, so they would be hit with the biggest bill for water. That bill has not gone anywhere.

There was a discussion about funding water projects. Jeff Fassett notes that Nebraska's $100 million Water Sustainability Fund comes from general fund appropriations and that approved projects are generally cost shared 60/40 between the state and local project proponents. Project applicants need to come to the table identifying where their 40% is coming from which is generally local tax revenue, other grants, other sources of money and gets matched up against the state dollars to then invest in the project. Don Nelson expanded on Mr. Fassett's answer by stating that the implementation of that law was preceded by probably three or four years of debate going back different legislative sessions and different committee chairs and you get into the permanent debate on who should pay the tax to raise the funds.
Mr. Nelson noted that Sen. Carlson, before he retired from the Nebraska Legislature, said water is a statewide benefit, water is of statewide importance, so the people are going to look to the state general fund to develop any large-scale water development project.

Ms. Schwartz indicated that she serves on a Blue Ribbon Task force in Kansas and will be having this debate in Kansas about their water project development. The task force has started the process of reviewing funding sources and has been charged to report in November. The process through the Governor's water vision has some focus areas for the future in water related issues including water quality, quantity, or dealing with silt in lakes. A bill that did pass, SB 412, had to do with allowing Water District #1 (Water One) of Johnson County to use an existing easement along the banks of the Kansas River to locate and construct a hydropower project. In addition, in Kansas there are water technology farms where irrigators have called for demonstration projects on whole field scales. Kansas is also looking at reallocating storage in the federal reservoirs. The U.S. Army Corps of Engineers is studying the impacts of converting unallocated storage at Melvern Reservoir to water supply. Kansas is also requesting that the Corps evaluate raising the permanent lake elevation at Kanopolis Reservoir by two feet to increase water storage there. Some of the ongoing projects that are implementing the water vision include the watershed restoration and protection strategy (WRAPS) program and the many stream bank stabilization projects in that program. Loss of reservoir storage to siltation is also a big topic in Kansas.

The climate and water administration report for Kansas was presented by Katie Tietsort, Water Commissioner at the Topeka Field Office, who provided a handout (Attachment J). Over the last year, the Big Blue River Basin in Kansas received between 30 and 45 inches of precipitation. Generally wet conditions exist this year. Temperatures in 2015 remained generally normal. Streamflow was lower than the median, however, flows stayed above minimum desirable streamflow (MDS) criteria and administration did not occur in the basin. Outside the basin there was MDS administration.

Reiterating previous information pertaining to compliance and enforcement activities, this continues to be a focus priority. The amendment to penalties for failure to submit a water use report will close a loophole in reporting. Also, increasing the overall cap of civil penalties to $10,000 per violation should increase compliance.

Secretary's Report

The 42nd annual report for the 2015 annual meeting held in Manhattan, Kansas was finalized. The administration directed acting Secretary Chris Beightel to determine best choice for production and distribution of the annual report.

Treasurer and Budget Report

Amy Zoller made her first appearance as treasurer for the administration and provided handouts of the Treasurer's Report and Budget Report Analysis (Attachment K). At the end of the fiscal year, the balance was approximately $21,211; up $925.62 from the previous year. In addition to reviewing the year's income and expenditures, the administration reviewed the budget analysis, during which decreasing the budget for

printing was discussed. The administration adopted the treasurer's report. The administration adopted the fiscal budget for 2016-2017.

United States Geological Survey Report

Jason Lambrecht of the U.S. Geological Survey provided his report (Attachment L). The USGS operates two streamflow gaging stations for the Compact Administration. For water year 2015 USGS had some historic discharge flows at both locations. The annual mean discharge at the gage on the Big Blue River at Barneston was 2.7 times greater than that of 2014. The annual mean discharge at the gage on the Little Blue River at Hollenberg was 2.9 times greater than that of 2014.

Legal Committee Report

There was no legal report at the meeting.

Engineering Committee Report

A report was submitted to the administration and provided to all in attendance (Attachment M) by Jeremy Gehle. In 2015, flows on the Big Blue River near Barneston exceeded target flows throughout the year, and were below target flows on the Little Blue River near Hollenberg for 8 days.

Water Quality Report

Referring to the provided handout (Attachment N) Tom Stiles gave the Water Quality report. Generally, things are holding the same. Mr. Stiles noted that over time, atrazine concentrations have decreased considerably since they peaked in the 1990s. The current problems are with phosphorus and chlorophyll.

Impaired waters, TMDL. There are about 44 listings in Nebraska for streams and lakes and 33 listings for Kansas, in both states the listings are dominated by atrazine, bacteria (E. Coli) and eutrophication. Priority for TMDL development will be the stream phosphorus impairments in both sub-basins, slated for completion in 2019.

On the implementation front, Nebraska has seen a lot of watershed planning. Nebraska has become a leader in using watershed planning instead of TMDL's to address some of these impairments. They introduced the concept of Category 5-Alt. Kansas continues to implement the use of their WRAPS program. A lot of these programs are being used to avoid dredging. Kansas believes that efforts at the watershed scale have the greatest benefits.

Ammonia is the dominant point-source contaminant issue. Nebraska has adopted the newly recommended criteria to protect aquatic life, and Kansas is working to adopt the same criteria.

Nitrates in groundwater used for public water supply has been an ongoing problem in the basin. Treatment of the raw water is typically through blending with low nitrate water or running the water through reverse osmosis.

Jim Ostdiek asked about the streambank stabilization program that Kansas is doing through their WRAPS program, what kind of work was being done and how they got along with the Corps of Engineers. Mr. Stiles said that three agencies had come together to form a task force. The Corps has been very receptive because their facilities benefit from it. Kansas Department of Agriculture, Kansas Water Office, and the Division of Conservation all pool our monies to support the projects. Sharon Schwartz interjected that the ground cover around the banks has also helped tremendously, coming from no-till and cover crops.

Resolutions Recognizing Former Compact Members

The following resolutions were moved, seconded and unanimously approved by the Compact Administration:

A Resolution of Appreciation honoring James C. Schneider for his service to the Compact for 3 years (Attachment O).

There was discussion to make it compact protocol that the state bringing the resolution be given the duty to ensure delivery of the resolution to the proper people. So stipulated.

Old Business

Bob Lorenz, LBBNRD Director, reported that there are two initiatives available. USDA's Research Conservation Preservation Program (RCPP) which is being used extensively by Nebraska's state forestry program and their Conservation Reserve Enhancement Program (CREP) are resources for a proposal for sediment reduction in the basin and Tuttle Creek Reservoir would be one of the priorities. The project proponents are looking for matching funds. The proposal hasn't gotten much traction yet.

New Business

Mr. Barfield moved that the administration appoint Chris Beightel as the Secretary for the Administration. Mr. Fassett seconded the motion. The motion passed.

Mr. Fassett moved that the administration appoint Amy Zoller as the Treasurer for the Administration. Mr. Barfield seconded the motion. The motion passed.

The next meeting will be May 17, 2017 at York, Nebraska.

Committee Membership and Special Assignments

Committee appointments remained as follows:

Budget Committee – Amy Zoller (NE), Chris Beightel (KS)
Legal Committee – LeRoy Sievers (NE), Robert Large (KS)
Engineering Committee – Jeremy Gehle (NE), Katie Tietsort (KS), Chris Beightel (KS)
Water Quality Committee – Dan Howell (NE), Annette Kovar (NE), Mary Link (NE), Craig Romary (NE), Tom Stiles (KS)

No special assignments were made.

Adjournment

It was moved to adjourn, and seconded. Meeting adjourned.

W. Don Nelson, Compact Chairman

Gordon “Jeff” Fassett, Nebraska Commissioner

David W. Barfield, Kansas Commissioner

Attachment A

Nebraska State Report
Big Blue River Compact Annual Meeting
May 18, 2016

I would like to thank the Kansas Department of Agriculture for hosting the Big Blue River Compact annual meeting this year. In addition, the Nebraska Department of Natural Resources appreciates the efforts of all of the natural resources entities, agencies, and producers that are working together in managing the water resources of the Basin.

The year 2015 had variable water supply conditions when compared to 2014, depending on the Basin. In the Big Blue Basin, precipitation was generally above average and this resulted in no periods of water administration. In the Little Blue Basin, there were two periods of water administration due to slightly lower than average precipitation in localized areas, but there were also specific high rainfall events that resulted in short-term record high stage and discharge measurements recorded near Hollenberg, Nebraska.

Integrated management planning efforts have been ongoing in the State of Nebraska, and voluntary integrated management planning activities have increased significantly over the last year. The general purpose of an integrated management plan is to achieve and sustain a balance between hydrologically connected ground and surface water supplies and uses for the long term. The Department is currently working with 13 Natural Resource Districts (NRD) to implement integrated water management plans across the state. Three of these are voluntary plans that cover portions of the Lower Niobrara Basin and the Lower Platte South Basin. The Department is also working to develop eight additional voluntary integrated management plans that when combined these 21 plans will cover over 80 percent of the river basin in Nebraska. In addition, the Department has developed a voluntary surface water use online reporting tool. The system is being implemented incrementally, prioritizing those areas who are participating in integrated water management.

In summer 2015, two voluntary integrated management plans were initiated for the portions of the Tri-Basin and Little Blue NRD's that cover the Little Blue River Basin. A stakeholder process is in progress, withthe second set of stakeholder meetings occurring today and tomorrow in Minden and Davenport. To compliment this planning effort, the Department recently initiated a voluntary water use reporting system, and to date nearly 30 percent of Little Blue Basin surface water users have submitted voluntary reports for their 2015 usage. The Department has recognized great value in working with the Little Blue River Basin NRD's and its constituents in these capacities, and is looking forward to continued relationships to proactively protect existing hydrologically connected water supplies into the future.

In addition to integrated management planning, the Department is continuing to work with local natural resource districts to develop, implement and monitor basin-wide plans that cover the Upper and Lower Platte, Republican and Niobrara River Basins. The Lower Platte and Niobrara basin-wide plans are completely voluntary and are in various phases of development. The Republican River effort is a required basin-wide plan that is the result of the passing of LB 1098 in 2014. The Upper Platte River basin-wide plan, adopted in 2009, is nearing the end of its first 10-year increment and work has been initiated to develop a second increment of the water management plan which is also coordinated with water management obligations contained within the ESA based Platte River Recovery Implementation

Program. The planning for the second increment will include an in-depth stakeholder process which will be initiated next month.

New legislation was recently passed in 2016 that authorized the Department to consider a specific new type of change of use for the Nebraska Public Power District's Spencer Hydro-power facility water rights located on the Niobrara River on Boyd County. These water rights include both 1923 and a 1942 priority dates, along with other junior priority rights, and is thus positioned, to significantly influence water administration and river flows across a large portion of the Basin. The proposed purchase and change of type of use concept was agreed to by five natural resource districts, the Nebraska Game and Parks Commission and the Nebraska Public Power District who are parties to the agreement. These parties intend to purchase, transfer ownership and change the use current hydropower water right to an instream flow basin management water right for the purposes of protecting fish, wildlife and recreation on the Niobrara River.

The Nebraska Water Sustainability Fund, established in 2014 through LB 1098, accepted the first round of applications in December 2015. Twenty-seven applications were filed, and of these, 22 were determined by the Director of DNR to be satisfactory and were forwarded to the Nebraska Natural Resources Commission (NRC) for review scoring in accordance with the authorizing legislation. Seventeen of the applications were approved for funding in April, 2016, resulting in nearly $11.5 million dollars being awarded for water sustainability projects and studies. One of the projects is located in the Little Blue River Basin and was submitted by the City of Hastings to help offset costs associated with a new municipal water treatment facility. The next round of applications may be submitted to the NRC web site July 16th – 31st, 2016. The NRC has approximately $25 million dollars available for this next round of applications.

We want to thank Kansas for continuing the partnership to work together to resolve Republican River issues. I will now turn it over to Jim Ostdiek who will provide Nebraska's full water administration activities report for 2015.

Attachment B

2016 Big Blue River Compact Administration Report

2015 Water Administration Activities in Nebraska

Precipitation conditions in 2015 showed a second year of improvement from previous years. The Little and Big Blue River Basins received above average precipitation through the spring and summer. Consequently, surface water administration efforts were less extensive than in the previous years.

Little Blue Administration

The Little Blue's headwaters are near Minden and the river exits the state south of Fairbury. The basin encompasses some 2,700 square miles in all or parts of 10 counties. It has 249 irrigation permits and 132 storage rights.

On August 27th, the flow on the Little Blue at Hollenberg fell below the compact target and 119 junior irrigation rights and 132 storage rights in the basin were closed. The 130 senior irrigators in the basin were allowed to continue operating, but were closely regulated. Rain in the basin caused the flow at Hollenberg to exceed the target on September 1 allowing the basin to be opened to all junior irrigators and storage rights. The increased flow was short lived and flows fell below the compact target again on September 4 causing 119 junior irrigation rights and 132 storage rights in the basin to again be closed. The flow at Hollenberg exceeded the compact target on September 8 and exceeded the target flows for the remainder of the season and permits remained open through September 30th which is the end of the compact period for target flows.

Big Blue Administration

The headwaters of the Big Blue River are in Hamilton County, north of Aurora. At its farthest western extent, the basin's headwaters are northwest of Hastings. The Big Blue River exits the State south of Barneston, and continues to its junction with the Kansas River. The basin encompasses 4,450 square miles in all or parts of 15 counties, has 833 surface water irrigation permits and 359 storage permits.

The flow at Barneston exceeded the target through the entire administration period.

Concluding Thoughts

In general, the basin received above average rainfall and experienced slightly above average summer temperatures producing favorable conditions for row crops. DNR issued two rounds of closing notices for a total of 9 days in only the Little Blue basin. 2015 reporting period opened with flooding in both basins. In the Little Blue, flows at Hollenberg peaked at 59,200 CFS (22.97ft) on May 7th. In the Big Blue, flows at Barneston exceeded 37,000 CFS (28 ft, 8 feet over flood stage) on May 8th.

Attachment C

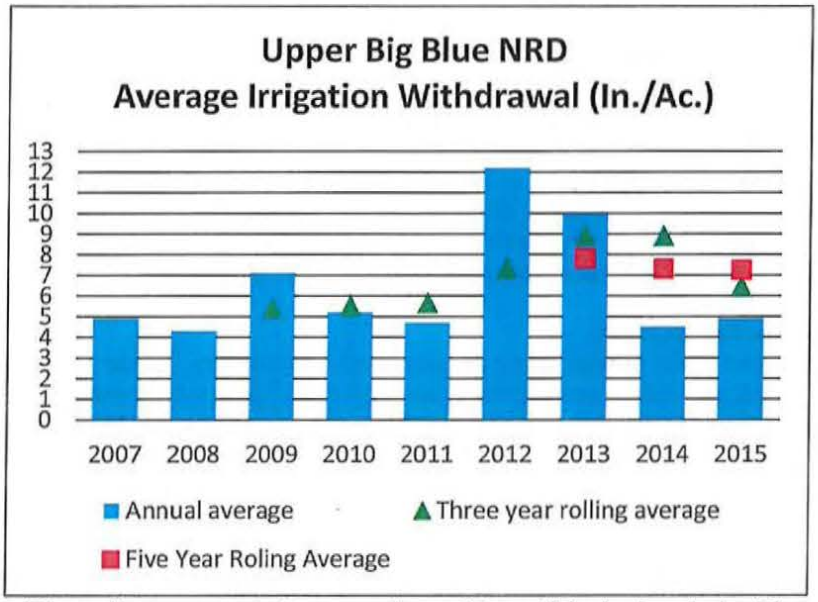
Kansas-Nebraska Big Blue River Compact
Nebraska Report - Upper Big Blue NRD
Rod DeBuhr, Assistant Manager
May 18,2016

Well Drilling Activities
One hundred sixty-six permits were issued for irrigation wells (106 new & 60 replacements) in 2015. At the end of 2015 there were registered 12,187 irrigation wells in the District. This is an increase of 52 active irrigation wells compared to the end of 2014.

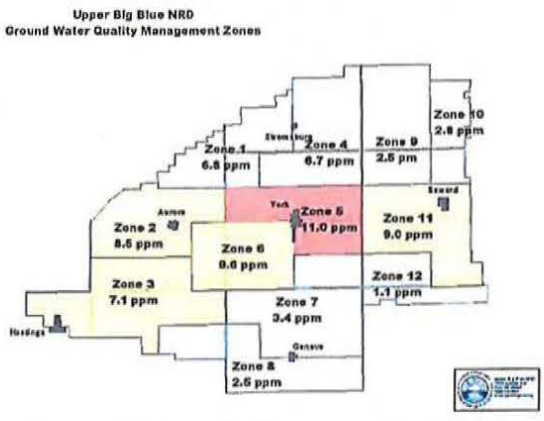
Groundwater Level Changes
The average groundwater level change for the District from spring 2014 to spring 2015 was a rise of 1.42 feet. Rainfall this spring has delayed completion of groundwater level measurements this spring.

Certified Irrigated Acres
Mandatory reporting of irrigated acres and other water uses began in 2006. As of January 1, 2016, there were 1,230,097 groundwater irrigated acres certified by the NRD. This represents an increase of 16,675 acres since January 1, 2015.

Groundwater Withdrawal
Mandatory reporting of groundwater withdrawal began in 2007. 2015 was the ninth year that groundwater withdrawal reports were required in the Upper Big Blue NRD. Metering became mandatory on all wells effective January 1, 2016. Staff is currently inspecting meter installations. The average groundwater withdrawal for irrigation in 2015 was 4.9 inches per acre. The graph to the left shows the average annual withdrawal for irrigation over the past 9 years.



Groundwater Quality
Nitrate
The District is divided into twelve management zones for groundwater quality management. The primary groundwater quality management concern is nitrate. Four zones are currently designated a Phase II management area and one (Zone 5) is designated a Phase III management area. Phase II & III management requires farm operators to attend a training session on best management practices related to fertilizer and irrigation management. It also requires deep soil sampling, irrigation scheduling and annual BMP reports. Farm operators in phase II & III must schedule irrigation using soil moisture sensors in at least one field. In a phase III management zone anhydrous ammonia fertilizer applied from November 1st through February 29th must include a nitrification inhibitor. The timing of application of nitrogen fertilizers is restricted District wide. The District is also working with the City of Hastings and the Little Blue NRD on a special water quality management area to address nitrate contamination in the Hastings Wellhead Protection Area. There are currently over 1,000 farm operators in the District required to attend nitrogen management training.



Arsenic, Selenium and Uranium
Potential groundwater contaminants such as arsenic, selenium and uranium occur in many areas. These constituents are associated with sediments in the aquifer as well as the unsaturated zone above the aquifer. Recent groundwater quality investigations near Hastings,

Nebraska as well as other parts of the mid-west indicate that these naturally occurring contaminants may be released into the groundwater as a result of increased ag. chemical contamination such as nitrate. The District has completed the first year of a three-year project to sample wells in the District for these contaminants.

Dakota Aquifer
The District just started a water sampling program for the Dakota aquifer. The Dakota is used in the eastern part of the District for domestic wells where other sources are very limited. High commodity prices and drought conditions in 2012 and 2013 prompted construction of irrigation wells in the Dakota. Concerns have been raised over the impact that Dakota aquifer irrigation wells may have on the domestic groundwater supply. The quality of water in the Dakota can be "hit and miss" as to suitability for domestic and irrigation uses. It is unclear to what degree further development of the aquifer could impact water quality or domestic supplies to existing wells.

CROP-TIP
CROP-TIP is an irrigation and best management practice demonstration near York, Nebraska sponsored by the District and Cornerstone Bank. The purpose of the project is to show producers ways to reduce groundwater withdrawal and reduce nitrate leaching through improvements in irrigation methods. Wheat was grown on the 20-acre demonstration field in 2015, followed by a variety of cover crops. On May 6th corn was planted directly in to the cover crop residue. The benefits of irrigation scheduling and the use of more environmentally friendly methods of fertilizer application, crop rotation and cover crops are being demonstrated.

Nebraska Agricultural Water Management Demonstration Network
This program encourages producers to improve irrigation scheduling using Etgages and Watermark sensors to determine crop water needs. The Etgage simulates crop water use through evaporation through a ceramic and green canvas membrane. Watermark sensors are used to measure soil moisture in a nearby field to confirm the ETgage's accuracy. This program began in the Upper Big Blue NRD in 2005 with a collaborative effort with the University of Nebraska Extension and 18 collaborators. The program is now being implemented in several NRDs and over 2,000 collaborators. The Upper Big Blue NRD sells this equipment to irrigators at a reduced cost to encourage adoption of the scheduling practices.

Soil and Water Conservation Cost-share Assistance
In FY 2014-15 the District funded 43 soil and water conservation projects with landowners. These ranged from irrigation practices such as buried pipelines and conversion to subsurface drip irrigation to construction of terraces, waterways, planting of trees for windbreaks & enhancing wildlife. Funds totaling $113,532.63 came from the Nebraska Soil and Water Conservation Program ($90,262.24) and local NRD property tax revenue ($23,270.39).

Groundwater Modeling
The Upper Big Blue NRD contracted with a consulting firm to prepare a Blue Basin groundwater model to identify the hydrologic connection of the aquifer and the Blue River system. The District has completed fully transient sub-regional model in a portion of Seward County. The District will be meeting with representative of the Department of Natural Resources later this month to discuss model details and the potential for future modeling efforts.

Wellhead Protection Planning
The District continues to assist communities to develop Wellhead Protection Area (WHPA) Plans. There are currently 26 communities that have approved WHPA plans. The District also assists communities with implementation of some plan components. These include water sample collection, analysis from rural wells and soil samples collected from the unsaturated zone for nitrates. To evaluate potential for future contamination and potential public water well sites.

New District Headquarters
On March 30, 2016 the District opened for business at their new headquarters at 319 E 25th St. in York. The new facilities are built on 10 acres and includes an office building with meeting rooms totaling 13,650 sq. ft. on the main floor and a 9,000 sq. ft. storage building with vehicle parking, tree cooler, water and soils laboratories and maintenance shop.

Visit our Website
You can learn all about the District's programs and activities at www.upperbigblue.org.

Attachment D

FORESTRY DEPARTMENT ISSUE • MARCH 2016

UPPER BIG BLUE NATURAL RESOURCES DISTRICT

BLUEPRINT

Let Us Tell You a Story About Tom's Journey

"I hear that you like trees and that you like to watch the weather," said John Turnbull, NRD General Manager, to a new employee named Tom Johnson. Tom had been hired in the spring of 2011 to help with District-wide tree planting at the Upper Big Blue NRD. Tom grew up in Osceola, Nebraska and even as a boy he enjoyed watching the weather and chasing an occasional storm. As an adult he would become a professional weather watcher for the National Weather Service.

Tom explained to Turnbull that weather and nature are two of his greatest passions. As a result, Turnbull hired Tom to help care for the Bruce L. Anderson Recreation Area at Recharge Lake that the Upper Big Blue NRD manages in York. Tom's duties included working with campers who were visiting and setting up at the RV Camping Pads and Dedicated Tent Camping Area.

"I love being outside talking to the people, plus I am a nature nut, so it was the perfect job for me," stated Tom. During the afternoon of March 19, 2013, something strange was happening to Tom. He felt numbness in his left hand and forearm. "Just a sore ache from the mornings work," he thought. But by the time he drove back home that night to Osceola, he began losing some of the feeling in his left leg. He thought going to bed early would remedy a long and physical day, but when he awoke the following morning, he was unable to get out of bed. Tom had suffered a stroke. He rolled out of bed and crawled to the phone.

In the days that followed, fear and uncertainty confirmed that the road back to recovery would be long and painful. Tom pushed his limits every-day in physical therapy at Madonna Rehabilitation Hospital in Lincoln. From March 23 through May 3, 2013, Tom would build his body up as his brain retrained his left-side limbs to become ambulatory once more. Then another 3 ½ months of more physical therapy at York General Hospital would further define his will and determination to regain all that the stroke had taken from him.

The staff at the Upper Big Blue NRD would pay him visits. Prayers and phone calls would come pouring in to offer words of encouragement and support. We wanted him back, and he desperately wanted to come back to work. We were missing our comrade who was so skilled at helping people feel welcome and comfortable at Recharge Lake. Now he was relying on the skill of caregivers to help him feel a level of comfort and healing.

Some of Recharge Lake's repeat RV campers would call the NRD office and ask about Tom. He had an audience of patrons that cared for him just as much as he cared for them. By April 2014, Tom felt he was well enough to come back to work. He continues to heal as he continually cares for those who camp overnight. Often times, campers will call the office to find out if Tom will be working a particular weekend. "It's like the equivalent to a pat on the back when I hear that our repeat visitors are asking for my work schedule," stated Tom. "I'm back where I belong. And, I'm thrilled to be here. In the beginning I didn't think I would make it back. I am very blessed."

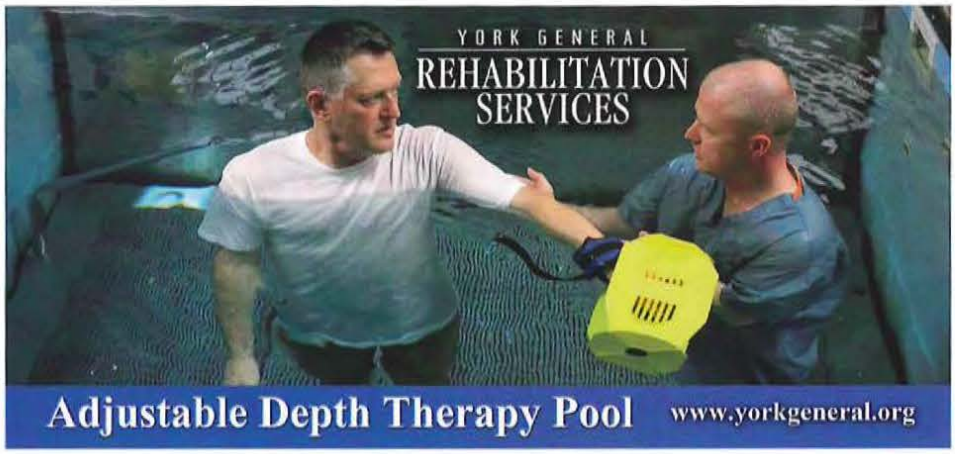
(Continued on page 2)

IN THIS ISSUE . . .

(continued from page 1)

In 2015, Tom became a finalist for the national Thomas Jefferson Award as a Cooperative Weather Observer. Tom is getting better, and Recharge Lake has become a second home for Tom as he interacts with park visitors and observes the weather that rolls across the undulating plains leading into the recreation area.

One NRD employee wrote this about Tom: "The responsibilities of balancing his weather observation work with his community volunteerism, is an outstanding attribute profiling hard work and uncompromising dedication. He possesses outstanding leadership skills, and by his citizenship he has made a significant impact to our District, and to his hometown of Osceola. He is respected by his employee peers in our office, our board of directors, other employees at neighboring districts, as well as those customers who visit our office. He is often mentioned as an empathetic mentor to our younger employees. Tom commands respect not just by action, but by deed. He has a refreshing character trait that many folks seem to lack in this day and age, because he sincerely listens, deeply cares, and acts with compassion. I cannot begin to tell you how refreshing that is. I have personally benefitted from his vast knowledge and expertise regarding weather observations. Tom has educated me in many aspects concerning climatic conditions that I use in my day-to-day work."



A billboard ad, promoting the rehabilitation services at York General Hospital, featured a picture of Tom as he worked on regaining strength and motor skills following a stroke he suffered in March of 2013. (Photo used with permission from York General Hospital.)

Indeed, we have all benefitted from Tom's compassion and his dedication. He is part of our NRD family. And it is all of us that have gained the most from knowing Tom. Welcome back dear friend, we are thrilled that you are here also.

Upper Big Blue NRD Announces Two $2,000 Burke Scholarship Winners and Selects Alternate

YORK, NE-- The Upper Big Blue NRD Board of Directors have selected Ms. Claire White of Exeter, and Ms. Morgan Cool of Hampton, as the 2015 Raymond A. Burke Scholarship recipients. The two $2,000 scholarships will be officially awarded after both winners have completed their fall semesters of college. Mr. Alex Lohrmeyer of Aurora was selected by the board as an alternate.

According to her scholarship application, Ms. White is attending Concordia University and is pursuing a degree in Environmental Science with an emphasis in Geography. She grew up on a farm in Exeter and has been an active member in her college and hometown community. In her application she expressed: "Through my studies, I realized I love geology, hydrology, and learning about the atmosphere. I want to be able to be on the cutting edge of all the positive things going on in Nebraska that are keeping the land productive."

In Ms. Cool's scholarship application, she responded that she will be attending Southeast Community College in Beatrice, where she will pursue a degree in Diversified Agriculture. She is an active member of FFA, 4-H, and AQHA. Ms. Cool will be interning at DuPont Pioneer Research Center in York. In her application she explained: "I have chosen this field of study because I really enjoy working with crops and animals. I also enjoy working with farmers to help them receive a better yield from their crops."

Selected as the alternate, Mr. Lohrmeyer is planning on attending Chadron State College, and desires to obtain a degree in Natural Resources. Should any of the Burke Scholarship winners fail to meet their requirements, then the alternate becomes next in line.

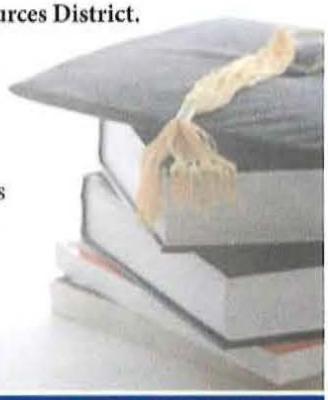
The family of Raymond A. Burke established this scholarship in his memory for the benefit of students interested in pursuing careers in natural resources related fields. Mr. Burke was a land improvement contractor and farmer with very strong interests in the management of conservation and educating young people. He served for 40 years on the elected boards of the Polk County Soil & Water Conservation District and the Upper Big Blue Natural Resources District. Below are the qualifications necessary for applying for the annual Raymond A. Burke Scholarship:

Qualifications: This scholarship is for full-time students who:

- **Reside in the Upper Big Blue Natural Resources District.**
- **Attend a two-year/four-year Nebraska college or university.**
- **Are enrolled in a course of study leading to an associate or undergraduate degree in a natural resources related field.**
- **Intend to enter the work force upon graduation in a "hands-on" position such as a soil or water conservationist, resources manager, or engineering technician.**
- **Are not family members of staff/board of directors of the Upper Big Blue Natural Resources District.**

The deadline for submitting the 2016 Burke Scholarship application is Friday, April 22, 2016.

An application form can be obtained by calling Scott Snell, Public Relations Manager, at the Upper Big Blue NRD at (402) 362-6601, or online at: www.upperbigblue.org (under the "Education" tab, then "Burke Scholarship" right side-bar tab).



Upper Big Blue NRD Has Change in General Managers

Thanks John for the Memories

John Turnbull, General Manager of the Upper Big Blue NRD, retired on January 30th. He was a pivotal fixture in Nebraska's Natural Resources District system and water policy issues for the state.

John C. Turnbull graduated from the University of Nebraska in 1966, majoring in Agronomy. He faithfully served our nation in the U.S. Army from 1966-69 which included flying helicopters in South Vietnam. Mr. Turnbull joined the Nebraska Army National Guard in 1981, and flew with them until his military retirement 17 years later. After managing several sod farms in Washington State and Colorado during 1970-75, Mr. Turnbull joined Nebraska's Natural Resources District (NRD) system by becoming the General Manager of the Tri-Basin NRD in 1975. In 1978, Mr. Turnbull assumed the General Manager position at the Upper Big Blue NRD and finished his 41st year of service at Nebraska's NRDs.

GOVERNOR APPOINTMENTS

2006 - Present	Appointed by Governor Heineman to the Environmental Quality Council.
2002 - 2009	Appointed by Governor Johanns and subsequently re-appointed by Governor Heineman to the Water Policy Task Force.
1999 - 2004	Appointed by Governor Johanns to the Task Force on Agriculture and Natural Resources Education.
1991 - 1992	Appointed by Governor Nelson to the Citizens Advisory Committee for the State Solid Waste Management Plan.
1983 - 1988	Appointed by Governor Kerry to the Nebraska Boundary Commission.
1977	Appointed by Governor Exon to Nebraska's Advisory Committee to the U.S. Fish and Wildlife Service Principles and Standards Study of the Platte River Refuge.

SPECIAL ASSIGNMENTS

2006 – 2016	NARD Employee Benefits & NARD Risk Management Pool Association (Health Insurance) Loss Control Committees.
1999 - 2009	Upper Big Blue NRD representative for the Platte River Cooperative Hydrology Study.

Upper Big Blue NRD Board of Directors member Larry Moore presents John Turnbull with a framed print to honor his service to the NRD at the January 21, 2016 board meeting.

1997-98	Member of Nebraska Natural Resources Commission state-wide special committee (LB1085) charged with recommending NRD reorganization and efficiency improvements.
1989-93	Member of local government group for solid waste planning effort in an eight county region around York.

AWARDS

2001	Named Master Conservationist, along with his wife Gloria, by the *Omaha World-Herald* and University of Nebraska IANR (The only residential Master Conservationist Award given statewide in 2001).

Enjoy your retirement John! As the old Irish proverb goes:

May the road rise up to meet you.
May the wind be always at your back.
May the sun shine warm upon your face;
the rains fall soft upon your fields
and until we meet again,
may God hold you in the palm of His hand.

Welcome Dave Eigenberg

The Upper Big Blue NRD Board of Directors is pleased to announce that Mr. Dave Eigenberg has accepted the position of General Manager of the NRD to replace John Turnbull who retired January 30th. Mr. Eigenberg will begin work on March 1, 2016. In the interim, Rod DeBuhr, Upper Big Blue NRD Assistant General Manager, will be assuming managerial duties until Mr. Eigenberg arrives.

Mr. Eigenberg is completing his ninth year as the Deputy Executive Director of the Georgia Soil & Water Conservation Commission at Athens, Georgia. From 2003 to 2007 he was the Division Director for Agricultural Water Conservation with the Georgia Soil & Water Conservation Commission. He spent two years as a Research Associate with Albany State University—Flint River Water Policy and Planning Center, in Albany, Georgia.

Previously, Mr. Eigenberg was the General Manager of the Lower Republican NRD at Alma, Nebraska, from 1998 to 2001. He was also a University of Nebraska Extension Educator for a time, as well as an Extension Technologist for the University at Clay Center and Lincoln. Prior to his completion of his Masters Degree in Mechanized Systems Management, (Minor in Water Resources Planning and Management) at UNL, he managed the family farm near Glenvil, Nebraska. His Bachelors degree is in Agriculture, with a minor in Ag Economics.

Welcome Dave, we wish you the best at your new helm and home!

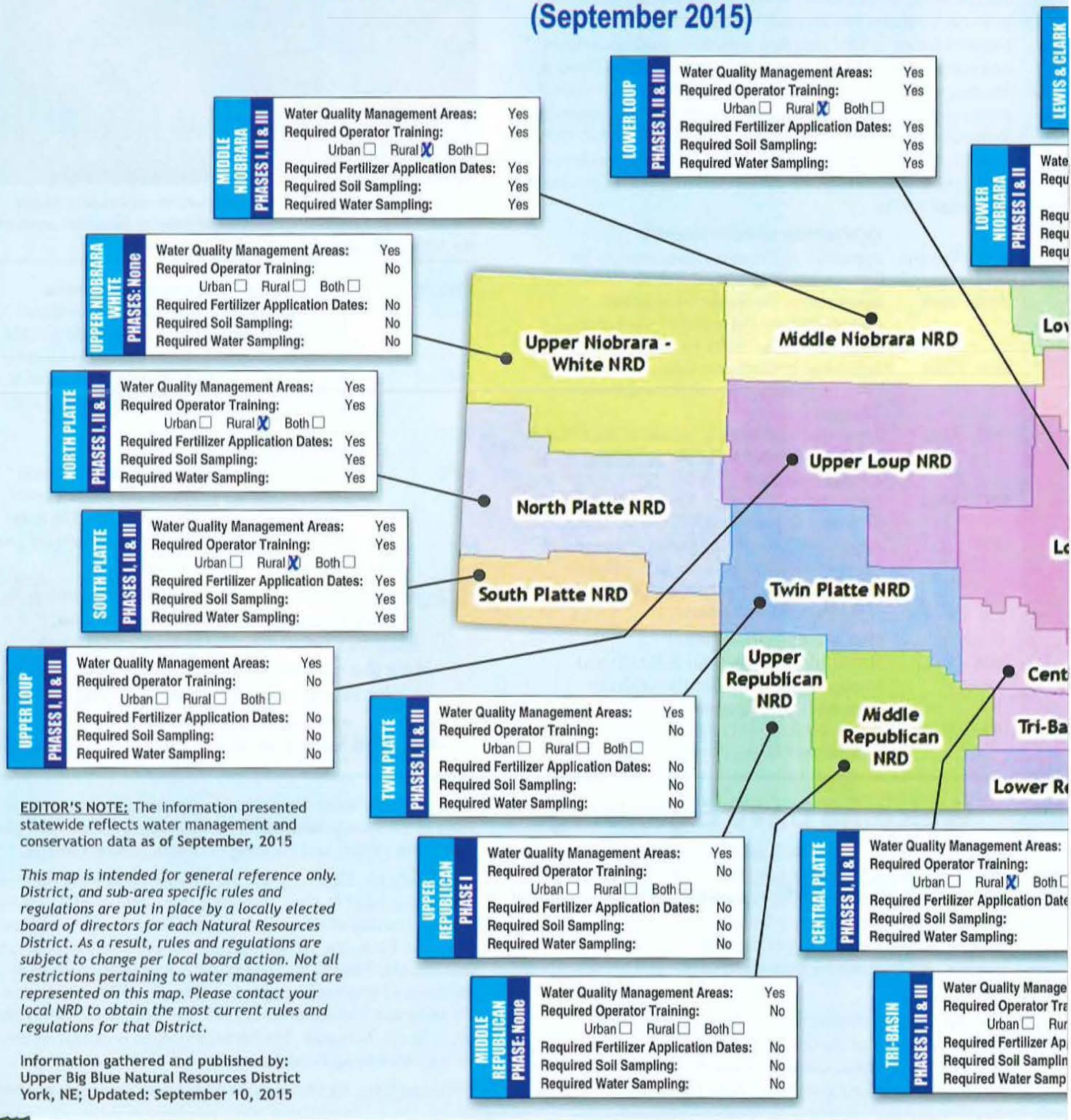
NRDs Are Managing Water Statewide:

Nebraska's 23 Natural Resources Districts (NRDs) are uniquely positioned to manage the conservation of the state's n governance. Because of Nebraska's diverse geology, climatology, and hydrology, each NRD—and it's locally elected b regulations, and programs that can assist its District's citizens and protect local natural resources for future generations regulations in particular include allocating groundwater, augmenting surface water, requiring flow meters, instituting wel reports, and restricting the expansion of irrigated acres. Individual NRDs use these regulations in different combinatior their respective geographic areas of concern. Below is a map showing all 23 NRDs and their most recent status of wat

So why does this matter to you? Quite simply, Nebraska's NRDs are working to ensure that you and future generation enjoyment of our natural resources. Nebraska's NRDs: Protecting Lives, Protecting Property, and Protecting the Futur

NRD GROUNDWATER QUALITY REGULATIONS ACROSS NEBRA

(September 2015)



EDITOR'S NOTE: The information presented statewide reflects water management and conservation data as of September, 2015

This map is intended for general reference only. District, and sub-area specific rules and regulations are put in place by a locally elected board of directors for each Natural Resources District. As a result, rules and regulations are subject to change per local board action. Not all restrictions pertaining to water management are represented on this map. Please contact your local NRD to obtain the most current rules and regulations for that District.

Information gathered and published by:
Upper Big Blue Natural Resources District
York, NE; Updated: September 10, 2015

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and to different degrees depending on
management techniques.

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KA

In reference to Phase I, II, III and IV areas, NRDs utilize trigger points signifying specific levels of nitrate in groundwater through monitoring well testing. These triggers are put in place to protect the drinking water supply. Trigger points may vary within the individual NRD boundary, but are relative to the safe drinking water standards mandated federally. A district may have all, none, or part of its districts designated as Phase I, II, III and IV areas, or any combination. The higher the Phase, the more implementation of management efforts for protection is required. It is best to consult with your local NRD to identify with their programs. The phases listed here are only the phases currently triggered.

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes

ality Management Areas:	Yes
l Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
l Fertilizer Application Dates:	Yes
l Soil Sampling:	Yes
l Water Sampling:	Yes

UPPER ELKHORN PHASES I, II & III

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes

LOWER ELKHORN PHASES I & II

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	No
Required Soil Sampling:	Yes
Required Water Sampling:	Yes

PAPIO-MISSOURI RIVER PHASES: None

Water Quality Management Areas:	No
Required Operator Training:	No
Urban ☐ Rural ☐ Both ☐	
Required Fertilizer Application Dates:	No
Required Soil Sampling:	No
Required Water Sampling:	No

LOWER PLATTE NORTH

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☐ Both ☒	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes (on new wells)

LOWER PLATTE SOUTH PHASE III

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☐ Both ☒	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes, on new wells

NEMAHA PHASES I & II

Water Quality Management Areas:	Yes
Required Operator Training:	No
Urban ☐ Rural ☐ Both ☐	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	No
Required Water Sampling:	No

LOWER BIG BLUE PHASES I & II

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes

LITTLE BLUE PHASES I, II, III & IV

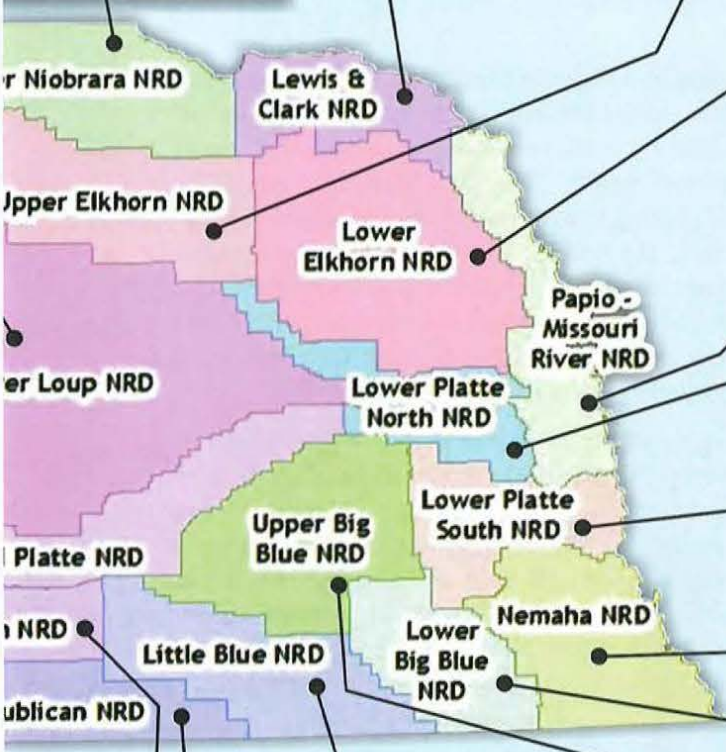
Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☐ Both ☒	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	No

UPPER BIG BLUE PHASES I, II & III

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	Yes
Required Soil Sampling:	Yes
Required Water Sampling:	Yes

LOWER REPUBLICAN PHASES I, II, III & IV

Water Quality Management Areas:	Yes
Required Operator Training:	Yes
Urban ☐ Rural ☒ Both ☐	
Required Fertilizer Application Dates:	No
Required Soil Sampling:	No
Required Water Sampling:	No



UPDATE:
Upper Big Blue NRD New Headquarters Facility

By John Turnbull, General Manager Emeritus

View of new Upper Big Blue NRD headquarters looking north from the paved entrance. Scheduled move-in timeline is mid-March to April 2016.

The new NRD headquarters facility project began with the Board Chairman appointing five Upper Big Blue NRD Board of Directors members to form a Building Committee in June 2013. Four months later, the committee recommended that the District build a new office and shop facility after discussions on the needs of the District and tours of offices in several NRDs.

The Board of Directors decided in November 2013 to proceed with studying new office locations and building design concepts. Several sites were considered in and near the City of York ending in the purchase of property from the City in May 2014. After the review of bids from nine banks, tax exempt financing was arranged in June 2014 with Cornerstone Bank in York.

A design-build firm was selected in August 2014 from four firms that expressed interest. The architectural design was completed along with the cost of construction in time for the November 2014 Board of Directors meeting. At that meeting, the Board approved a contract with Ayars & Ayars of Lincoln, to construct the new NRD headquarters facility.

Construction began in late March 2015, but the wet weather slowed the work on the foundation of the office building. Once the conditions were overcome, construction progressed rapidly. The shop, equipment building, and paved parking lots were essentially complete by mid-October. The exterior brick and roof were completed by year-end, allowing the exterior to be completely closed off for indoor winter work by late December 2015. The wiring, heating, cooling, plumbing, fire sprinklers, insulation, dry-walling, and painting are now being finished.

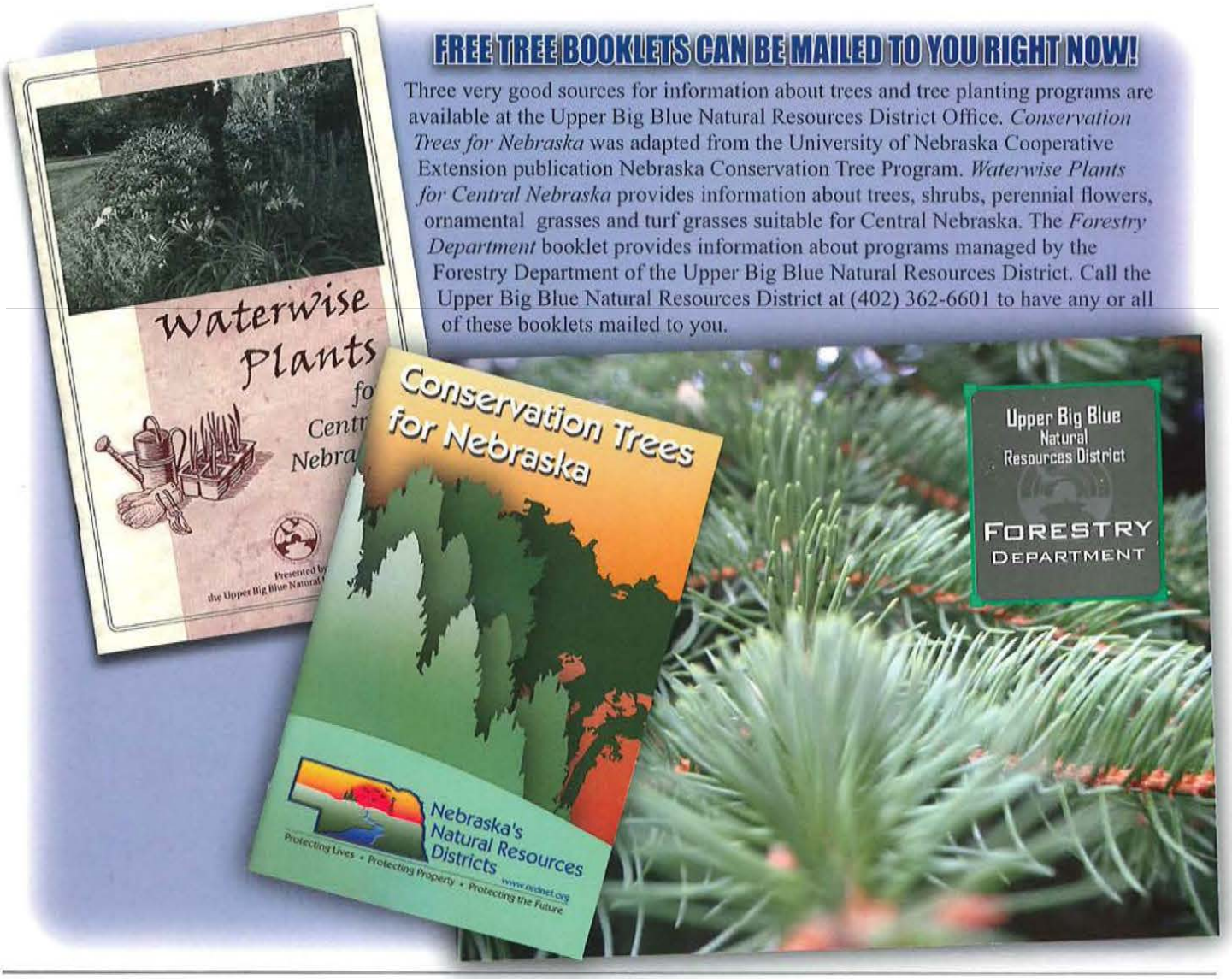
It is expected that the entire facility will be finished two months shy of three years from the initial discussions of need for more space. In the short time that the land was purchased, financing arranged, contract signed, and building designed, all resulting construction is scheduled for completion by April 2016. Much time was spent doing detailed planning and design, but it is paying off. In fact, change orders have only increased the contract cost by 1% as the work continues to remain on schedule.

The new address for the Upper Big Blue NRD office is:
319 East 25th Street
York, NE 68467

The phone number will remain the same:
402-362-6601

FREE TREE BOOKLETS CAN BE MAILED TO YOU RIGHT NOW!

Three very good sources for information about trees and tree planting programs are available at the Upper Big Blue Natural Resources District Office. *Conservation Trees for Nebraska* was adapted from the University of Nebraska Cooperative Extension publication Nebraska Conservation Tree Program. *Waterwise Plants for Central Nebraska* provides information about trees, shrubs, perennial flowers, ornamental grasses and turf grasses suitable for Central Nebraska. The *Forestry Department* booklet provides information about programs managed by the Forestry Department of the Upper Big Blue Natural Resources District. Call the Upper Big Blue Natural Resources District at (402) 362-6601 to have any or all of these booklets mailed to you.



BLUEPRINT

The BLUEPRINT newsletter is published quarterly by the Upper Big Blue Natural Resources District.

The BLUEPRINT editor may be reached by phone at (402) 362-6601; by fax at (402) 362-1849; by email at ssnell@upperbigblue.org; or by mail at:

Upper Big Blue NRD
105 N. Lincoln Avenue
York, Nebraska 68467
www.upperbigblue.org

2016 CONSERVATION TREE PROGRAM ORDER FORM

Name: _____ County (for pick up) _____

Address: _____ Town: _____

Zip: _____ Telephone: _____ Home

_____ Work/Cell

RESERVE SEEDLINGS EARLY

- *Each species must be ordered in lots of 25.*
- *Seedlings must be planted within the District's boundaries.*
- *You will be contacted after April 1 to pick up your order.*
- *The Upper Big Blue NRD will plant orders of 150 or more for an additional 75¢/tree.*
- *Call 402-362-6601 for assistance creating a planting plan.*

Please check the location where you prefer to pick up your seedlings:

☐ Upper Big Blue NRD
319 E 25th Street
York NE

☐ Adams County NRCS
☐ Butler County NRCS
☐ Clay County NRCS
☐ Fillmore County NRCS
☐ Hamilton County NRCS
☐ Polk County NRCS
☐ Saline County NRCS
☐ Seward County NRCS

CONIFERS	DECIDUOUS	FRUIT & NUT TREES	SHRUBS	
_____ Austrian Pine	_____ ***Cottonwood***	_____ Black Cherry	_____ ***American Plum***	_____ ***Gray Dogwood***
_____ Black Hills Spruce	_____ ***Diamond Willow***	_____ ***Black Walnut***	_____ Amur Maple	_____ Honeysuckle
_____ Colorado Blue Spruce	_____ ***Green Ash***	_____ ***Bur Oak***	_____ Buffaloberry	_____ Lilac
_____ Concolor Fir	_____ Hackberry	_____ Catalpa	_____ Caragana	_____ Nanking Cherry
_____ Eastern Red Cedar	_____ Hawthorne	_____ Crabapple	_____ Chokeberry	_____ ***Redosier Dogwood***
_____ Jack Pine	_____ Honeylocust	_____ ***Hazelnut***	_____ ***Chokecherry***	_____ Russian Almond
_____ Nebraska Scotch Pine	_____ ***Peachleaf Willow***	_____ Kentucky Coffeetree	_____ Cotoneaster	_____ Sandcherry
_____ Norway Spruce	_____ Red Maple	_____ Manchurian Apricot	_____ ***Elderberry***	_____ ***Serviceberry***
_____ Ponderosa Pine	_____ Russian Olive	_____ Northern Pecan	_____ ***False Indigo***	_____ Skunkbush Sumac
_____ White Pine	_____ ***Sandbar Willow***	_____ Red Oak	_____ Golden Currant	_____ Snowberry
	_____ ***Silver Maple***	_____ ***Swamp White Oak***		_____ Villosa Lilac

Seedlings in ***Italics*** are recommended for use in Riparian Forest Buffer Projects along streams.

Number of Seedlings Ordered _____ x 95¢ / tree ..... $ _____

Sales Tax: (7.5% - David City, York); (7% - Geneva, Hastings, Osceola, Seward); (6.5% - Clay Center, Wilber); (5.5% - Aurora) **Sales Tax % _____ $ _____**

YOUR COST $ _____

***Effective April 1, 2016 - Geneva Sales Tax = 7.5%**

Please return with payment to:

Upper Big Blue NRD
105 N Lincoln Ave. • York, NE 68467
402-362-6601 • www.upperbigblue.org

NRD Use Only

Payment Rec'd _____ Date Paid _____ Check # _____

Trees Received By _____ Date _____

Special Instructions _____

Attachment E

KANSAS-NEBRASKA BIG BLUE RIVER COMPACT
Nebraska Report - Little Blue NRD

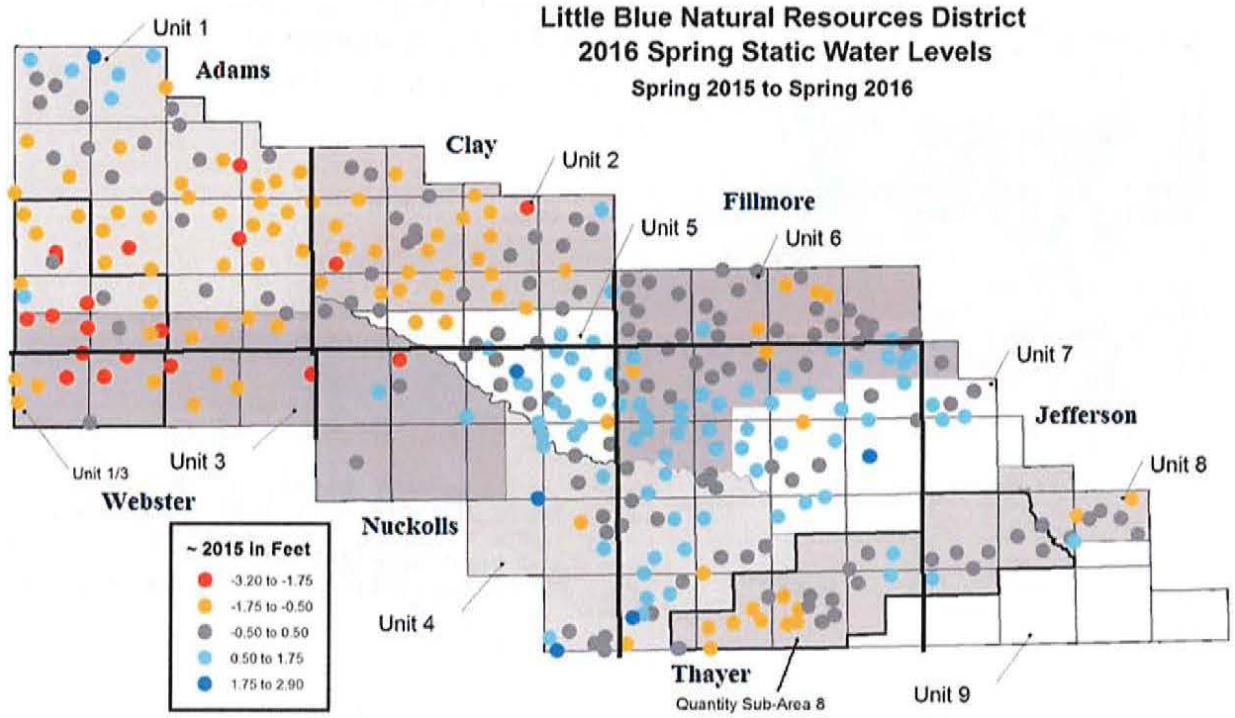
Mike Onnen, Manager
May 18, 2016

Groundwater Activity

There were 46 new irrigation wells drilled in the LBNRD in 2015 which brings the total number of active irrigation wells to 6,675. With adoption of new rules in May of 2014, the District has been busy certifying irrigated acres, installing flow meters on all high capacity water wells and training operators, both dryland and irrigated producers. The certification of acres and meters installation deadline is March 31, 2017.

Groundwater Levels

Spring 2016 groundwater levels were virtually the same as spring 2015 with a district-wide decline recorded at -0.08'. The levels generally rose in the eastern half of the District and fell slightly in the western half with those levels reflecting the rainfall distribution from west to east.

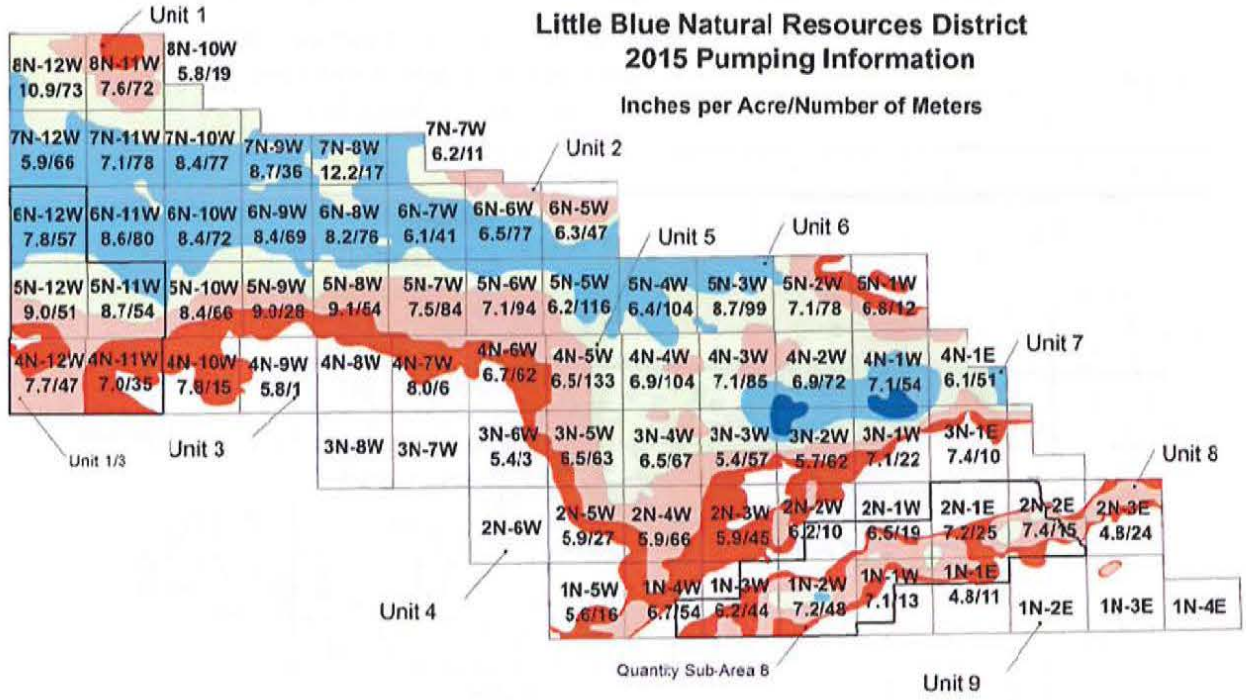


Our data collection activities have been valuable in assessing the long-term impacts of development and pumpage throughout the District. We have noted several locations, especially in the poorer water areas which will likely required additional management strategies in the near future. The Board has begun putting together a list of ideas to address these areas and will further discuss rule changes in the coming months.

We also continue to track the irrigation pumpage across the district. For 2015, the average water pumped was 7.3 inches for all irrigate acres which is slightly below the 10-year average of 7.93". Pivot applications at 6.5" were 0.9" less than the 10-year average of 7.4".

Historic Irrigation Pumpage Data				
Year	All Acres	Pivot	Gravity	DNR
2006	10.0	7.8	13.0	8.5
2007	7.9	6.8	10.6	8.5
2008	5.2	5.2	7.3	8.5
2009	8.8	8.8	13.5	8.5
2010	6.2	6.2	9.1	8.5
2011	5.9	5.9	8.2	8.5
2012	12.1	12.1	16.8	8.5
2013	9.8	9.0	15.5	8.5
2014	6.1	5.6	8.8	8.5
2015	7.3	6.5	11.9	8.5
	7.93	7.39	11.47	

We also tracked pumpage by townships to get an idea of how much water is being used and where. The map below shows the "Aquifer Risk Areas" identified in our 2011 Hydrogeologic Study with the number of inches applied and the number of wells reported by township. Over the long term, this kind of information will help us assess the impacts of pumping and recharge.

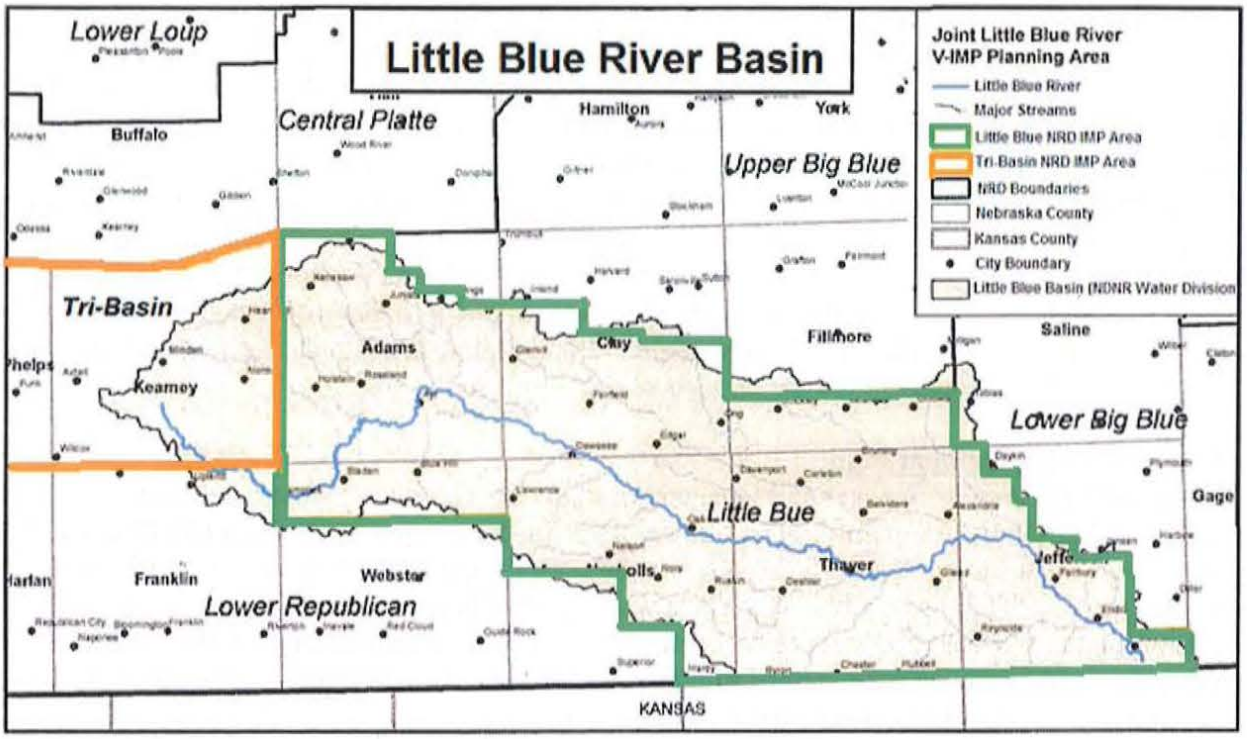


Integrated Water Management Planning

The District has initiated an Integrated Water Management Plan for the District in cooperation with the Nebraska DNR. Because the upper reaches of the Little Blue River Basin lie in the Tri-Basin NRD, we are coordinating our effort with their district which is doing an IMP for that portion of the Basin in their District simultaneously.

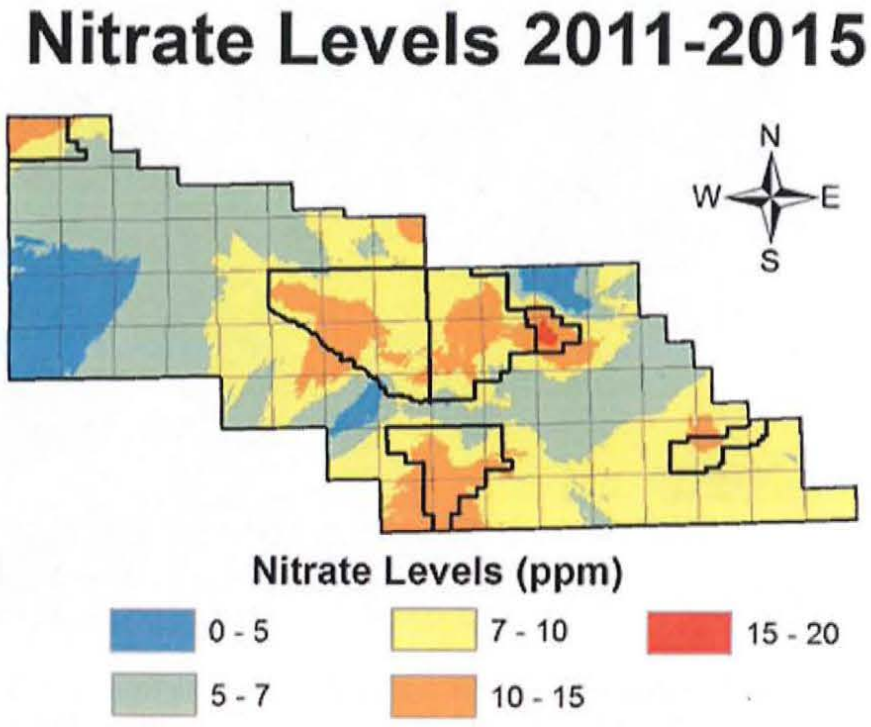
Little Blue NRD has assembled a 22-member water stakeholder group which is providing the local connection, feedback on ideas and ultimately helping to develop the goals and objectives for the IMP. Tri-Basin has an 18-member group serving their district. The two Districts will have some joint meetings to discuss matters of mutual interest, and some meetings separately to

work out details of our individual District's plans. We have had one joint stakeholder meeting to date and the second one for the Little Blue NRD is scheduled for May 19th in Davenport.



Water Quality

A total of 995 water samples were collected last summer as part of the Little Blue NRD's ongoing water quality monitoring program. Many of those samples were collected from existing identified water quality management areas, thus the average nitrate levels were a little higher than a district-wide sampling. The average was 9.88 ppm. The chart at right shows the areas of the district where nitrates are highest. The District now has 402,650 acres, or 26% of the District's land area, in intensive management areas where soils sampling and annual reporting of farm activities are required.



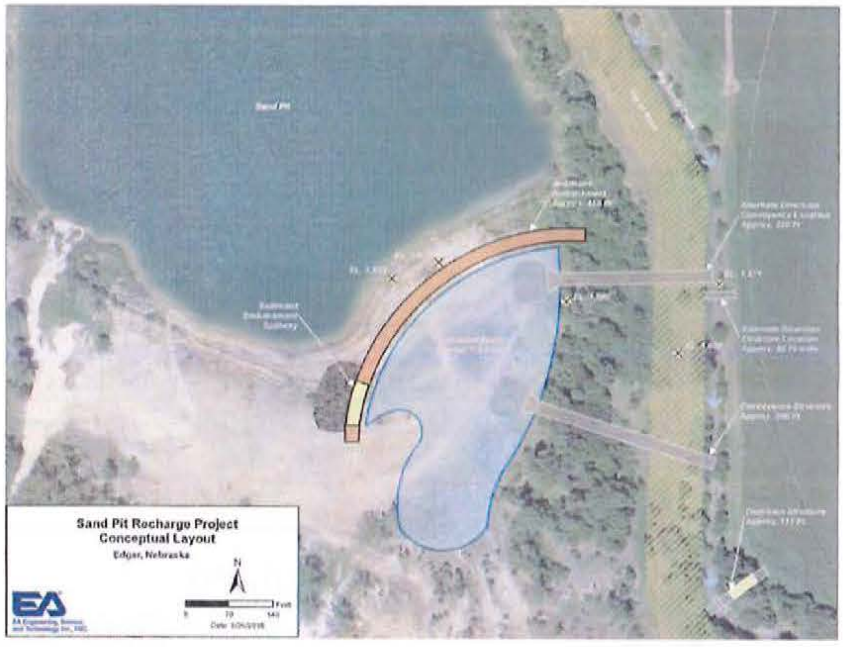
Channel Cleanout Work

The District worked with the Twin Valley Weed Management District to do approximately 14 miles of Spring Creek channel cleanout with the work extending from Hebron to 4 miles southwest of Deshler. The project was in response to the extreme flooding event of early May 2015. The storm did extensive damage and left debris widespread through the Spring Creek Drainage. The project included removal of log jams and debris, removal of leaning trees and the stacking of residue a short distance from the channel. The plan was for those piles to be burned by the landowners after they had had a chance to dry down some. However, the Spring Creek Drainage was deluged with another storm of near 100 year magnitude again this spring on April 27th. Unfortunately, some of the debris piles were washed back into the stream.

Deshler, which is located at the juncture of two large creeks, has experienced numerous intense storm events in recent years and has requested the District help to identify flood risk reduction measures. We are working with NEMA, DNR's Flood Plain Management Section and the City to come up with a strategy to reduce impacts of the floods in the area.

Watershed Management Plan

The District finished its Watershed Management Plan last fall which focuses on primarily surface and groundwater quality. It was a precursor for the Integrated Management Plan which we are now engaged in. The plan lays the groundwork for the next 25 years of activities and enables the District to be eligible for various water quality fund grants. Last year, we applied for an Environmental Trust grant to conduct some bendway wier construction in Jefferson County, practices similar to those river stabilization projects completed in Washington County Kansas, however, our project was not selected for grant funds.



We are examining several projects which were identified for possible groundwater recharge and surface water quality improvement. One such project is a project which would capture excess surface water flows and drop them onto the fill sand section of an old gravel pit where it can be filtered before entering the water body of the pit, about 30 feet below channel grade. We have several areas where such applications might be possible.

We are also working on several programmatic and educational activities to foster stewardship efforts in the Little Blue Basin. A Watershed Coordinator was hired to spearhead these efforts.

Flood Control Structures Stop Thousands of Acre Feet of Water to Protect Dewitt from More Severe Flooding

(Dewitt, NE) The Lower Big Blue Natural Resources District reports its 26 flood structures in the drainage area above Dewitt, Nebraska all worked as designed in Wednesday night and Thursday morning's historic rain event last week.

"A network of flood control projects located above Dewitt protected the community from an estimated total of 25,000 acre feet of flood water," said Dave Clabaugh, Manager of the Lower Big Blue Natural Resources District. These structures are called Swan Creek and Lower Turkey Creek flood control projects. The remaining flood water the town is currently experiencing is due to the combination of the large amount of rainfall, intensity of the rainfall, and wide-span of the storm.

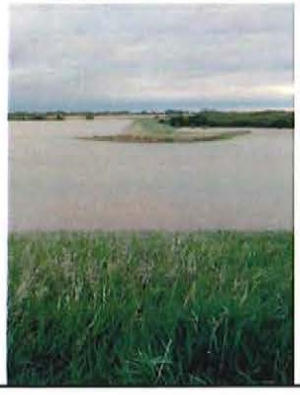
The 6 to 8 hour rain event is being called a "larger than a 100-year storm event" which typically measures 5.2 inches of rain dropped in a six hour period. For Wednesday's rain event, the entire Swan Creek basin measured 8 – 10 inches of rain in a 6 to 8 hour period. Some areas in the drainage area are reporting rainfall totals of between 10 to 13 inches in the 8 hour period. The Lower Turkey Creek basin measured 4 – 6 inches of rain in the 6 to 8 hour storm event. Water from the two creeks merge together just west of Dewitt. DeWitt reported 9.5 inches of rain fell just West of town.

"The Lower Big Blue Natural Resources District's flood control structures assisted in helping to limit the flood event targeting Dewitt and the surrounding area," said Scott Sobotka, Assistant Manager of the Lower Big Blue Natural Resources District. "Without these structures, Dewitt would have seen much more flood water throughout the town and higher flood water levels for a longer period of time. Without the flood control structures the situation would be even worse."

After reviewing the Swan Creek project, LBBNRD has determined 14 of the 19 flood control structures had water running through their emergency spillways. The rest had water running up to the emergency spillways. No emergency spillways were used in the Lower Turkey Creek project.

"The flood control structures are not designed to hold back runoff water from that large of a storm event. It was the intensity of the storm, the amount of rain and the location of where the rain fell that caused the flooding. " said Sobotka.

Swan 67 Rec. Area




Swan 12

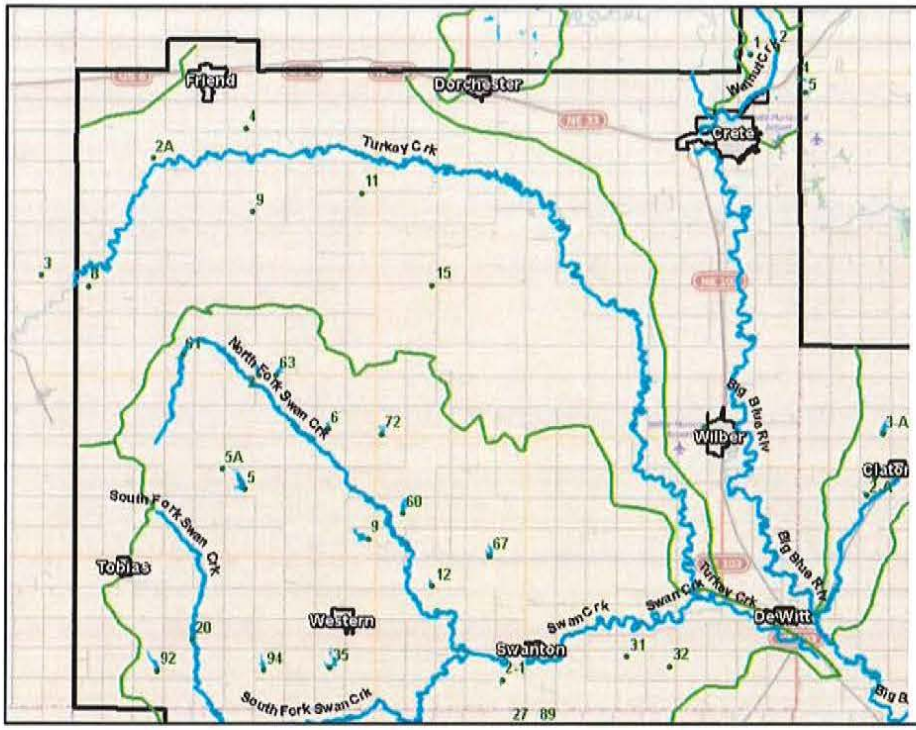

Swan 12


Swan 12


Swan 35

Swan 35

Swan 35



Turkey Creek Watershed

Turkey Creek Site 9

Turkey Creek Site 11

Turkey Creek Site 11

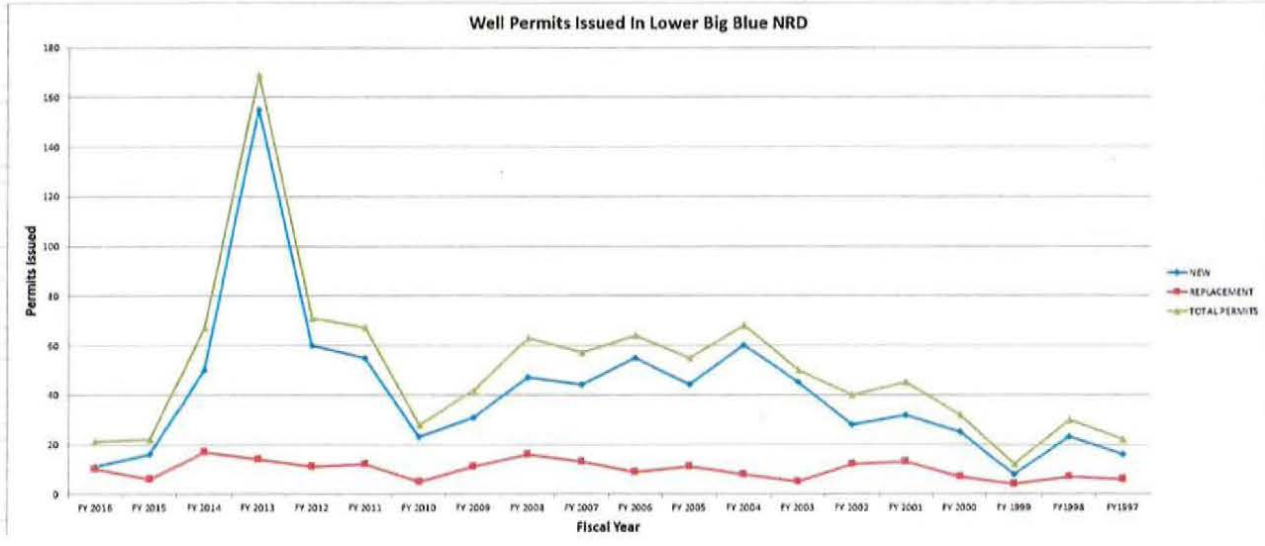
Spring 2016 Groundwater Level Measurements

The LBBNRD measures the static water level of 95 irrigation wells, 32 Blue River Compact wells and 45 dedicated monitoring wells around the District every Spring (usually the first week in April) and Fall (usually the first week in November). Spring 2016 county average readings are listed below as well as a district-wide graph (above) showing the levels since 1982.

County	No. of Wells	Change Spring '15 to Spring '16	Change Fall '15 to Spring '16
Gage	28	+ 1.88'	+ 2.49'
Jefferson	24	+ 1.39'	+ 2.94'
Saline	43	+ 1.19'	+ 1.77'
Blue River Comp.	32	+ 1.31'	+ 1.08'
Dedicated MW Net	45	- - - - - - - - BASELINE YEAR - - - - - - - - -	BASELINE YEAR - - -

WELL PERMITS ISSUED IN LOWER BIG BLUE NRD

	FY 2016	FY 2015	FY 2014	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005	FY 2004	FY 2003	FY 2002	FY 2001	FY 2000	FY 1999	FY1998	FY1997	
NEW	11	16	50	155	60	55	23	31	47	44	55	44	60	45	28	32	25	8	23	16	34.35714
REPLACEMENT	10	6	17	14	11	12	5	11	16	13	9	11	8	5	12	13	7	4	7	6	
TOTAL PERMITS	21	22	67	169	71	67	28	42	63	57	64	55	68	50	40	45	32	12	30	22	



Attachment F

THE BLUE BUZZ

LOWER BIG BLUE NRD

Protecting Lives. Protecting Property. Protecting the Future.

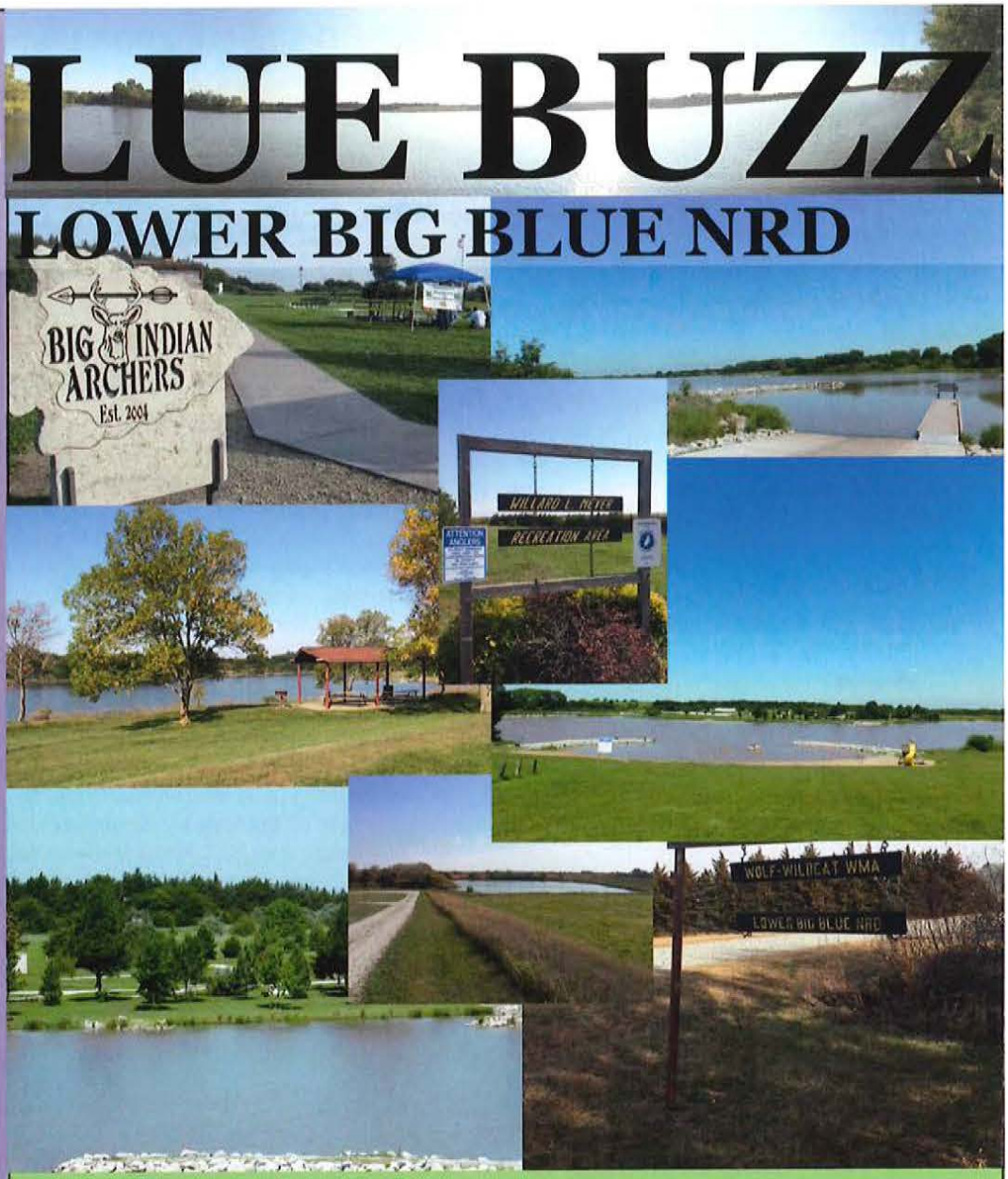
Lower Big Blue Natural Resources District

Watershed Capital of Nebraska

"Protecting Lives, Protecting Property, Protecting The Future"

805 Dorsey Street
Beatrice, NE 68310
Phone: (402) 228.3402
Fax: (402) 223.4441
www.lbbnrd.net

May 2016



Let the Fun Begin!

With all of the mild, albeit windy, days we've had early this spring, there have been plenty of opportunities for folks to get out and get a lot of work done. But, as the English proverb says, 'All work and no play makes Jack a dull boy.' Hopefully, then, you've been able to get away from it all in some form or fashion as well. If you haven't, let us be the first to invite you to visit one of our nine recreation areas around the District—you might be surprised to see some of the new amenities! You might even bring your copy of *The Blue Buzz* with you and read up on groundwater levels, District activities for all ages and upcoming programs and events. However you find relaxation, don't let this summer get away without experiencing everything the Lower Big Blue NRD has to offer.

Dam Maintenance

The Lower Big Blue NRD is responsible for the maintenance and upkeep of over 270 dams and grade stabilization structures in the District. This includes everything from tree, shrub, and debris removal to pest control. For proper functionality of these structures, the NRD is asking for help from landowners. Any construction or improvements (sediment removal and fill, buildings/houses, etc.) must be approved by the NRD Board of Directors prior to starting. Emergency spillways are to be maintained unobstructed (trees, farm equipment, buildings, etc.). Beavers and other creatures can also cause tubes to become plugged. Please notify the NRD if you see pest activity or anything out of the ordinary.

A Dirty Job...

Functionality of dams can be severely impacted by the accumulation of debris on trash racks and in risers (below).

LBBNRD Chemigation Inspection Update

Chemigation is the application of fertilizer or pesticides—herbicides, insecticides, fungicides, rodenticides, fumigants, spray adjuvants, and plant growth regulators—through an irrigation system. Beginning last year, the Lower Big Blue NRD transitioned from annual inspections of chemigation sites and equipment to a county-based three year rotation. This year inspections will be required for all renewal chemigation permits in Jefferson County, as well as for any new permit regardless of county location. Completed applications are due June 1, and fees are $60 for new permits and $20 for renewals.

Certifying Acres Underway District-wide

The Lower Big Blue Natural Resources District (LBBNRD) has currently begun the process of certifying irrigated acres throughout the district. Certifying irrigated acres is part of the updated Groundwater Management Plan Rules and Regulations (Chapter 12) that was adopted by the Board of Directors on March 27, 2014. The acres to be certified will be those acres irrigated by groundwater and surface water during the 2016 crop year. These acres will serve as the baseline data. Once the initial certification is complete, landowners will only need to notify the NRD if there is a change to their number of irrigated acres. The certification process will verify the number of acres being irrigated by surface water and groundwater wells, and will correct any errors in existing records. By knowing the location and number of irrigated acres, the NRD will be able to better protect current irrigators of existing irrigation rights. Additional groundwater management decisions can also be made to ensure that our most valuable resource is being used efficiently and effectively. The NRD wants certification to be as painless as possible for landowners. All landowners need to do is fill out, sign, and return the FSA Release of Information Form to the FSA, NRCS, or NRD office. Landowners will only be releasing the FSA Form 578 and associated maps. All the information the NRD needs will be on Form 578 and the associated maps. By signing this form, the landowner gives the NRD the privilege to access only your Form 578 from the FSA office. Please contact the NRD with any questions.

Lower Big Blue NRD Newsletter

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Questions or comments regarding the newsletter may be directed to the office of the Lower Big Blue NRD by phone at (402) 228.3402; by fax at (402) 223.4441; by email at weishahn@lbbnrd.net; or by mail at:

Lower Big Blue NRD
805 Dorsey Street
P.O. Box 826
Beatrice, NE 68310

The Lower Big Blue NRD is an Equal Opportunity Provider and Employer

Lower Big Blue NRD Board of Directors

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LaRita Sudik
Gage County NRCS Clerk
Jane Filipi
Saline County NRCS Clerk
Paula Schultz
Jefferson County NRCS Clerk

Attachment G

Spring 2016 Groundwater Level Measurements

The LBBNRD measures the static water level of 95 irrigation wells, 32 Blue River Compact wells and 45 dedicated monitoring wells around the District every Spring (usually the first week in April) and Fall (usually the first week in November). Spring 2016 county average readings are listed below as well as a district-wide graph (above) showing the levels since 1982.

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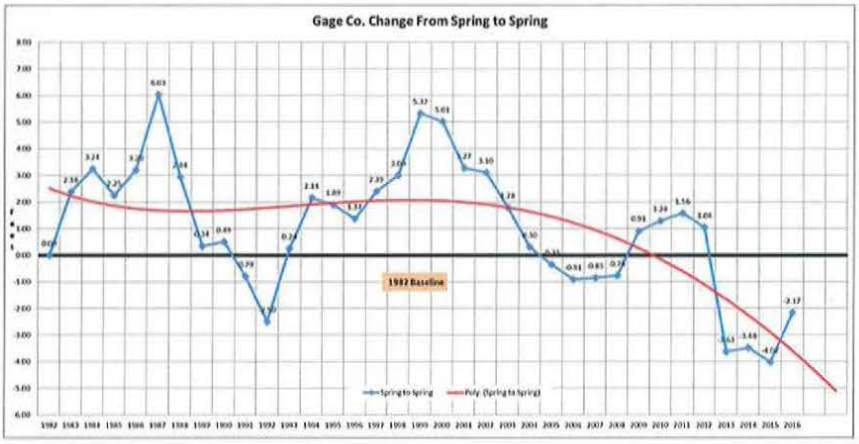
Blue River Comp.	32	+ 1.31'	+ 1.08'
Dedicated MW Net	45 - - - - - - - -	BASELINE YEAR - - - - - - - - -	BASELINE YEAR - - -

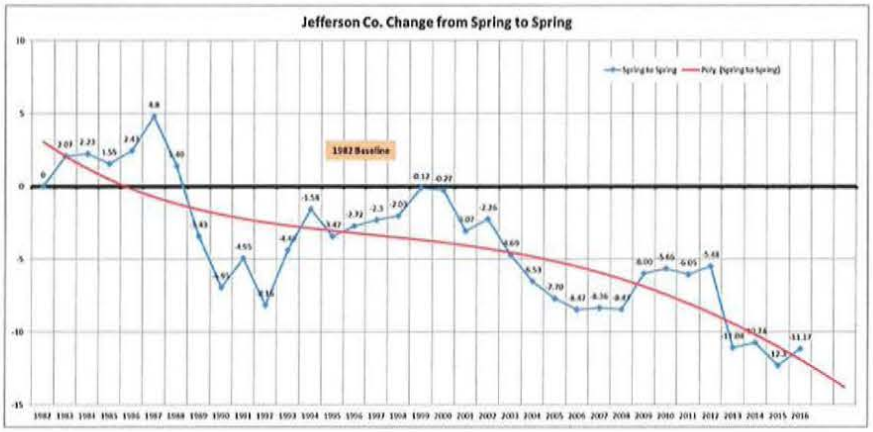
Gage County Report

The LBBNRD measures 28 wells in Gage County. Of those 28, only two wells exhibited a drop in the water level from last spring to this spring, while the other 26 showed increases. The overall county average change can be found for the time periods between last spring and this spring and last fall and this spring, respectively, in the table above. The highest statistical increase in water level in any one well in the county was 6.21 ft in the NE 1/4 of Section 28-5-6. The lowest statistical change n water level in any one well in the county was a drop of 1.39 ft in the NE 1/4 of the SE 1/4 of Section 1-2-5.



Jefferson County Report

The LBBNRD measures 24 wells in Jefferson County. Of those 24, only six wells exhibited a drop in the water level from last spring to this spring, while the other 18 showed increases. The overall county average change can be found for the time periods between last spring and this spring and last fall and this spring, respectively, in the table above. The highest statistical increase in water level in any one well in the county was 6.53 ft in the SW 1/4 of Section 5-2-4. The lowest statistical change in water level in any one well in the county was a drop of 2.17 ft in the SE 1/4 of Section 19-4-2.



Saline County Report

The LBBNRD measures 43 wells in Saline County. Of those 43, only seven wells exhibited a drop in the water level from last spring to this spring, while the other 36 showed increases. The overall county average change can be found for the time periods between last spring and this spring and last fall and this spring, respectively, in the table above. The highest statistical increase in water level in any one well in the county was 8.27 ft in the SW 1/4 of Section 20-8-4. The lowest statistical change in water level in any one well in the county was a drop of 3.04 ft in the SW 1/4 of the NE 1/4 of Section 13-8-1.

Free Family Fishing Day!

15th Annual Youth Fishing & Casting Derby

Sat. May 21, 2016

9:30-11:00 a.m.

At Willard Meyer Recreation Area (Swan 5)

Located: 3 miles east and 2 miles north of Tobias OR from Hwys 74 & 15, it's 5 miles west and 2 miles north

Everyone must pre-register by May 19th.
Check-In: 8:30-9:30 a.m.

Prizes & Free Hot Dog Lunch

Pre-Registration Form | Deadline May 19, 2016

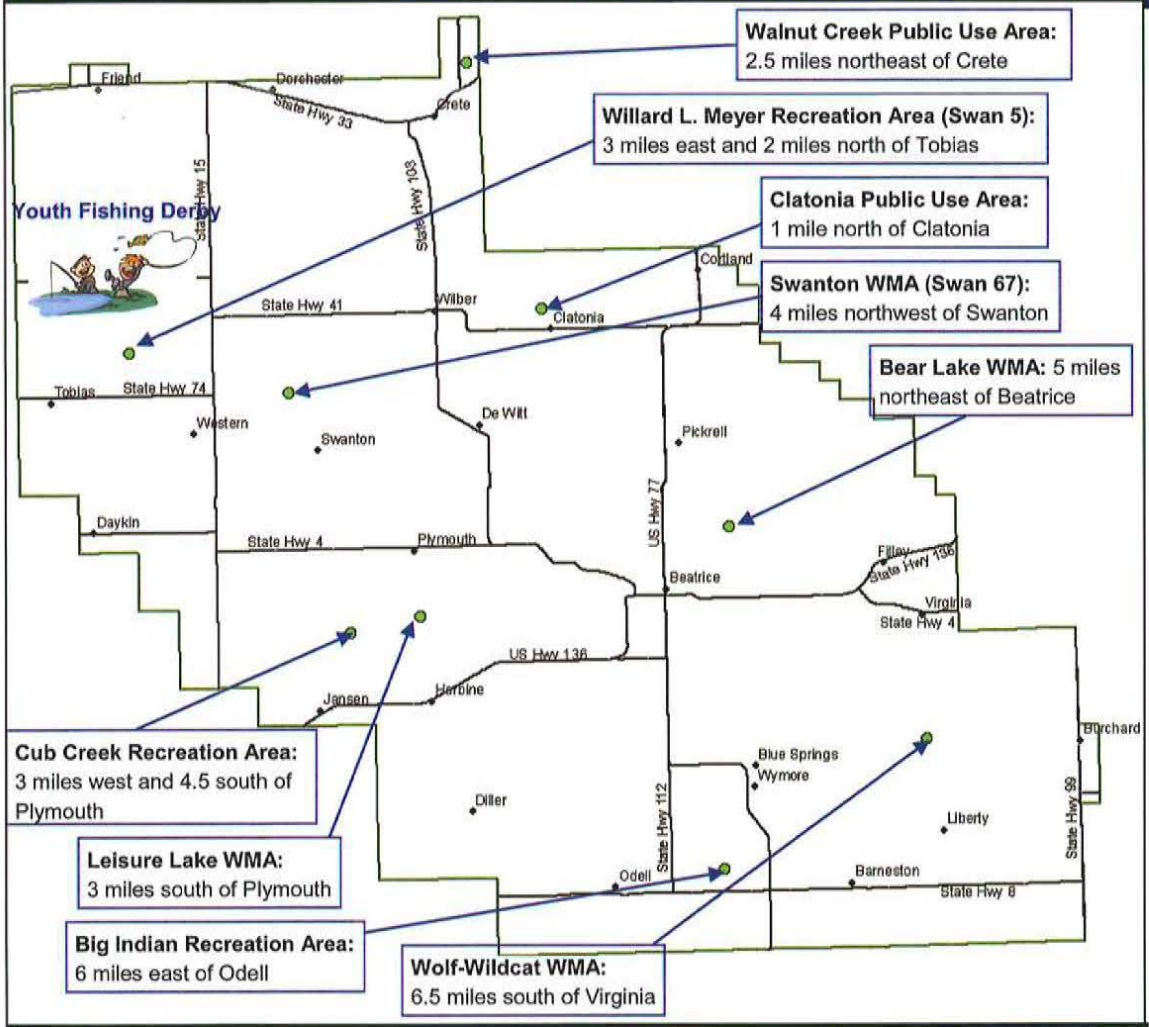
Complete and mail form to: Lower Big Blue NRD, PO Box 826, Beatrice, NE 68310
Call (402) 228.3402 or email: sobotka@lbbnrd.net
PLEASE PRINT CLEARLY

Name/Age/City:_____
Name/Age/City:_____
Name/Age/City:_____
Name/Age/City:_____
Total Number Eating Lunch:_____ Total Number of Rods/Reels Needed:_____
(Limited Rods/Reels Available)
Your Contact Information:_____
_____
_____

Pre-Registration is Required

Lower Big Blue NRD Recreation Area Locations

Camper Fees: $5.00/night non-electric; $10.00/night electric (where available)



For more information on individual recreation areas and amenities, stop by or contact the Lower Big Blue NRD. Smartphone users can download the NRD Outdoor Recreation Areas app from your app store.

Fishing Day Activities

- Adults & Kids Fish Free! (No license required)
- Medals in four age groups for Largest Fish, Smallest Fish and Most Fish Caught
- Norris Safety Demonstration
- Saline County Deputy Canine Handler Demonstration
- Youth Casting Contest
- Boat Rides with Boat Safety Presentation
- Nebraska Game & Parks Fishery Display
- Hands-On Archery Demonstration by Archery Club Members

For more information, call (402) 228.3402 or email sobotka@lbbnrd.net

Sponsored by Optimist Club of Beatrice, Lower Big Blue NRD & Swan 5 Advisory Council

Attachment H

Report of the Kansas Commissioner
to the
BIG BLUE RIVER COMP ACT ADMINISTRATION

2016 Annual Meeting
Manhattan, Kansas
May 18, 2016

1. Water Vision process: As I have reported on previously, during 2013 Governor Brownback issued a call to action to his Administration to develop a long-term plan for the future of water in Kansas. After an extensive stakeholder outreach process, including more than 500 events and more than 15,000 participants, a final draft of the Vision was presented to the Governor in November 2014. The Vision outlines the strategies and specific action items, arranged in the categories of Water Conservation, Water Management, Technology and Crop Varieties and Additional Sources of Supply, to ensure a reliable long-term water supply for the state.

We are now working through regional implementation of the Vision, principally through the development of Regional Goal Teams that are meeting regularly to identify locally driven solutions have the highest opportunity for long-term success. The vision input is guiding our legislative and regulatory priorities.

2. Legislation: Attached to this report is a summary of water-related legislation sponsored by the Kansas Department of Agriculture and passed by the Legislature and signed by the Governor. In addition, there were a number of other water issues discussed in bills sponsored by others. House substitute for SB 337 passed with the following provisions:

- Sec. 1 requires KDA-DWR to notice groundwater management districts of proposed regulations that will affect their management programs or wateruse within their district.
- Sec. 2 requires KDA-DWR to post on the web complete applications and orders under KWAA sections dealing with impairment actions, new applications and changes. We are also required, in conjunction with GMDs, to provide notice to nearbys within ½ miles of pending requests and applications under the same sections.
- Sec. 3 and 4 relate to requiring the chief engineer to be classified but allows other DWR staff to be converted to unclassified service at the discretion of the secretary.

In addition, we are working to implement last year's legislation, particularly the new tool for improved management in areas of groundwater decline called Water Conservation Area (WCA). Last year's legislation provides a process to develop and implement an approved management plan developed by a water right owner or group of water right owners, with the consent of the chief engineer, to reduce water withdrawals while maintaining economic value via water right flexibility. We have worked with water users to develop and approve an initial set of WCA plans and the necessary implementing orders and are working with approx. 20 individuals or groups considering such plans.

On a related note we are working actively with Northwest Kansas Groundwater Management District No. 4 to extend and expand the use of another tool we have related to enhanced groundwater management in areas of decline provided by 2012 legislation: Local Enhanced

Management Areas (LEMA). The GMD 4 Board is discussion with District members related to implementing a district-wide LEMA with 5-year allocations, with each township assigned allocations related to the rate of decline of the aquifer in the township, with smaller allocations in area of faster declines.

3. **Regulations:** We have had a very active year in developing new and amended regulations, again, many of the responsive to what we have been hearing in the water vision process. We have enhanced our processes for developing new regulations to increase stakeholder participation and buy-in. This includes going to a broad range of stakeholders for input, first at the conceptual level of regulation drafting and then with draft regulation language. It is only after receiving this input that we move forwarding with the formal processes for adopting the regulations. One of the most significant body of regulations currently under development is related to our compliance and enforcement activities.

4. Other significant activities

- **Interstate matters – Republican River** –We continue to be actively working with the states of Nebraska and Colorado to resolve separate disputes that have arisen as Colorado and Nebraska work to implement measures to insure their compliance with the Compact. This includes meeting monthly. We have developed 5 separate resolutions for operations in 2014-16 and are working toward long-term agreements using based on operations under these agreements.
- **Interstate matters – KS-CO Arkansas River Compact.** The states continue to work together on a number of matters including improvements to the model used to determine compliance, exploring ways to improve water quality, and use of a special engineering committee to work on long-term disputed matters.
- **Quivira National Wildlife Refuge Impairment Complaint** - The U.S. Fish and Wildlife Service (Service) owns and operates the Quivira National Wildlife Refuge (Quivira), a wetland of international significance and part of the central U.S. flyway. Water is a critical component its operations with a water right priority date in 1957. After decades of voluntary efforts to resolve its concerns were unsatisfactory, the Service filed an impairment complaint with KDA-DWR in April of 2013. KDA-DWR then began its investigation of the alleged impairment. KDA-DWR published an initial impairment investigation report on December 2, 2015. We are working to finalize the report and working with effected parties to reach a solution.
- **City of Hays / R9 Ranch Water Right Changes and Water Transfer Application** - The City of Hays purchased the approximately 7,000-acre R9 Ranch and its thirty water rights in southwestern Edwards County in 1995 with the intention of someday using the water as part of the city's water supply. During June, 2015, the City submitted applications to KDA-DWR to change the use made of water from irrigation to municipal use for the R9 Ranch water rights. As these proposed changes envision moving greater than 2,000 acre-feet more than 35 miles, during January, 2016, the cities of Hays and Russell submitted an application to transfer water from Edwards County to the cities of Hays and Russell pursuant to the Water Transfer Act (K.S.A. 82a-1501, et seq.).Hays water transfer, change application process; water transfer process

- **Groundwater model development** – State agencies are working with the Equus Beds GMD No. 2 to initiate work on a groundwater model for the District. With its completion, all of our GMDs will be modeled. We are also working on processes to back and update earlier models to standard of recent models and to work to standardize tools to maintain and update these models. These models have been very useful in developing plans for enhanced water management in areas of decline (LEMAs, WCAs,) and working through larger, complex water management decisions including the Quivira and Hays water transfer matters noted above.

5. **Climate Conditions:** Katie Tietsort's report provides an overview of climatic conditions in the basin in Kansas as well as our water administration and related activities for 2015 and 2016' to date.

Attachment I

Water Legislation in the 2016 session
introduced by Kansas Department of Agriculture
and approved by the Legislature and Governor.

Senate Bill 337 contains language amending the penalty for failure to report water use.

- Better managing Kansas groundwater resources and extending the useful life of the Ogallala High Plains Aquifer depends on accurate data related to the annual use of water in the state. To help obtain this critical information, Kansas water right owners are required to complete an accurate water use report annually and submit that report to KDA.
- Kansas has the most comprehensive water use reporting data in all of the western states. The department sends out 11,000 water use reports that represent about 32,000 water rights. The current state law requires the data to be reported to KDA by March 1. Ninety-four percent of our water users submit their report by the deadline. An average of 60 water users fail to submit their reports by June 1.
- In 2015, KDA sought feedback from stakeholders on the penalty structure for failure to submit an annual water use report and received consistent feedback that the existing penalties are too lenient.
- SB 337 increases the civil penalties for a delinquent water use report from $250 to a maximum of $1,000.
- In addition to the civil penalty, the bill provides the chief engineer the authority to suspend a water right if the owner fails to submit a report by June 1 of the year in which it is due.
- In an amendment introduced in the House the chief engineer may also require the use of telemetry for those not submitting a water use report by June 1.

Senate Bill 329, amending the Multi-Year Flex Account (MYFA) program

- MYFAs provide water right holders more flexibility to manage their water resources over a five year period.
- Program has been updated in recent years to improve the tool for water users.
- This simple clean-up language allows users to change the place of use within a MYFA to accommodate users adopting higher efficiency irrigation systems such as from flood to pivot irrigation

Senate Bill 330, putting the Conservation Reserve Enhancement Program (CREP) in statute.

- The CREP in the Upper Arkansas priority area provides state funds to match federal (FSA) funds to provide payments to producers willing to voluntarily retire their water rights.
- The CREP in the Upper Arkansas watershed currently has 17,577 enrolled acres.
- Funding for the program was done on an annual basis as a budget proviso of KDA's budget. This legislation put the program in statute.
- Also allows similar programs in other areas of the state that could be water quality focused.

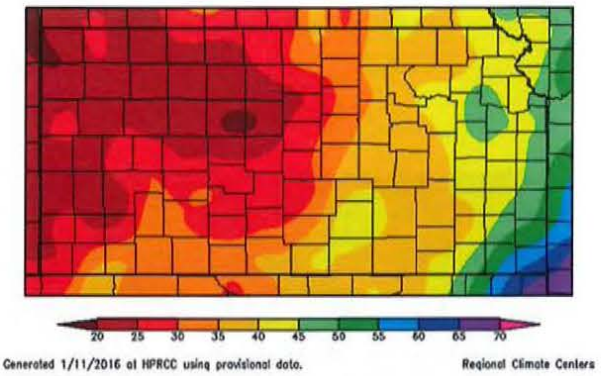
Attachment J

Kansas- Nebraska Big Blue River Compact Meeting 2016
Report by Kansas Department of Agriculture- Division of Water Resources
Topeka Field Office- Katherine A. Tietsort
May 18, 2016

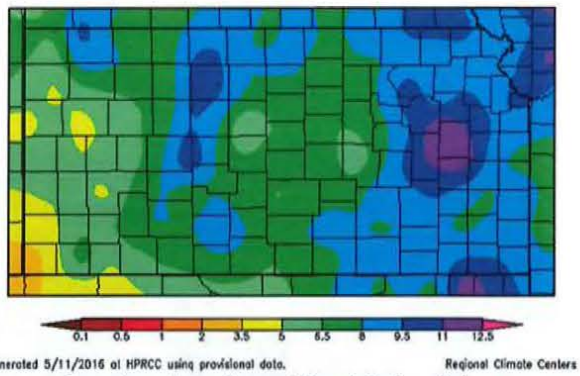
Climatic Conditions- Precipitation & Temperatures

The High Plains Regional Climate Center reported between 30 and 45 inches of precipitation in calendar year 2015 across the entire Big and Little Blue River basin area in Kansas, including their tributary basins, the Mill Creek and Black Vermillion River and reported 6 ½ to 11 inches so far this year through May 10, 2016. We have seen pretty wet conditions in the Basin this spring so far, however a very small portion of the basin has received about an inch and half less precipitation this year than normal. Percent of normal precipitation in 2015 ranged from 0 to 12 inches greater than normal with no part of the basin receiving less than normal precipitation in 2015.

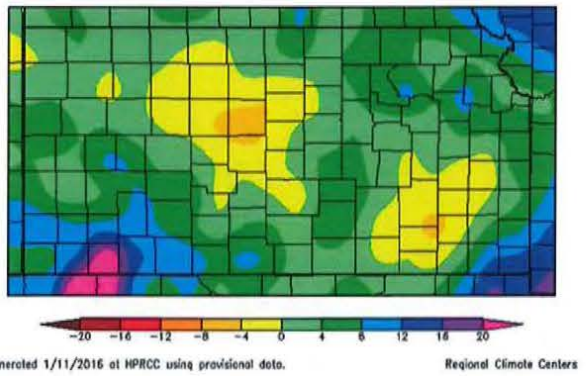
Precipitation (in)
1/1/2015 - 12/31/2015



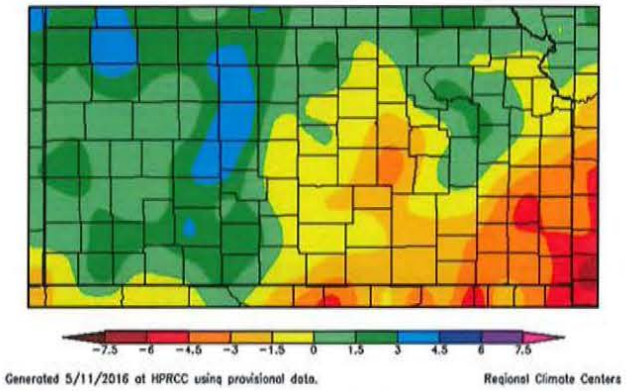
Precipitation (in)
1/1/2016 - 5/10/2016



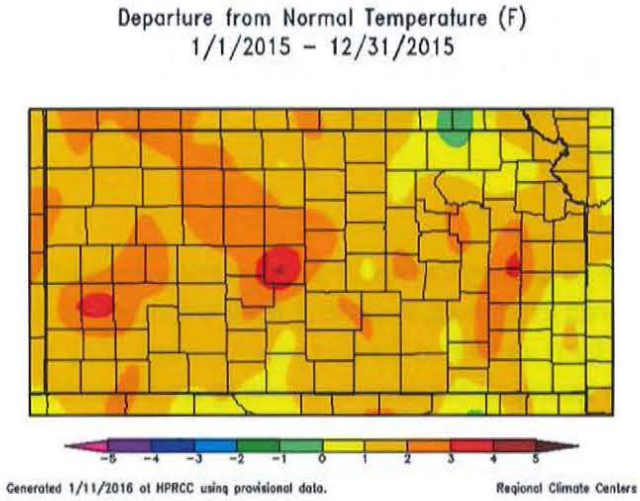
Departure from Normal Precipitation (in)
1/1/2015 - 12/31/2015

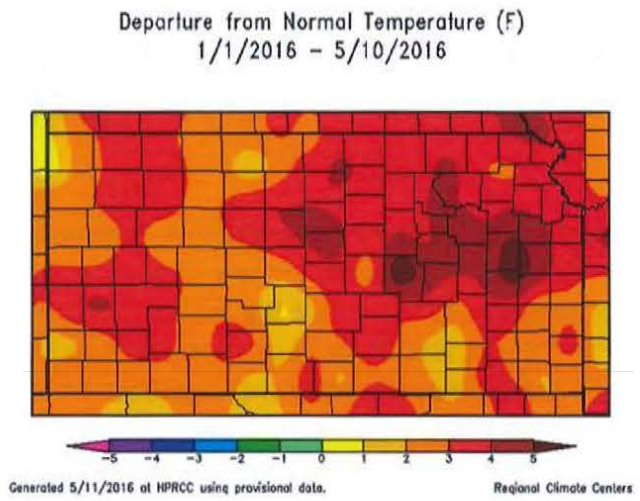


Departure from Normal Precipitation (in)
1/1/2016 - 5/10/2016

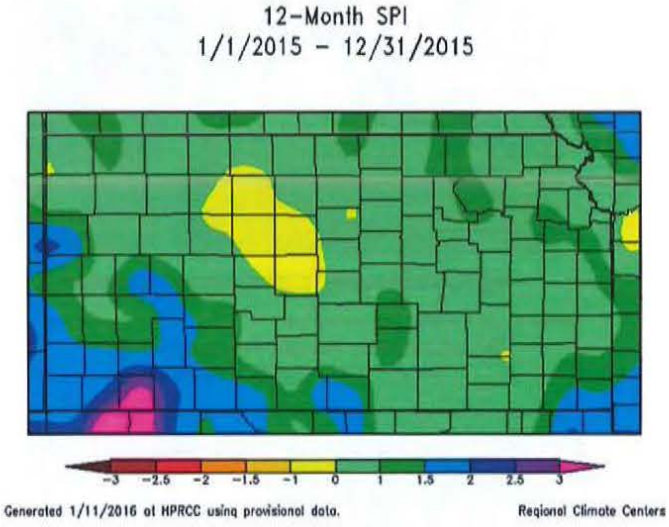


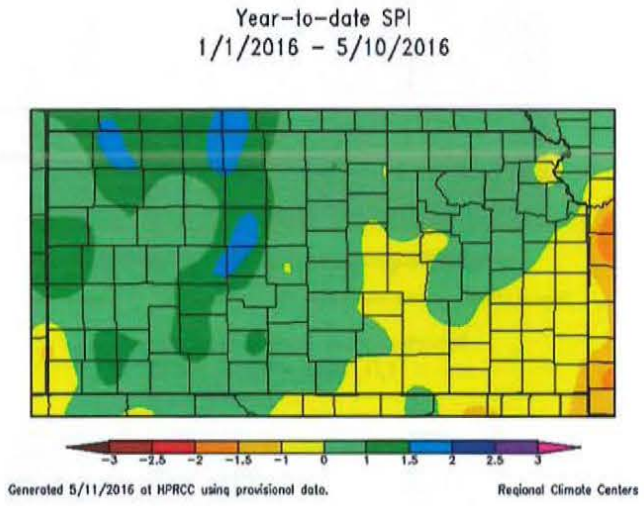
Temperatures for the calendar year 2015 remained generally normal to about 2 degrees warmer in most of the Basin, with a very small far northern area where temperature one degree cooler was experienced. Temperatures have been trending clearly warmer this spring in comparison to normal spring temperatures.





The Standardized Precipitation Index (SPI) (like the Palmer Drought Index (PDI) but considers only precipitation and not other factors) showed a slightly wetter trend for 2015 and so far this spring.





Streamflow and Administration Within the Big Blue Compact Basin

Statistics reflect 31 years of data at Marysville (Big Blue) and 57 years of data at Barnes (Little Blue).

Streamflow was lower than the median generally in the spring season in both locations, the Big Blue flow was about median over the summer while the Little Blue struggled then flow was below median in the fall at both locations. There were a number of runoff events that occurred though.

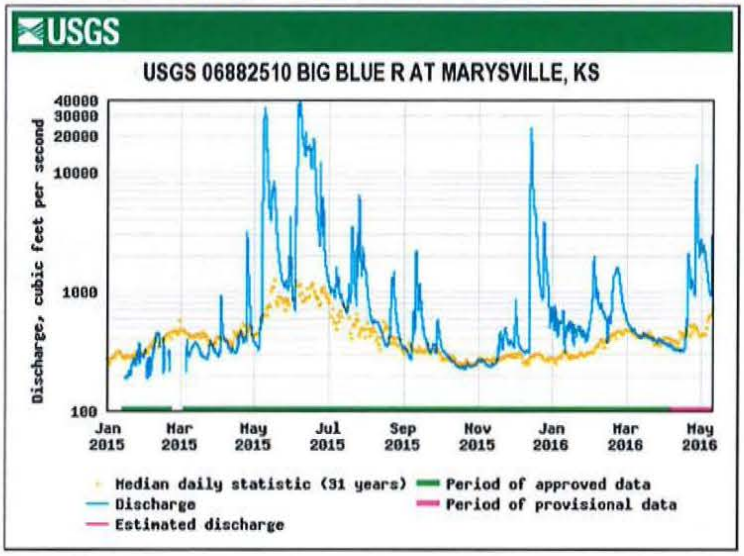
We did not trigger Minimum Desirable Streamflow (MDS) criteria within the Basin and MDS administration of junior rights did not occur in either sub-basin in 2015 nor in 2016 to date.

Minimum Desirable Streamflows (cfs)

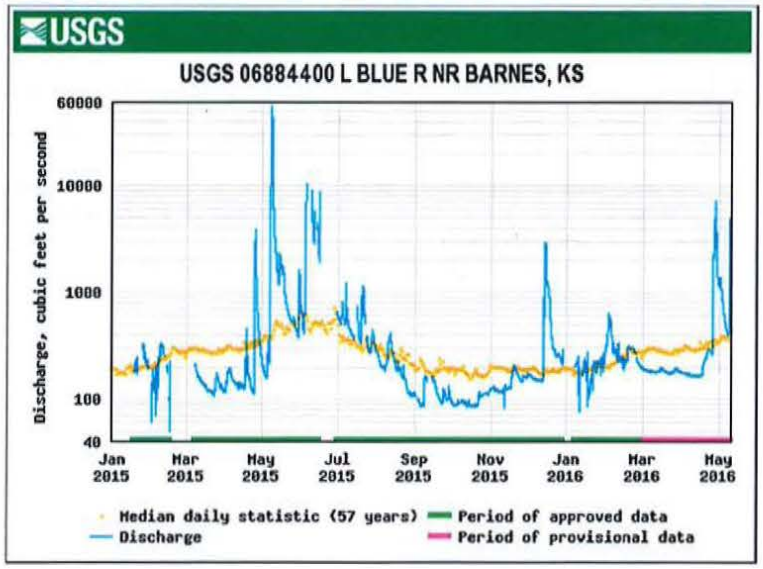
Watercourse	Month											
	J	F	M	A(a)	M(a)	J(a)	J	A	S	O	N	D
Big Blue												
Marysville	100	100	125	150	150(d)	150(d)	80	90	65	80	80	80
Little Blue												
Barnes	100	100	125	150	150(d)	150(d)	75	80	60	80	80	80

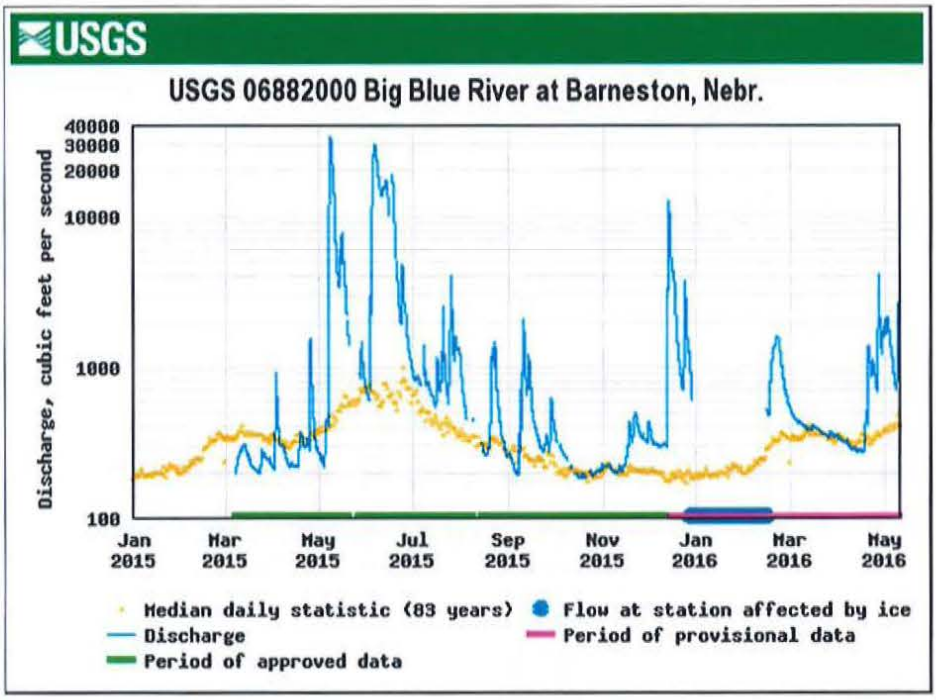
(d) Subject to the stateline flows contained in the Blue River Compact.

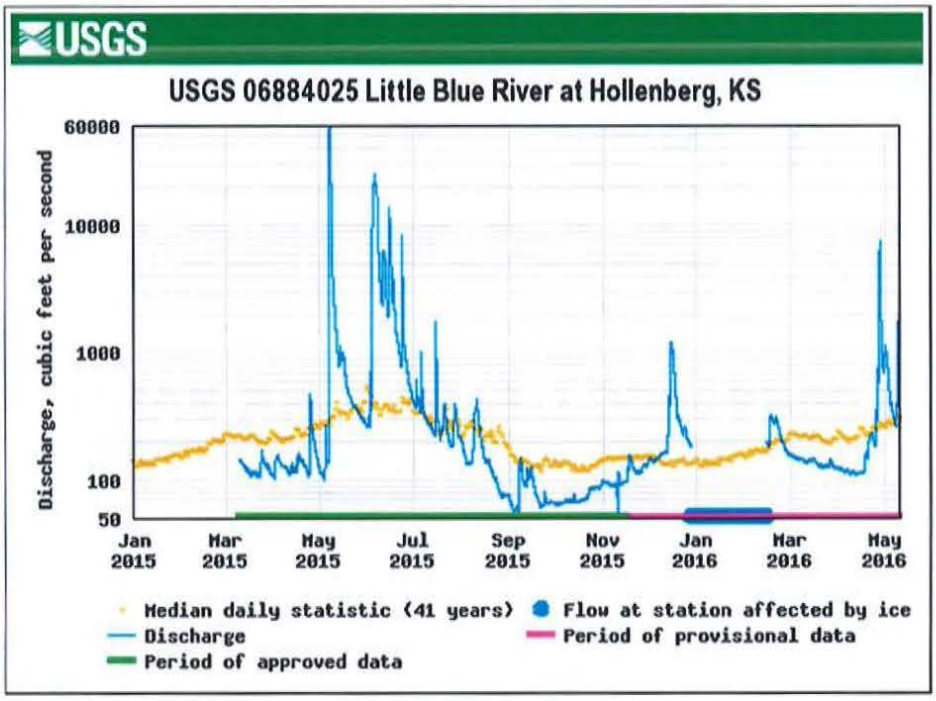
USGS 06882510 BIG BLUE R AT MARYSVILLE, KS



USGS 06884400 L BLUE R NR BARNES, KS







The compact gage at Barneston reflected wetter conditions and the gage at Hollenberg reflected a bit more variability.

Administration Activities

For the period of 1/1/2015 through today, flows remained sufficient to avoid any administration in the Big Blue River, Little Blue River, Mill Creek, or Black Vermillion River, basins, as stated above.

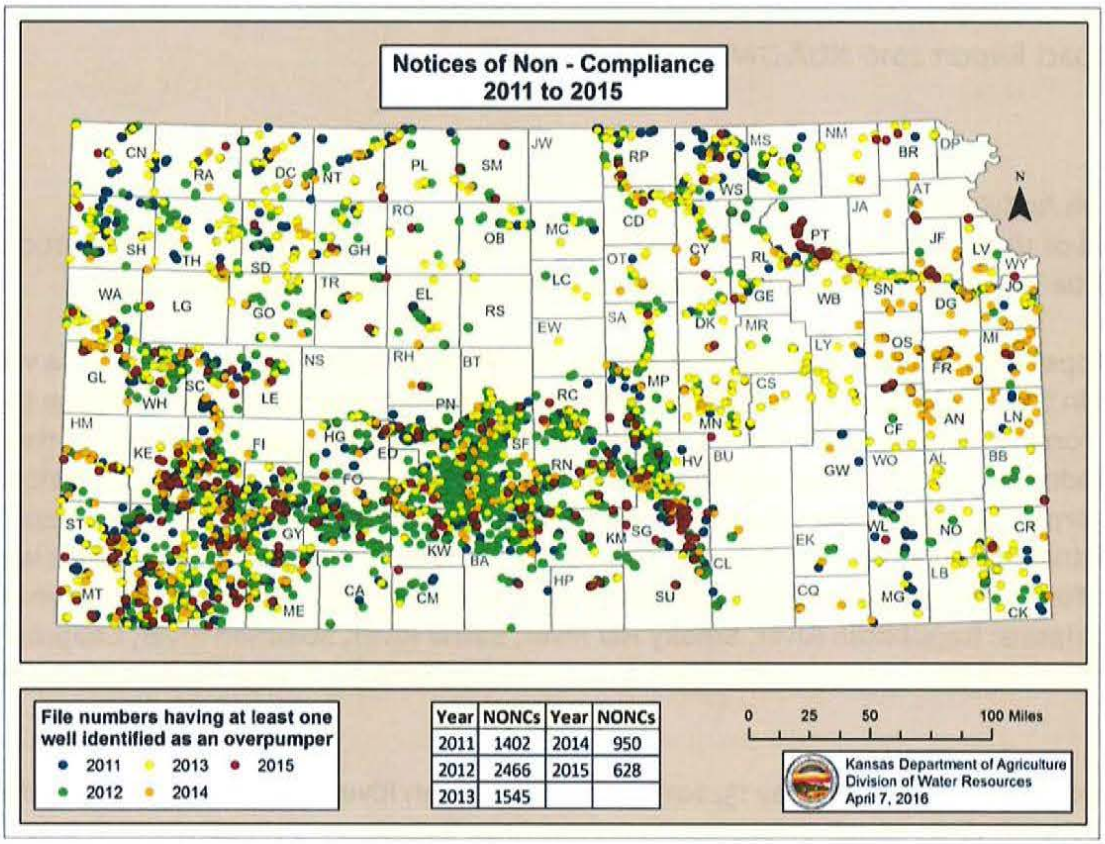
In 2015, the Topeka Field Office administered 164 water rights. Junior users to April 12, 1984 were administered in the Republican River basin from March 17 through May 29; in the Mill Creek tributary to the Kansas River form April 10 through May 19; and in the Chapman Creek from September 23 through October 22, 2015. We administered 42 water right holders in the Marais des Cygnes River system below the federal reservoirs to protect water assurance district releases made to Marais des Cygnes River Basin Water Assurance District members from October 15 through December 10, 2015. In total, 355 files were administered for MDS state-wide in 2015 and 260 in 2016 so far. In 2015, MDS administration occurred in the following Basins: Republican River, Smoky Hill River, Saline River, Solomon River, Chapman Creek, Mill Creek, Little Arkansas River, Whitewater River, Walnut River, Medicine Lodge River, and the Chikaskia River.

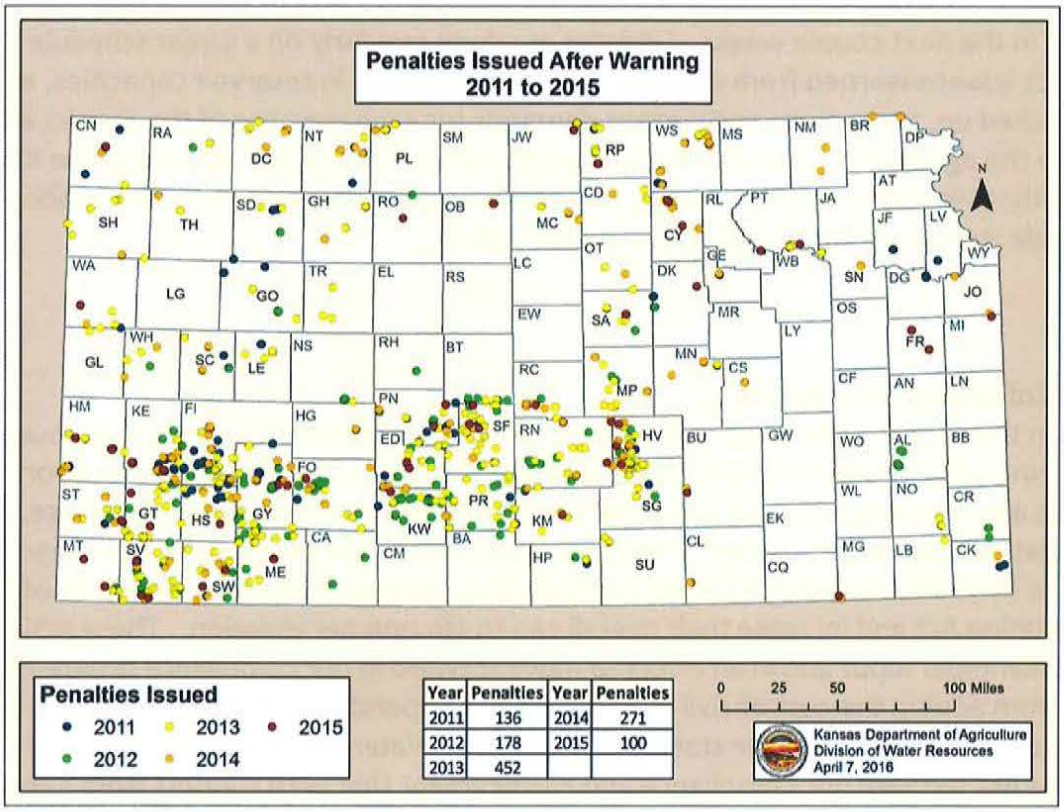
We just rescinded MDS orders on May 13, 2016 in the Republican River Basin that had been effective since April 14, 2016. At this time, no administration is occurring in Kansas.

The TFO was involved in 2015 in updating the final of our 3 Water Assurance District Operations Agreements with the Kansas Water Office and the District Board. We are anticipating the final signing of this agreement in the next couple weeks. Updates are done regularly on a 5-year schedule and allow the parties to reflect lessons-learned from various conditions, changes in reservoir capacities, and update water rights backed up, projections and current demands for each member of the District and the District as a whole, into the agreement. The Division is working with a stakeholder group and the KWO to implement another District, the Lower Smoky Hill Water Supply Access District below Kanopolis Reservoir, which will include the Lower Smoky Hill River Special District.

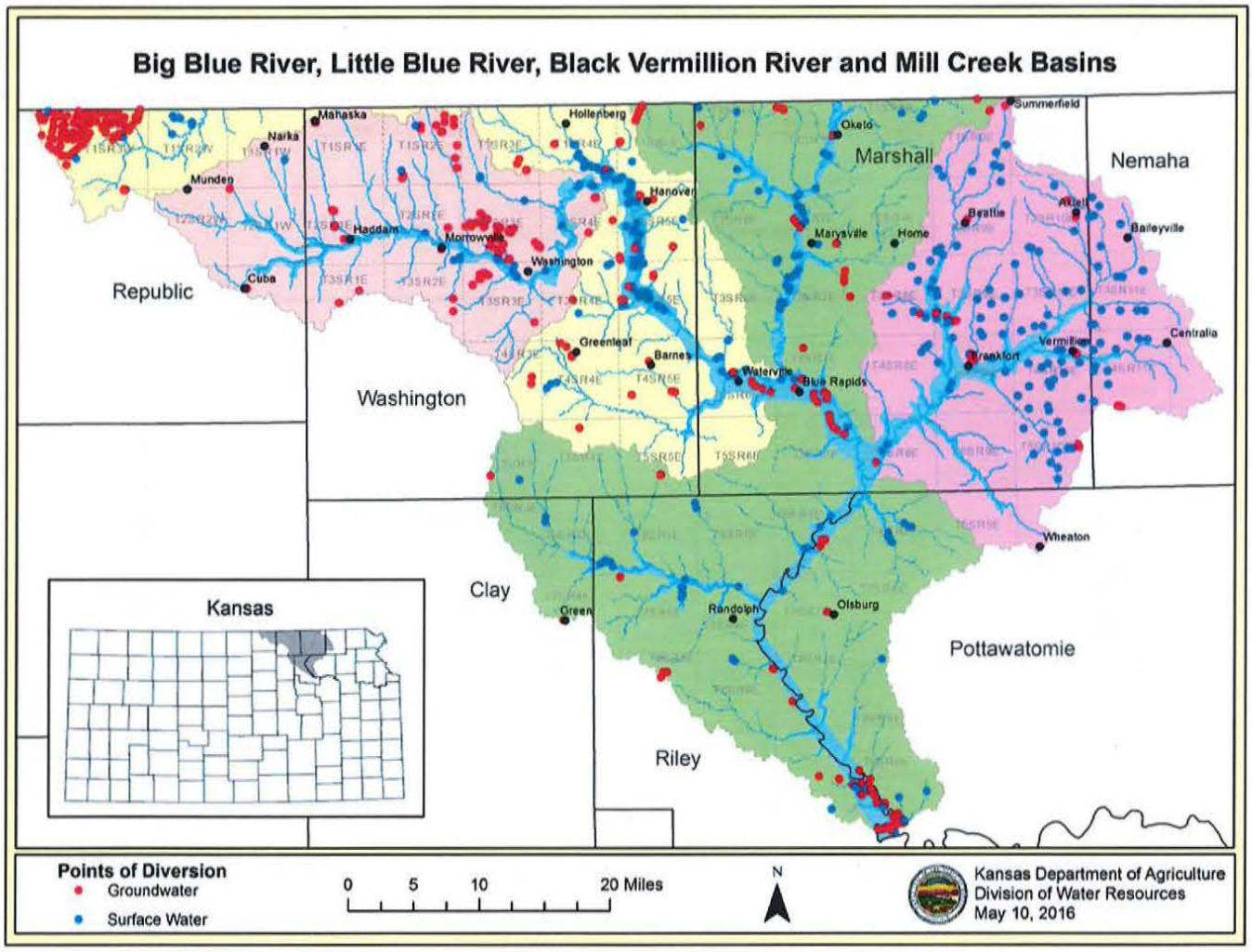
Compliance & Enforcement Activities

As mentioned in the Kansas Commissioners Report, compliance and enforcement, continues to be a focus priority of the 2015 year. The amendment to penalty for failure to submit a water use report will close a loophole where an owner could simply pay a civil penalty of $250 and not report water use, which could mask other violations, like overpumping. The amendment raises the civil penalty from $250 to $1,000. Additionally, the Division is working to clarify civil penalties related to all other violations of the Kansas Water Appropriation Act and increase their overall cap to $10,000 per violation. These actions are in response to stakeholder input and in an effort to move forward in our compliance programs in a way that stops owners from adding the cost of civil penalties to their operations as a "cost of doing business" where this occurs in some parts of the state. The Division of Water Resources continues to enforce violations of the Act through our Compliance and Enforcement Unit with support from Kansas Department of Agriculture's legal unit.


Notices of Non - Compliance
2011 to 2015
File numbers having at least one well identified as an overpumper
2011
2012
2013
2014
2015
Year | NONCs | Year | NONCs
2011 | 1402 | 2014 | 950
2012 | 2466 | 2015 | 628
2013 | 1545
0 25 50 100 Miles
Kansas Department of Agriculture
Division of Water Resources
April 7, 2016


Penalties Issued After Warning
2011 to 2015
Penalties Issued
2011
2012
2013
2014
2015
Year | Penalties | Year | Penalties
2011 | 136 | 2014 | 271
2012 | 178 | 2015 | 100
2013 | 452
0 25 50 100 Miles
Kansas Department of Agriculture
Division of Water Resources
April 7, 2016

The Division initiated civil penalty and/or other enforcement action against the owners of 3 water rights in the basin in 2015 and 2016 so far. All three of these were civil penalties due to repeated overpumping. There were 43 enforcement actions within the TFO area in the last 6 months. Several of these cases resulted in Settlement Agreements. A total of 49 civil penalties were issued state-wide in 2015, however due to rollover, we expect a much higher 2016 number.



New Development

A small number of new requests occurred and a total of 12 new appropriation permits, 2 Term Permits, and 3 Temporary Permits were issued within the Compact area in Kansas in 2015. This represents a decrease from past activity. Of the new Appropriations, all but one are for groundwater. The permits include 3 for public water supply use (municipal use), 2 for stockwatering use and 7 for irrigation.

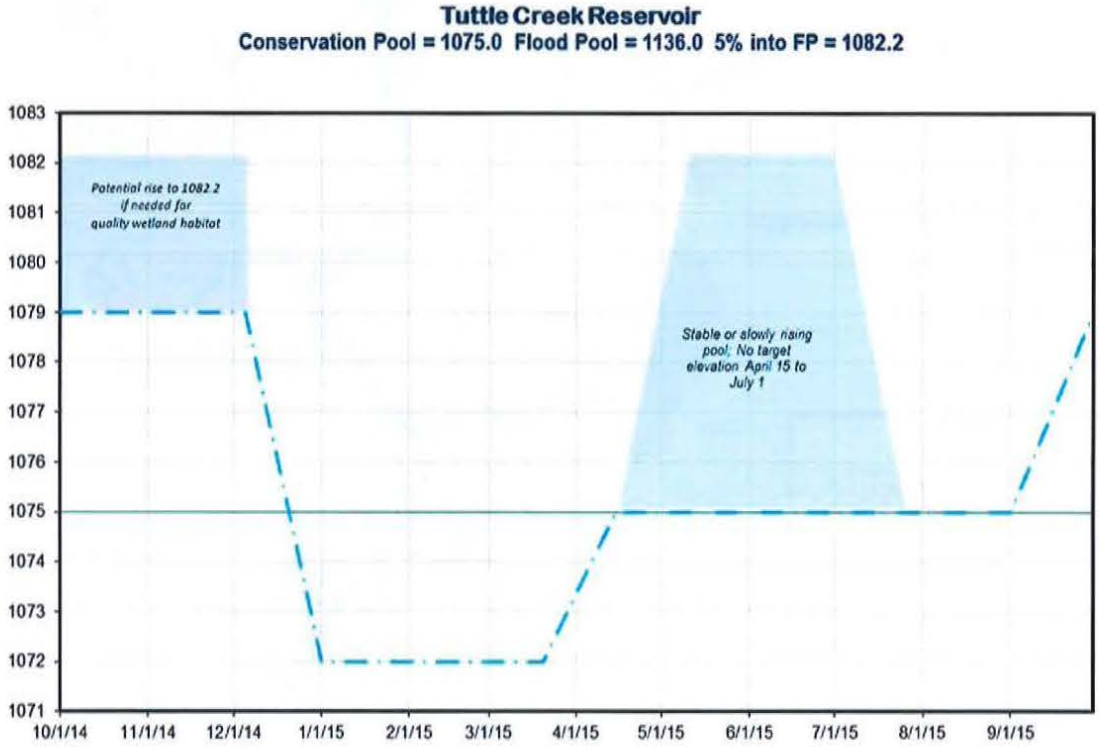
Metering

The Topeka Field Office continues working through the final 300 files of the Kansas River Meter Order, our largest issued to date. This meter is to be completed by December 31, 2016.

We are issuing the Missouri River Meter Order on June 1, 2016 to 125 water right owners to install or bring previously installed meters up to current requirements by a deadline of March 1, 2017. We plan to issue the Smoky Hill River and Chapman Creek combined order by September, and finish off by issuing the order that will require metering in place for files not yet issued an order in the non-alluvial areas of the Republican River Basin by the end of the 2016 calendar year.

Tuttle Creek Reservoir

Lake Level Management plans were approved in fall of 2015. The plan represents the identical plan submitted and approved over the last number of years now. The main focus continues to be support of spawning fish and wildlife habitat. The USACE Kansas City District conducted a public meeting for the next years' draft plan for Tuttle Creek Reservoir in Manhattan on May 4th.



	Time	Elevation	Comment
TUTTLE CREEK LAKE	Oct 1 – Dec 5	1079-1082.2	Attract migrating waterfowl, achieve quality habitat
	Dec 5- Jan 1	1072	Reduce ice damage potential and provide water storage, then hold through Mar 20
	Mar 20 – Apr 15	1075	Rise to reach top of conservation pool and enhance boating then hold through Sep 1
	Apr 15 – July 1	1082.2 max	Evacuate flood water to enhance crappie population. Protect tern and plover nests on the Kansas River
	July 1 – Sep 1	1075	Maintain conservation pool to re-vegetate shoreline
	Sep 1 – Sep 30	1079	Rise to inundate wetland habitat and attract migrating waterfowl

May 18, 2016

BBRCA TREASURER/BUDGET REPORT

- **First handout is the Treasurer's Report**
    - We are doing well overall for funds, with $21,401 on hand and we expect to end the year at around $21,211. (Up about $925.62 from the beginning year balance of $20,285.49).
    - We received an invoice for the FY12-13 and FY13-14 audit. The estimated cost of the audit was $1,600. The invoice was higher than anticipated; the total cost of the audit was $1,717. (Up about $117 than budgeted).

- **Second handout is our budget tracking document.**
    - **First two columns are closing the book on FY 14-15.**
        - $100 budgeted for Postage and Office Supplies and $100 budgeted for Miscellaneous Expenses were not spent.
        - The actual interest earned in FY 2014-2015 was lower than the budgeted amount due to a lower than expected interest rate.
    - **The next two columns show how the Compact Administration Budget has been spent this FY 15-16.**
        - The $15,506.00 payments to USGS was spent in the current fiscal year (FY 15-16)
        - The actual interest earned in FY 2015-2016 was lower than the budgeted amount due to a lower than expected interest rate.
        - The Annual Report Printing budget for the 2014 report was not spent in the current fiscal year (FY15-16)
        - The audit payment was larger this year ($1,717 because it was for two fiscal years, FY12-13 and FY13-14. Payment for the audit was budgeted for FY14-15, but was not made until this fiscal year (FY15-16).
    - **The next two columns are the budget for FY 16-17**
        - First set of numbers is what was estimated last year and the second set is what I propose we adopt today.
            - USGS – Expect to spend approximately 3% more each fiscal year. The proposed figure for this year is $17,000.00.
            - Due to increased printing costs, the proposed figure for the Annual Report Printing budget is $450.00.
            - The audit has been changed to a review. The proposed figure for this year is $870.00.

- The Lower Big Blue NRD for the observation wells will stay at $700.00.
- The budget reflects the declining interest rate on the BBRC account with an Interest Income estimate of $25.00 for FY16-17.
- With the state assessments staying at $9,500.00 per state per fiscal year, expect to see decreases in carryover each year.

- **The final column on the right is the estimated budget for FY 17-18**
  - As in the budget for FY 2015-2016, the USGS figure is higher due to the approximately 3% annual increase.
  - The estimated budget for the observation wells is $700.00.
  - The estimated budget for Annual Report Printing is $450.00.
  - The estimated budget for the Audit Review is $870.00.
  - $100 each for the Postage & Office Supplies and the Miscellaneous Expenses budgets will remain the same.

Attachment K

REPORT OF THE TREASURER
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
May 18, 2016

Balance on Hand July 1, 2015	$	20,285.49
State Assessments	$	19,000.00
Interest Income through June 30, 2016	$	18.62
Funds Available as of June 30, 2016	**$**	**39,304.11**
Expenditures as of June 30, 2016		
USGS - Stateline Gages	$	(15,506.00)
Printing Annual Report	$	-
Lower Big Blue Natural Resources District - Observation Wells	$	(680.00)
Dana Cole - Audit	$	(1,717.00)
Balance on Hand	**$**	**21,401.11**
Estimated Expenditures through June 30, 2016		
USGS - Stateline Gages	$	-
Dana Cole - Audit	$	-
Lower Big Blue Natural Resources District - Observation Wells	$	-
Printing Annual Report	$	-
Postage and Office Supplies	$	100.00
Miscellaneous	$	100.00
Total Estimated Additional Expenditures	**$**	**200.00**
Estimated Income through June 30, 2016		
Interest Income	**$**	**10.00**
End of Fiscal Year Balance	**$**	**21,211.11**

BIG BLUE RIVER COMPACT BUDGET ANALYSIS May 2016																
Column A	FY 2014-2015				FY 2015-2016				FY 2016-2017				FY 2017-2018			
	Actual		Adopted May 2014		Estimate May 2015		Adopted May 2014		Estimate May 2015		Proposal May 2016		Estimate May 2015			
EXPENDITURES																
Operations																
USGS - Stateline Gages	$	(15,269.00)	$	16,000.00	$	15,506.00	$	16,500.00	$	17,000.00	$	17,000.00	$	17,500.00		
LBBNRD - Observation Wells	$	(680.00)	$	700.00	$	680.00	$	700.00	$	700.00	$	700.00	$	700.00		
Water Quality Committee	$	-	$	-	$	-	$	-	$	-			$	-		
Annual report - Printing	$	(160.00)	$	450.00	$	-	$	450.00	$	450.00	$	450.00	$	450.00		
Annual Audit	$	-	$	1,600.00	$	(1,717.00)	$	-	$	-	$	-	$	-		
Audit Review	$	-	$	-	$	-	$	870.00	$	870.00	$	870.00	$	870.00		
Postage and Office Supplies	$	-	$	100.00	$	100.00	$	100.00	$	100.00	$	100.00	$	100.00		
Miscellaneous Expenses	$	-	$	100.00	$	100.00	$	100.00	$	100.00	$	100.00	$	100.00		
Total Expenses	$	(16,109.00)	$	18,950.00	$	14,669.00	$	18,720.00	$	19,220.00	$	19,220.00	$	19,720.00		
INCOME & CARRY OVER																
Assessments (Both States)	$	16,000.00	$	16,000.00	$	19,000.00	$	19,000.00	$	19,000.00	$	19,000.00	$	19,000.00		
Interest earned	$	20.48	$	25.00	$	25.00	$	25.00	$	25.00	$	25.00	$	25.00		
Carry Over from Prior Year	$	20,374.01	$	16,618.33	$	13,693.33	$	20,285.49	$	20,590.49	$	18,049.33	$	20,590.49		
Total Income and Carry Over	$	36,394.49	$	32,643.33	$	32,718.33	$	39,310.49	$	39,615.49	$	37,074.33	$	39,615.49		
Balance End of Year	$	20,285.49	$	13,693.33	$	18,049.33	$	20,590.49	$	20,395.49	$	17,854.33	$	19,895.49		

Attachment L

KANSAS-NEBRASKA BIG BLUE RIVER COMPACT REPORT
U.S. Geological Survey—Water Year 2015

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 15 minutes. Every hour, these instantaneous values are transmitted via satellite to USGS offices, where they are used to compute preliminary values of instantaneous and daily discharge that are immediately posted to the USGS National Water Information System (NWIS) website (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 daily gage height, along with associated summary statistics are published annually on a site-by-site basis on the NWIS web page (address shown below).

During water year (WY) 2015 (October 1, 2014 to September 30, 2015), 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-telemetered 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 each of the State delegations and the Compact chairman, copies of the WY 2015 published data (manuscript; discharge daily values; statistics tables; and discharge hydrograph) from the NWIS web page are attached for each station. These site-data sheets (PDF files) are available online within the NWIS site page for each of the streamgages, along with data for other streamgages for the Nation. Also attached are plots of the annual mean discharges for the periods of record, and plots of the daily discharges for WY 2015 compared to those for the median daily statistic for each day of the year.

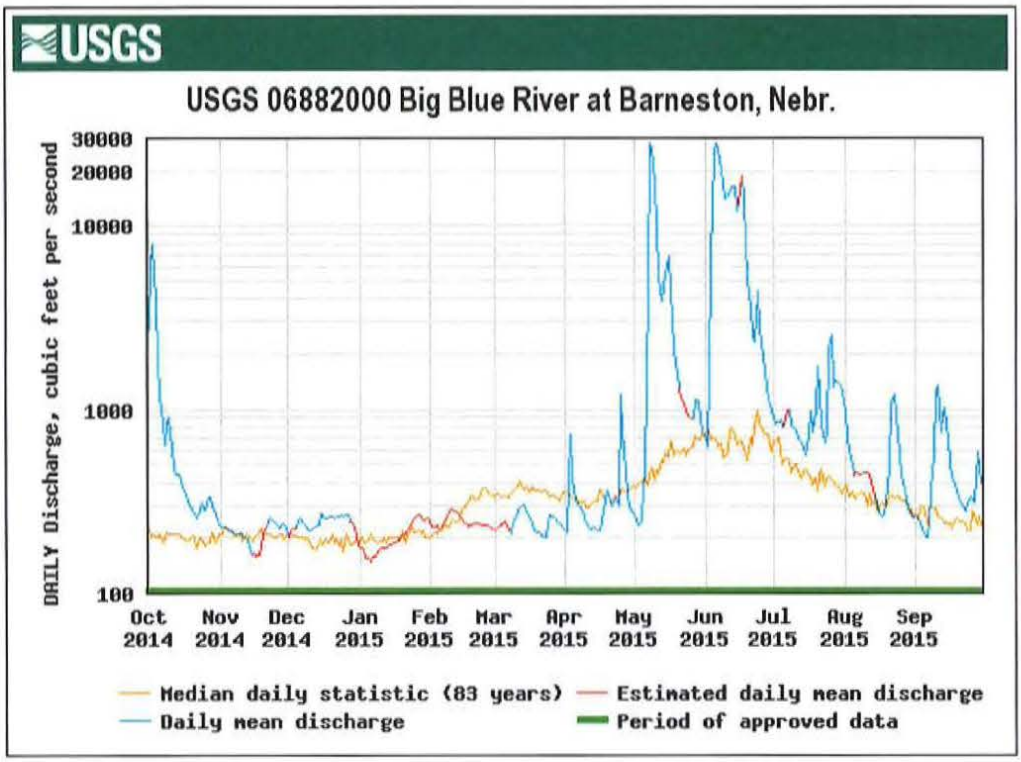
Current (real-time) and historical data on surface water, groundwater, and water quality for the Nation can be accessed and downloaded via the Water Resources for the United States website (http://water.usgs.gov/) or from the Nebraska Water Resources website (http://ne.water.usgs.gov/). Daily, monthly, and annual streamflow statistics are also available under "Surface Water" on the National site and under "Historical data: Streamflow" on the Nebraska site. All unit values of discharge data since October 2007 and all daily values of discharge can be accessed using the NWIS web.

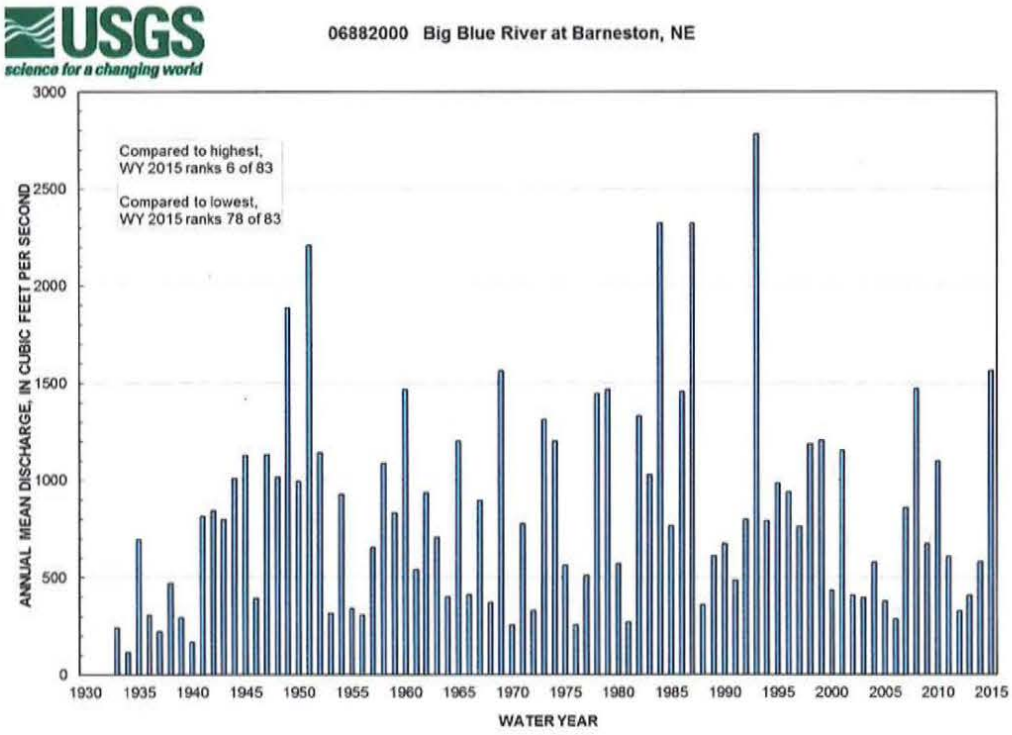
Jason Lambrecht
Chief, Hydrologic Data Section

U.S. Geological Survey, Nebraska Water Science Center
5231 S. 19th St., Lincoln, NE 68512-1271
(jmlambre@usgs.gov)
402-328-4124 (office), 402-328-4101 (fax), 402-416-2363 (mobile)

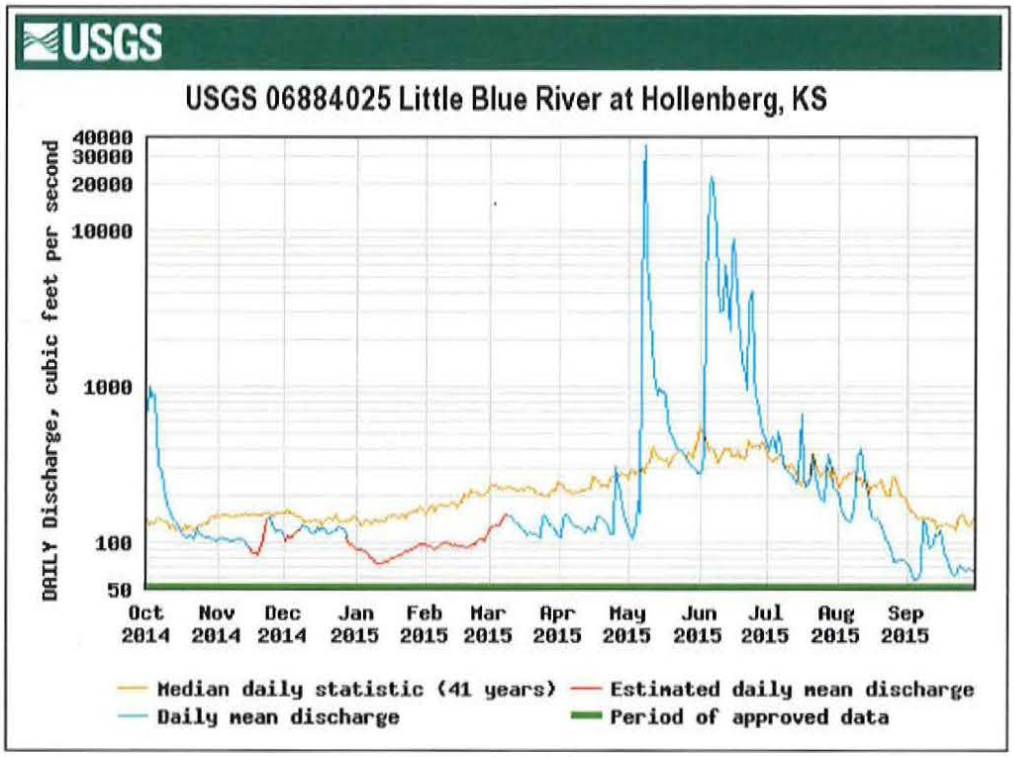
May 17, 2016

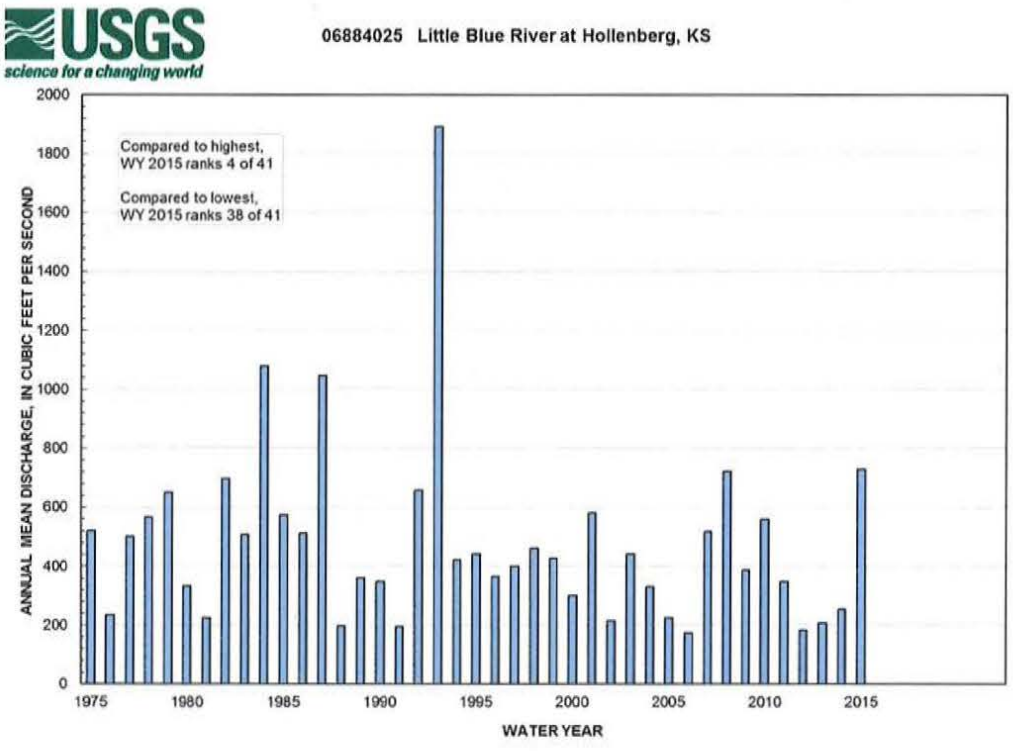
For station **06882000 Big Blue River at Barneston**, thirteen discharge (and stage) measurements, ranging from 188 ft^3/s (3.96 ft, backwater from ice to 35,000 ft^3/s (27.75 ft), and three inspections were made during WY 2015. The annual mean discharge of 1,564 ft^3/s was 2.7 times greater than that of the WY 2014 mean of 580 ft^3/s; and 1.9 times greater than the new historical mean of 840 ft^3/s for WYs 1933–2015 (83 years of record). The maximum and minimum daily discharges were 28,200 ft^3/s on June 6, 2015; and 149 ft^3/s on January 6, 2015 (estimated due to backwater from ice).





For station **06884025 Little Blue River at Hollenberg**, thirteen discharge (and stage) measurements, ranging from 75.5 ft^3/s (2.86 ft, backwater from ice) to 35,800 ft^3/s (19.21 ft), and two inspections were made during WY 2015. The annual mean discharge of 730 ft^3/s was 2.9 times greater than that of the WY 2014 mean of 254 ft^3/s; and 1.5 times greater than the new historical mean of 482 ft^3/s for WYs 1975–2015 (41 years of record). The maximum and minimum daily discharges were 35,400 ft^3/s on May 8, 2015; and 57.0 ft^3/s on September 4, 2015.





USGS Water-Year Summary 2015

06882000 Big Blue River at Barneston, Nebr.

LOCATION - Lat 40°02'41", long 96°35'14" referenced to North American Datum of 1983, in NE 1/4 NW 1/4 sec.24, T.1 N., R.7 E., Gage County, NE, Hydrologic Unit 10270202, on right bank just downstream 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 mi^2 of which 77 mi^2 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 with satellite telemetry. Datum of gage is 1,162.20 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.

REMARKS - Accuracy of records for water years prior to 2014 are noted in the individual Annual Data Reports for those water years. For water years 2014 onward, records fair to good except for estimated daily discharges, which are poor, unless otherwise noted.

EXTREMES FOR PERIOD OF RECORD - Maximum peak flow, 57,700 ft^3/s, June 9, 1941, gage height, 34.30 ft, at site datum then in use.

U.S. Department of the Interior
U.S. Geological Survey

Suggested citation: U.S. Geological Survey, 2016, National Water Information System data available on the World Wide Web (USGS Water Data for the Nation), accessed [May 13, 2016], at URL http://nwis.waterdata.usgs.gov/nwis/wys_rpt?dd_parm_cds=008_00060&adr_begin_date=2014-10-01&adr_end_date=2015-09-30&site_no=06882000&agency_cd=USGS

Water-Data Report 2015

06882000 Big Blue River at Barneston, Nebr. -- Continued

DISCHARGE, CUBIC FEET PER SECOND
YEAR 2014-10-01 to 2015-09-30
DAILY MEAN VALUES
[e, Value has been estimated.]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	2014	2014	2014	2015	2015	2015	2015	2015	2015	2015	2015	2015
1	2,730	232	e200	e181	e243	e220	215	266	689	889	957	269
2	6,180	229	e221	e176	e228	e222	396	248	630	835	717	252
3	7,840	230	e225	e167	e229	e228	738	234	1,500	853	592	240
4	3,810	223	e225	e156	e233	e236	424	247	6,460	861	496	221
5	1,820	218	249	e153	e221	e243	316	386	24,500	791	e436	200
6	1,170	220	256	e149	e229	e247	305	443	28,200	e817	e447	201
7	846	216	238	e158	e238	e217	301	4,760	25,800	e1,000	e456	237
8	644	210	234	e157	e251	211	278	28,000	19,700	983	e445	366
9	857	210	225	e166	e271	241	255	26,100	17,100	821	451	564
10	904	215	220	e171	e288	262	237	17,100	14,000	783	e453	1,240
11	612	207	223	e176	e286	277	226	9,830	14,500	750	e447	1,350
12	476	199	229	e177	e279	292	221	5,230	15,400	683	e431	752
13	437	196	230	e177	e270	306	230	3,830	16,200	650	e393	947
14	441	172	235	e180	e263	290	221	4,550	16,300	611	e339	1,010
15	416	e162	273	e185	e253	274	220	5,480	11,900	558	305	680
16	371	e166	260	e187	e240	256	220	6,780	e13,200	710	273	505
17	343	e159	257	e188	e238	236	245	4,520	e18,600	967	261	426
18	312	e161	257	e191	e230	220	320	3,060	13,900	739	269	388
19	295	e180	261	e200	e236	216	359	2,080	8,090	974	309	356
20	280	e211	261	e206	e239	213	338	1,550	5,010	1,700	469	325
21	266	e227	258	e212	e240	206	300	e1,280	3,540	1,210	1,110	295
22	257	247	263	e219	e238	204	312	e1,150	2,490	809	1,130	285
23	287	253	263	e225	e233	201	332	e1,060	2,330	652	1,220	276
24	311	244	266	e243	e232	239	299	e997	4,390	758	736	308
25	287	237	263	e257	e233	268	1,220	e938	2,760	2,140	558	333
26	284	232	266	e264	e235	263	763	e891	2,260	2,560	444	321
27	329	226	266	e269	e230	256	464	890	1,600	1,320	363	312
28	334	237	e242	e256	e223	245	337	1,130	1,290	1,440	327	593
29	292	236	e242	e249		241	293	1,100	1,140	1,380	289	487
30	265	225	e224	e248		230	272	866	995	1,340	263	392
31	245		e208	e256		224		760		1,270	257	
Total	33,940	6,380	7,540	6,199	6,828	7,483	10,660	135,800	294,500	31,850	15,640	14,130
Mean	1,095	213	243	200	244	241	355	4,379	9,816	1,028	505	471
Max	7840	253	273	269	288	306	1220	28000	28200	2560	1220	1350
Min	245	159	200	149	221	201	215	234	630	558	257	200
Ac-ft	67,320	12,650	14,950	12,300	13,540	14,840	21,140	269,300	584,100	63,180	31,030	28,030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2015, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	552	308	238	287	595	1,243	823	1,350	2,096	1,245	672	678
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)

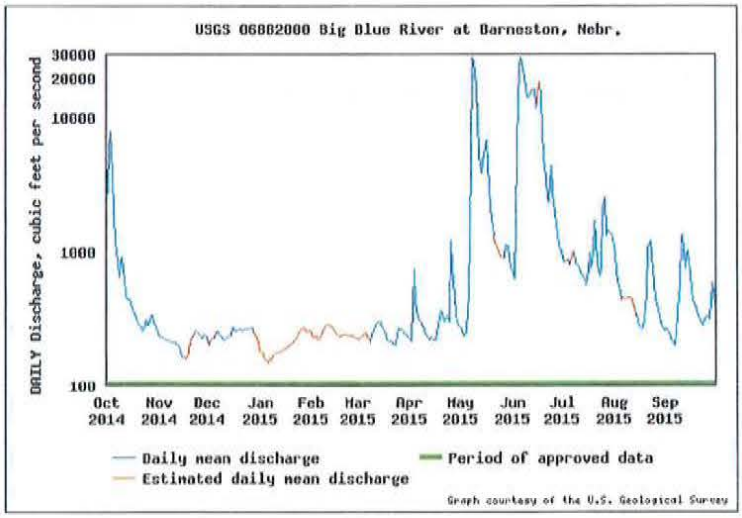
Water-Data Report 2015

06882000 Big Blue River at Barneston, Nebr. -- Continued

SUMMARY STATISTICS

	Water Year 2015		Water Years 1933 - 2015	
Annual total	570,900			
Annual mean	1,564		840.9	
Highest annual mean			2,781	1993
Lowest annual mean			115.0	1934
Highest daily mean	28,200	Jun 06	50,000	Jun 09, 1941
Lowest daily mean	149.0	Jan 06	1.00	Nov 30, 1945
Annual 7-day minimum	158.0	Jan 03	15.1	Aug 03, 1934
Maximum peak flow	33,500	May 08	57,700	Jun 09, 1941
Maximum peak stage	27.78	May 08	34.30[a]	Jun 09, 1941
Annual runoff (cfsm)	0.352		0.189	
Annual runoff (inches)	4.77		2.57	
10 percent exceeds	2,628		1,704	
50 percent exceeds	286.0		278.0	
90 percent exceeds	209.2		106.0	

[a] Gage height at different site and(or) datum



U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES

Short-Form Discharge Measurement Summary With Inspections

STATION NUMBER 06882000 Big Blue River at Barneston, Nebr. TYPE:Stream AGENCY USGS STATE 31 COUNTY 067

LATITUDE 400241 LONGITUDE 0963514 NAD83 DRAINAGE AREA 4447 CONTRIBUTING DRAINAGE AREA 4370.00 DATUM 1162.20 NGVD29

Date Processed:2016-05-13 12:31 By jmlambre

MEAS NO.*	DATE * TIME *	MADE BY *	GAGE * HEIGHT *	DISCHARGE * CFS	RATING *	INDIC * SHIFT *	APPLD * SHIFT *	UNSFT * DIFF *	SHIFT * DIFF *	GHT. * CHG.	TIME *	RATED *	STATUS
1419	2014/10/02 1015 CDT	LWN	10.87	5730	32.0	0.35	0.0	6.9	6.9	0.04	0.32	F	L
CONTROL LOCATION: CONDITION: Light debris													
CONTROL REMARKS: High water													
1420	2014/11/24 1526 CST	gsn	3.81	243	35.1	-0.04	-0.03	-5.4	-1.2	0.0	0.88	F	L
CONTROL LOCATION: CONDITION: Clear													
CONTROL REMARKS: no ice													
1421	2015/01/16 1021 CST	LWN/JTC	3.96	188	35.1	-0.34	-0.03	-40.7	-38.4	-0.01	0.67	P	L
CONTROL LOCATION: 0 ft downstream CONDITION: Ice cover													
CONTROL REMARKS: Complete ice cover.													
1422	2015/03/06 1006 CST	LWN/JTC	3.98	251	35.1	-0.19	-0.03	-23.0	-19.8	-0.06	0.22	P	L
CONTROL LOCATION: CONDITION: Shore ice													
CONTROL REMARKS: Covered about 40 percent at gage, but declined uniformly about 600 feet downstream where it was mostly open.													
1423	2015/04/23 1002 CDT	Jtc	4.10	346	35.1	-0.07	-0.09	-8.2	2.1	-0.01	1.0	F	L
CONTROL LOCATION: CONDITION: Clear													
1424	2015/05/08 1510 CDT	bhi/jrk	27.75	35000	35.1	0.37	0.0	4.8	4.8	0.12	2.43	P	L
CONTROL LOCATION: CONDITION: Clear													
CONTROL REMARKS: Flow was outside of the channel bank, but still within the bridge. There was moderate debris flowing at times throughout the main flow.													
1425	2015/05/15 1013 CDT	gsn	10.66	4950	35.1	-0.72	-0.53	-13.0	-3.7	-0.07	0.5	F	L
CONTROL LOCATION: CONDITION: Clear													
CONTROL REMARKS: bank erosion													
INSP	2015/05/19 1237 CDT	gsn	6.93										L
CONTROL LOCATION: CONDITION: Clear													
INSP	2015/05/26 1145 CDT	LWN	5.22										L
CONTROL LOCATION: CONDITION: Clear													
CONTROL REMARKS: Very minor debris in water.													
1426	2015/06/17 1200 CDT	LWN/NDS	20.90	18400	35.1	-0.56	0.0	-4.7	-4.7	0.03	0.25	F	L
CONTROL LOCATION: CONDITION: Light debris													
1427	2015/07/02 1004 CDT	JTC/NDS	5.11	842	35.1	-0.15	-0.15	-9.9	0	0.0	0.65	F	L
CONTROL LOCATION: CONDITION: Clear													
CONTROL REMARKS: no drop in hydraulic head making control type channel.													
INSP	2015/07/07 0941 CDT	JTC/NDS	5.46										L
CONTROL LOCATION: CONDITION:													

1428	2015/07/24 1020 CDT	bhi/jrp	4.84	699	35.1	-0.11	-0.14	-9.0	2.3	0.11	0.75	F	L
CONTROL LOCATION:		CONDITION: Clear											
1429	2015/08/14 1211 CDT	jrp	4.11	335	35.1	-0.11	-0.09	-12.1	-2.3	0.0	1.12	F	L
CONTROL LOCATION: 0 ft downstream		CONDITION: Clear											
1430	2015/09/09 1141 CDT	bhi	4.62	559	35.1	-0.14	-0.12	-12.2	-1.9	-0.08	1.23	F	L
CONTROL LOCATION:		CONDITION: Clear											
1431	2015/10/09 1153 CDT	gsn/tpb	3.81	234	35.1	-0.06	-0.08	-8.9	3.1	0.0	0.37	F	L
CONTROL LOCATION:		CONDITION: Clear											

USGS Water-Year Summary 2015

06884025 Little Blue River at Hollenberg, KS

LOCATION - Lat 39°58'49", long 97°00'17" referenced to North American Datum of 1983, in NE 1/4 SW 1/4 sec.8, T.1 S., R.4 E., Washington County, KS, Hydrologic Unit 10270207, on right bank just downstream from bridge on county road, 0.6 mi west of Hollenberg, 1.8 mi downstream from Nebraska-Kansas State line, and at mile 43.1.

DRAINAGE AREA - 2,752 mi².

SURFACE-WATER RECORDS

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

GAGE - Water-stage recorder with satellite telemetry. Datum of gage is 1,216.10 ft above sea level.

REMARKS - Accuracy of records for water years prior to 2014 are noted in the individual Annual Data Reports for those water years. For water years 2014 onward, records good except for estimated daily discharges, which are poor, unless otherwise noted. Discharge measurements made prior to 1974 water year are published in table of miscellaneous sites in WDR NE-73.

EXTREMES OUTSIDE PERIOD OF RECORD - A gage height of 23.07 ft, present datum, from floodmark, discharge not determined, occurred October 12, 1973.

U.S. Department of the Interior
U.S. Geological Survey

Suggested citation: U.S. Geological Survey, 2016, National Water Information System data available on the World Wide Web (USGS Water Data for the Nation), accessed [May 13, 2016], at URL http://nwis.waterdata.usgs.gov/nwis/wys_rpt?dd_parm_cds=006_00060&adr_begin_date=2014-10-01&adr_end_date=2015-09-30&site_no=06884025&agency_cd=USGS

Water-Data Report 2015

06884025 Little Blue River at Hollenberg, KS -- Continued

DISCHARGE, CUBIC FEET PER SECOND
YEAR 2014-10-01 to 2015-09-30
DAILY MEAN VALUES
[e, Value has been estimated.]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	2014	2014	2014	2015	2015	2015	2015	2015	2015	2015	2015	2015
1	691	103	e101	e93	e96	e119	108	117	278	413	208	73
2	1,010	104	e110	e91	e95	e124	139	112	290	384	181	66
3	868	107	e109	e91	e95	e127	152	106	406	477	159	61
4	875	105	e109	e89	e92	e129	150	128	4,550	426	142	57
5	500	105	e112	e88	e90	e128	137	182	18,300	376	138	58
6	313	103	e115	e85	e92	e130	133	153	22,300	508	136	60
7	279	103	e120	e82	e95	e143	129	22,900	19,700	411	135	68
8	230	103	129	e79	e98	e150	126	35,400	9,620	327	161	138
9	192	104	130	e75	e99	e151	125	6,750	4,600	303	224	125
10	173	106	124	e74	e99	145	122	2,830	3,020	288	352	98
11	156	106	120	e73	e99	140	116	1,850	3,120	280	397	93
12	142	106	115	e74	e96	136	115	1,230	5,960	272	321	97
13	140	102	113	e74	e95	131	127	879	4,380	251	249	112
14	131	96	116	e75	e97	125	120	975	2,290	238	207	111
15	122	e93	124	e76	e95	121	121	936	7,620	262	171	118
16	117	e88	120	e77	e94	119	119	935	8,830	662	147	101
17	111	e86	121	e79	e94	111	148	839	4,130	273	140	87
18	108	e85	121	e80	e94	114	145	622	2,730	225	143	78
19	108	e83	116	e81	e93	115	144	512	2,010	236	139	72
20	110	e90	114	e83	e94	114	139	480	1,420	270	125	65
21	107	e105	115	e84	e95	112	131	446	1,180	371	115	62
22	106	e122	117	e86	e97	110	123	408	962	309	105	63
23	121	e140	120	e87	e97	109	114	385	3,440	232	103	64
24	112	145	125	e88	e101	147	113	384	4,140	204	94	72
25	111	130	125	e89	e104	150	310	370	1,210	187	84	67
26	111	126	122	e90	e105	135	253	351	881	186	76	66
27	109	117	120	e92	e103	128	205	328	716	268	75	66
28	108	118	e109	e94	e112	129	168	314	584	372	78	67
29	107	119	e99	e96		121	151	298	509	290	77	66
30	106	114	e96	e96		113	130	291	450	229	77	66
31	102		e95	e97		110		275		219	76	
Total	7,576	3,214	3,582	2,617	2,716	3,936	4,313	81,790	139,600	9,749	4,835	2,397
Mean	244	107	116	84.5	97.0	127	144	2,638	4,654	314	156	79.9
Max	1010	145	130	97	112	151	310	35400	22300	662	397	138
Min	102	83	95	73	90	109	108	106	278	186	75	57
Ac-ft	15,029	6,375	7,105	5,193	5,387	7,806	8,555	162,200	276,900	19,340	9,590	4,754

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2015, BY WATER YEAR (WY)

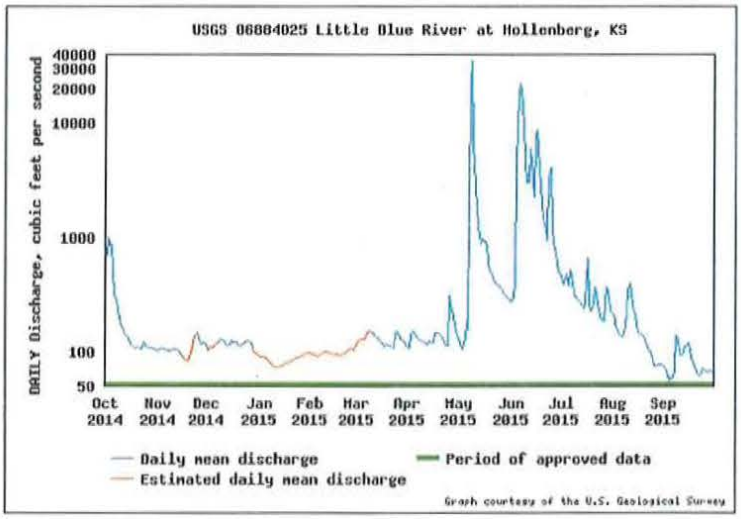
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	325	219	169	173	295	640	468	818	1,012	826	485	347
Max	2,163	1,113	424	577	1,059	3,816	2,379	2,638	4,654	9,014	2,572	1,320
(WY)	(1987)	(1997)	(1993)	(1984)	(1993)	(1993)	(1987)	(2015)	(2015)	(1993)	(1985)	(1977)
Min	45.3	81.1	87.1	84.5	97.0	118	118	109	151	68.0	51.5	32.0
(WY)	(1992)	(1992)	(2013)	(2015)	(2015)	(1981)	(2014)	(1992)	(1981)	(2013)	(2012)	(1991)

Water-Data Report 2015

06884025 Little Blue River at Hollenberg, KS -- Continued

SUMMARY STATISTICS

	Water Year 2015		Water Years 1975 - 2015	
Annual total	266,300			
Annual mean	729.7		482.6	
Highest annual mean			1,891	1993
Lowest annual mean			172.9	2006
Highest daily mean	35,400	May 08	39,300	Jul 26, 1992
Lowest daily mean	57.0	Sep 04	24.0	Sep 12, 2012
Annual 7-day minimum	63.3	Sep 01	26.0	Sep 06, 2012
Maximum peak flow	59,200	May 07	59,200	May 07, 2015
Maximum peak stage	22.97	May 07	22.97	May 07, 2015
Annual runoff (cfsm)	0.265		0.175	
Annual runoff (inches)	3.60		2.38	
10 percent exceeds	850.6		788.0	
50 percent exceeds	121.0		191.0	
90 percent exceeds	79.6		98.0	



U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES

Short-Form Discharge Measurement Summary With Inspections

STATION NUMBER 06884025 Little Blue River at Hollenberg, KS TYPE:Stream AGENCY USGS STATE 20 COUNTY 201

LATITUDE 395849 LONGITUDE 0970017 NAD83 DRAINAGE AREA 2752 CONTRIBUTING DRAINAGE AREA DATUM 1216.10 NGVD29

Date Processed:2016-05-13 12:40 By jmlambre

MEAS NO.	DATE	TIME	MADE BY	GAGE HEIGHT	DISCHARGE CFS	RATING	INDIC SHIFT	APPLD SHIFT	UNSFT DIFF	SHIFT DIFF	GHT. CHG.	TIME	RATED	STATUS
527	2014/10/16	1043 CDT	gsn	2.28	114	10.1	-0.14	-0.13	-25.5	-2.6	-0.01	0.43	G	L
CONTROL LOCATION:		CONDITION: Clear												
CONTROL REMARKS: sandbars. main flow on right side channel at gage.														
528	2014/11/24	1234 CST	gsn	2.44	137	10.1	-0.22	-0.21	-32.5	-1.4	0.0	0.42	G	L
CONTROL LOCATION:		CONDITION: Clear												
CONTROL REMARKS: no ice. some sandbars														
529	2015/01/14	1535 CST	LWN	2.86	75.5	10.1	-0.87	-0.22	-78.6	-72.0	-0.02		P	L
CONTROL LOCATION:		CONDITION: Ice cover												
CONTROL REMARKS: Complete ice cover.														
530	2015/03/04	1151 CST	LWN/JTC	2.71	130	10.1	-0.51	-0.23	-56.1	-39.8	-0.09	0.35	F	L
CONTROL LOCATION:		CONDITION: Shore ice												
CONTROL REMARKS: 15% SHORE ICE, small lead on far left bank measured with flowtracker														
531	2015/04/22	1237 CDT	LWN	2.42	122	10.1	-0.25	-0.24	-37.8	-2.4	-0.02	0.5	F	L
CONTROL LOCATION:		CONDITION: Light debris												
CONTROL REMARKS: Large sandbars.														
INSP	2015/05/01	1058 CDT	Jtc	2.40										L
CONTROL LOCATION:		CONDITION:												
532	2015/05/08	1156 CDT	MJA/BJD	19.21	35800	11.0	0.20	0.0	3.2	3.2	-0.14	0.5	F	L
CONTROL LOCATION:		CONDITION: Light debris												
CONTROL REMARKS: Road overflow on east. Easternmost- est 1ft deep, 3ft/s,meas 1367-518 ft =(849ft)=est 2550 cfs; westernmost east overflow est 3 ft deep, est 5ft/s, meas 268 feet wide=est 4,020 cfs. Total road overflow est = est 6500 cfs														
533	2015/05/12	1142 CDT	gsn	4.22	1230	11.0	0.0	0.0	0	0	-0.04	0.57	F	L
CONTROL LOCATION:		CONDITION: Clear												
534	2015/06/03	1124 CDT	bhi/nds	3.38	675	11.0	-0.11	-0.10	-7.8	-0.7	0.24	1.15	F	L
CONTROL LOCATION:		CONDITION: Clear												
535	2015/06/10	1510 CDT	MJA	5.50	2870	11.0	0.71	0.68	29.3	1.1	-0.05	0.5	F	L
CONTROL LOCATION:		CONDITION: Clear												
536	2015/07/15	1131 CDT	jrp	2.04	221	11.0	0.11	0.14	16.9	-3.9	-0.01	1.45	F	L
CONTROL LOCATION: 1500 ft downstream		CONDITION: Light debris												
INSP	2015/08/04	1248 CDT	jrp/bjd	1.73										L

CONTROL LOCATION: CONDITION:

537 2015/08/18 1210 CDT LWN/NDS 1.74 147 11.0 0.14 0.14 30.1 0.7 0.0 0.93 F L
CONTROL LOCATION: CONDITION: Light debris
CONTROL REMARKS: Old bridge piers and sandbars downstream.

538 2015/08/26 1039 CDT bhi 1.51 78.5 11.0 0.06 0.06 16.3 0.1 0.0 0.62 F L
CONTROL LOCATION: CONDITION: Clear

539 2015/10/13 1215 CDT bhi 1.53 77.1 11.0 0.03 0.03 8.6 0.8 0.0 0.52 F L
CONTROL LOCATION: CONDITION: Clear

Attachment M

REPORT OF THE ENGINEERING COMMITTEE
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION

May 18, 2016

The engineering committee was not given any special assignments from the Compact Administration and did not meet during the past year. The 2015 data for this report were collected as provided by 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 streamflow targets at the stateline gaging stations:

	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 May through September time period of the 2015 water year (October 1, 2014 thru September 30, 2015) only the Little Blue River Basin fell below Compact target flows. The mean daily streamflow at the Barneston gage on the Big Blue River (Exhibit A) exceeded target flows throughout the year. The mean daily streamflow on the Little Blue River at the Hollenberg gage (Exhibit B) was below target flows for 8 days.

Real-time and historical data for these gaging stations can be found at the following 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 Lower Big Blue Natural Resources District provided the groundwater levels (Exhibit C) for the Big Blue Basin near Beatrice.

Review of Wells in the Regulatory Reaches

Exhibit D is a listing of the irrigation wells within the regulatory reaches. There were no new wells drilled in the Big Blue River regulatory area and no new wells drilled in the Little Blue River regulatory area during this reporting period.

Respectively Submitted,

Jeremy F. Gehle, Chair
Nebraska

Chris Beightel, P.E.
Kansas

SUMMARY STATISTICS

	Water Year 2015		Water Years 1933 - 2015	
Annual total	570,900			
Annual mean	1,564		840.9	
Highest annual mean			2,781	1993
Lowest annual mean			115.0	1934
Highest daily mean	28,200	Jun 06	50,000	Jun 09, 1941
Lowest daily mean	149.0	Jan 06	1.00	Nov 30, 1945
Annual 7-day minimum	158.0	Jan 03	15.1	Aug 03, 1934
Maximum peak flow			57,700	Jun 09, 1941
Maximum peak stage			34.30[a]	Jun 09, 1941
Annual runoff (cfsm)	0.352		0.189	
Annual runoff (inches)	4.77		2.57	
10 percent exceeds	2,628		1,704	
50 percent exceeds	286.0		278.0	
90 percent exceeds	209.2		106.0	

[a] Gage height at different site and(or) datum

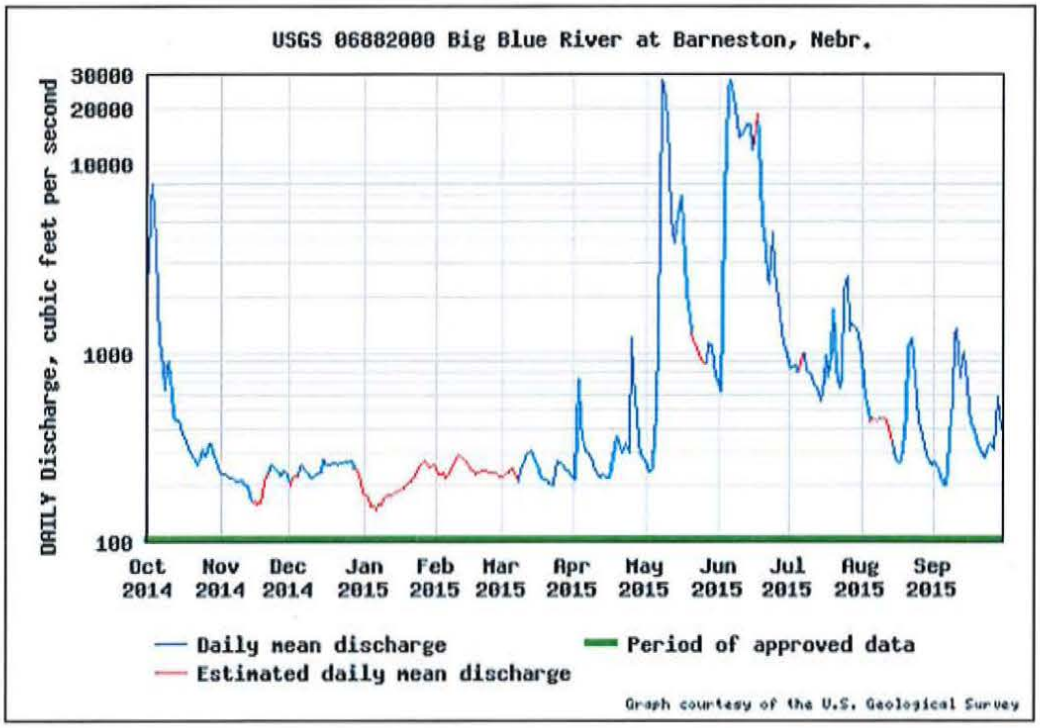


Exhibit A

SUMMARY STATISTICS

	Water Year 2015		Water Years 1975 - 2015	
Annual total	266,300			
Annual mean	729.7		482.6	
Highest annual mean			1,891	1993
Lowest annual mean			172.9	2006
Highest daily mean	35,400	May 08	39,300	Jul 26, 1992
Lowest daily mean	57.0	Sep 04	24.0	Sep 12, 2012
Annual 7-day minimum	63.3	Sep 01	26.0	Sep 06, 2012
Maximum peak flow	59,200	May 07	59,200	May 07, 2015
Maximum peak stage	22.97	May 07	22.97	May 07, 2015
Annual runoff (cfsm)	0.265		0.175	
Annual runoff (inches)	3.60		2.38	
10 percent exceeds	850.6		788.0	
50 percent exceeds	121.0		191.0	
90 percent exceeds	79.6		98.0	

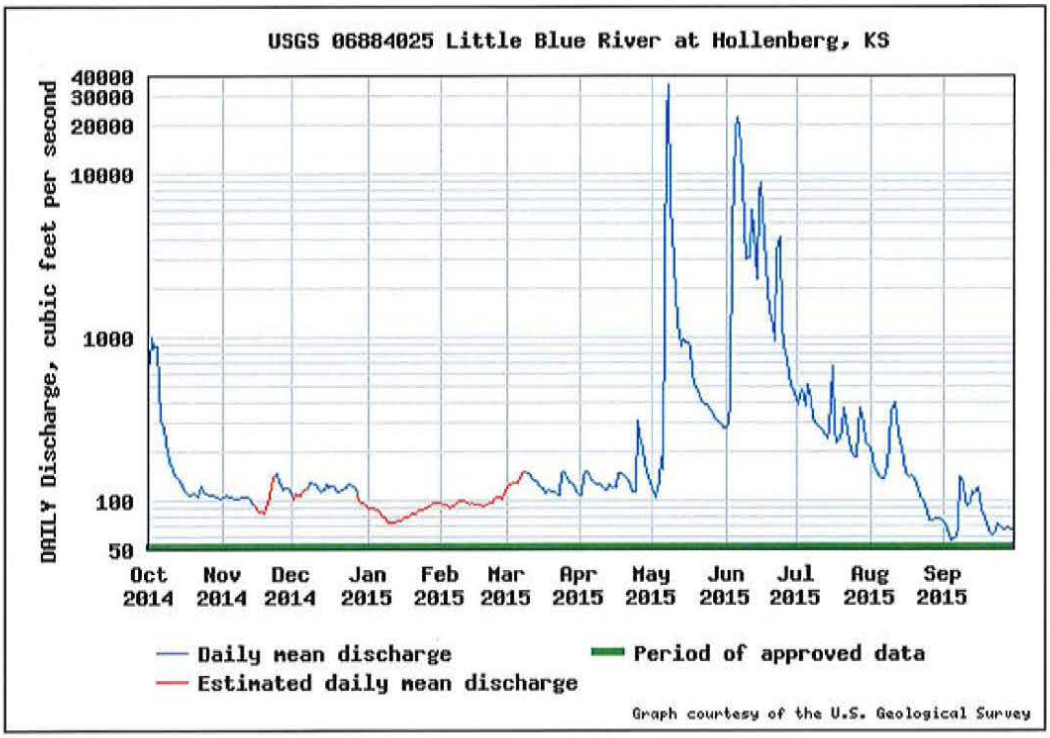


Exhibit B

BIG BLUE RIVER COMPACT STATIC WATER LEVELS 2015

LEGAL	SECT	SITE	TYPE	Spring 2015	Fall 2015
4N-5E	2	AAAA	OW	97.33	94.77
4N-5E	2	DDAA	IW	19.11	19.38
4N-5E	4	BBBC	IW	21.39	21.45
4N-5E	9	CBCC	IW	75.18	74.60
4N-5E	10	DDAA	IW	27.85	27.28
4N-5E	11	DACA	IW	17.13	15.87
4N-5E	14	ABBB	IW	14.47	13.79
4N-5E	25	AACD	IW	22.15	22.09
5N-4E	12	ABBA	IW	19.64	19.47
5N-4E	13	BADD	IW	16.72	15.11
5N-4E	23	BABB	IW	17.38	17.92
5N-4E	24	AACD	IW	18.85	18.07
5N-5E	7	CADD	IW	63.47	63.16
5N-5E	20	BCCD	IW	20.25	19.92
5N-5E	21	DDBB	IW	56.46	57.11
5N-5E	29	CBBB	IW	15.65	15.17
5N-5E	33	AADD	IW	20.19	20.53

OW - OBSERVATION WELLS

IW - IRRIGATION WELLS

Exhibit C

Big Blue River Regulatory Area Wells					
Registration Number	Location T-R-S	Completion Date	Depth (FT)	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	1,300	1/29/1973
G-047820	4N-5E-12BB	11/1/1975	117	1,200	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	1,000	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	1,200	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
G-151969	5N-5E-33BB	12/11/2008	112	800	1/20/2009
G-155061	4N-5E-10BB	12/4/2009	98	800	1/27/2010
G-166637	5N-5E-33BC	3/20/2013	120	1,200	3/28/2013

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

Exhibit D

Attachment N

Kansas-Nebraska Big Blue River Compact Administration

Water Quality Committee Report

May 18, 2016

1. Recent Water Quality Conditions

Water quality monitoring continued at the stateline by KDHE, as well as the major tributaries to the Big and Little Blue Rivers flowing toward Tuttle Creek Reservoir. The following table indicates the average atrazine, phosphorus and total suspended solids (sediment) levels over the ten-year period 2005-2014 and the recent period 2015-2016. Atrazine levels have decreased, although the recent period has a small sample size. Phosphorus and TSS on the Little Blue at the stateline have diminished recently but the Big Blue was up somewhat at the stateline. The Big Blue River at Blue Rapids after the two rivers join has somewhat lower concentrations of phosphorus, but a marked increase in sediment. The Little Blue River at Waterville just above the confluence with the Big Blue has had little change in average concentrations among the three pollutants. Sestonic (floating) chlorophyll was also measured at the stateline on the Big Blue River and it is quite elevated.

The major tributaries, Black Vermillion River and Mill Creek also see a decrease in average atrazine, while both phosphorus and TSS jumped. In most cases, the recent elevated averages were driven up by extremely high values sampled in July of 2015.

	Little Blue @ Stateline		Big Blue @ Stateline		Big Blue @ Blue Rapids		Little Blue @ Waterville	
Pollutant	2005-14	2015-16	2005-14	2015-16	2005-14	2015-16	2005-14	2015-16
Atrazine	1.85	0.3	1.91	0.38	1.7	0.85	2.17	2.1
Phosphorus	0.59	0.40	0.98	1.22	0.79	0.83	0.58	0.58
Total Susp Solids	193	45	226	255	307	303	272	291
Chlorophyll	---	---	83	143	---	---	---	---
	Tributaries							
	Mill Creek		Black Vermillion River					
Atrazine	2.79	0.47	1.51	0.86				
Phosphorus	0.37	0.54	0.42	0.56				
Total Susp Solids	198	532	258	338				

On Tuttle Creek Reservoir, pesticide levels have dropped. Average alachlor and atrazine concentrations over 1988-1998 were 1.44 and 6.66 ug/l, respectively. Those averages dropped to 0.22 and 0.94 ug/l over 2000-2015. Phosphorus levels have increased on average from 0.21 mg/l over 1991-2000 to 0.26 mg/l over 2003-2015. Secchi depths over those periods have also increased from 0.44 meters to 0.91 meters. Correspondingly, chlorophyll levels in the reservoir recently have jumped from 2.8 ug/l to 16 ug/l.

2. Impaired Waters: 303d listings, TMDLs and Non-Point Source Management

Both states completed their 303d list of impaired waters by the April 1 deadline and both states have had their list approved by EPA, the only two states in the nation to do so. The 303d list identifies those waters that are not meeting water quality standards and results in a Total Maximum Daily Load (TMDL) or some alternative plan being developed to restore water quality to those standards. Nebraska is leading the way in using its 319 Non-point source pollution program to develop plans on a watershed basis prior to establishing a TMDL.

Nebraska 303d listings, TMDL development, and 319 Activities in the Blue River Basin

Assessment categories for waterbodies in the 2016 Integrated Report:

Category 1 – Waterbodies where all designated uses are met.

Category 2 – Waterbodies where some of the designated uses are met but there is insufficient information to determine if all uses are being met.

Category 3 – Waterbodies where there is insufficient data to determine if any beneficial uses are being met.

Category 4 – Waterbody is impaired, but a TMDL is not needed. Sub-categories 4A-C and R outline the rationale for the waters not needing a TMDL:

> ***Category 4a*** – Waterbody assessment indicates the waterbody is impaired, but all of the required TMDLs have been completed.
>
> ***Category 4b*** – Waterbody is impaired, but "other pollution control requirements" are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control requirements include, but are not limited to, National Pollutant Discharge Elimination System (NPDES) permits and best management practices.
>
> ***Category 4c*** – Waterbody is impaired but the impairment is not caused by a pollutant. This category also includes waters where natural causes/sources have been determined to be the cause of the impairment. In general, natural causes/sources shall refer to those pollutants that originate from landscape geology and climactic conditions. It should be noted, this definition is not inclusive.

Category 4r – Waterbody data exceeds the impairment threshold however a TMDL is not appropriate at this time. The category will only be used for nutrient assessments in new or renovated lakes and reservoirs. Newly filled reservoirs usually go through a period of trophic instability – a trophic upsurge followed by the trophic decline (Holdren, et. al. 2001). Erroneous water quality assessments are likely to occur during this period. To account for this, all new or renovated reservoirs will be placed in this category for a period not to exceed eight years following the fill or re-fill process. After the eighth year monitoring data will be assessed and the waterbody will be appropriately placed into category 1, 2, or 5.

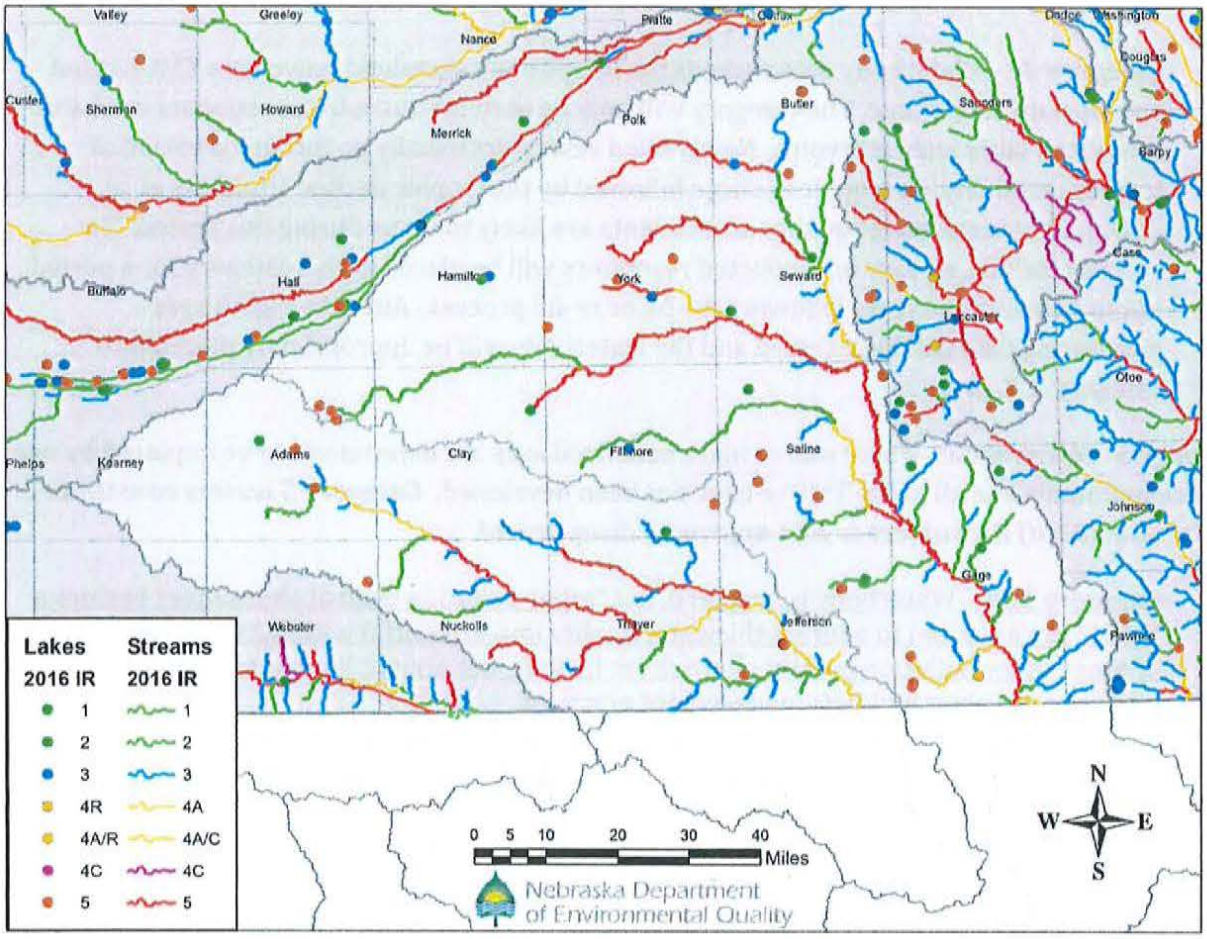
Category 5 – Waterbodies where one or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed. ***Category 5 waters constitute the Section 303(d) list subject to EPA approval/disapproval.***

Category 5alt – Waterbody is impaired, but "other pollution control alternatives besides a TMDL" are expected to address the water quality impairment(s) within a reasonable period of time. Other pollution control alternatives include, but are not limited to, watershed management plans and best management practices.

303d Listing: 2016 Integrated Report Assessment Statuses

Basin	Category								Basin Total
	1	2	3	4A	4B	4C	4R	5	
Big Blue Streams	5	16	24	7	0	0	NA	11	63
Big Blue Lakes	2	6	4	0	0	0	1	18	31
Little Blue Streams	1	9	19	4	0	0	NA	5	38
Little Blue Lakes	0	2	0	0	0	0	0	10	*12

*LB2-L0060: Brick Yard Park Pond was removed from Title 117: Nebraska Surface Water Quality Standards in the 2014 Triennial Review as it was determined to not exist.


Valley
Greeley
Nance
Platte
Dodge
Washington
Douglas
Custer
Sherman
Howard
Merrick
Polk
Butler
Saunders
Sarpy
Cass
Buffalo
Hall
Hamilton
York
Seward
Lancaster
Otoe
Phelps
Kearney
Adams
Clay
Fillmore
Saline
Johnson
Gage
Webster
Nuckolls
Thayer
Jefferson
Pawnee
Lakes
2016 IR
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4A/R
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Streams
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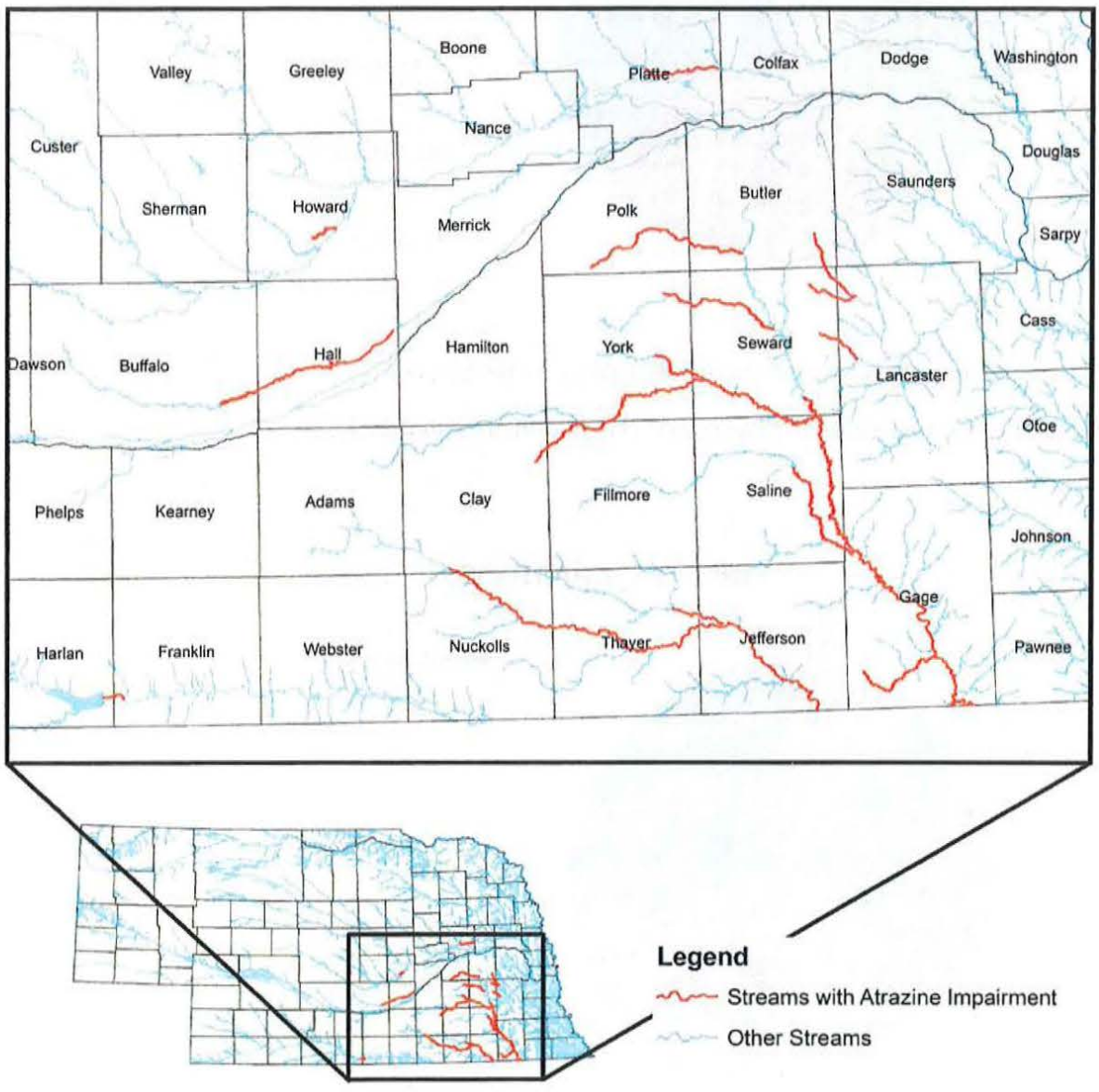
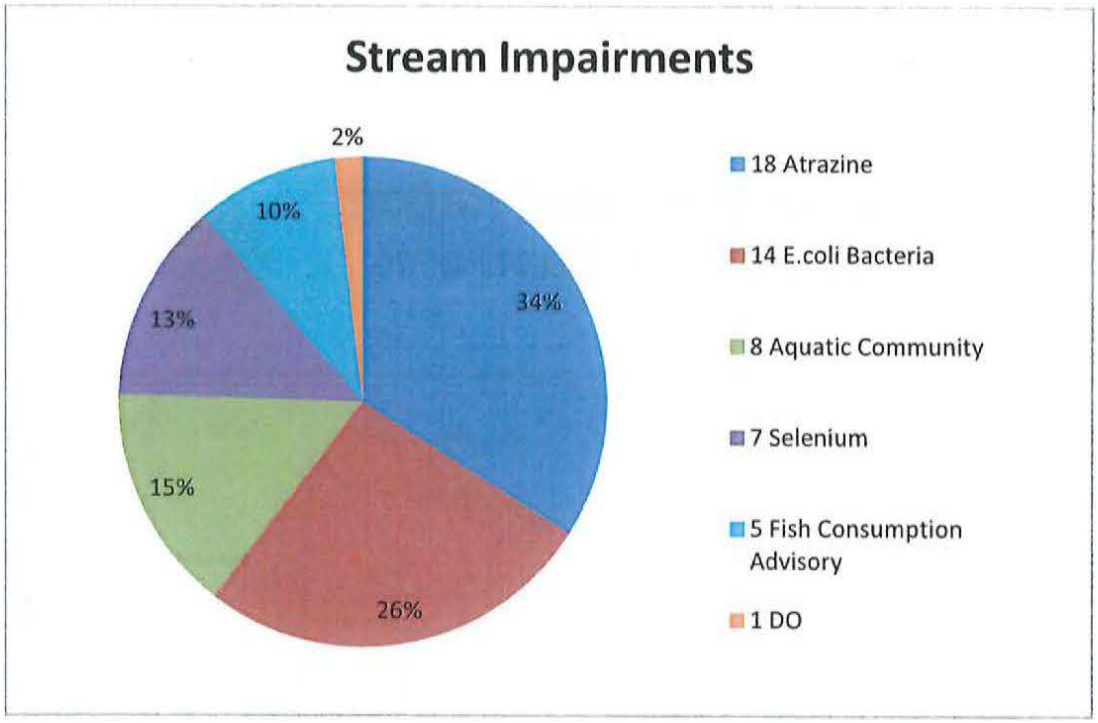
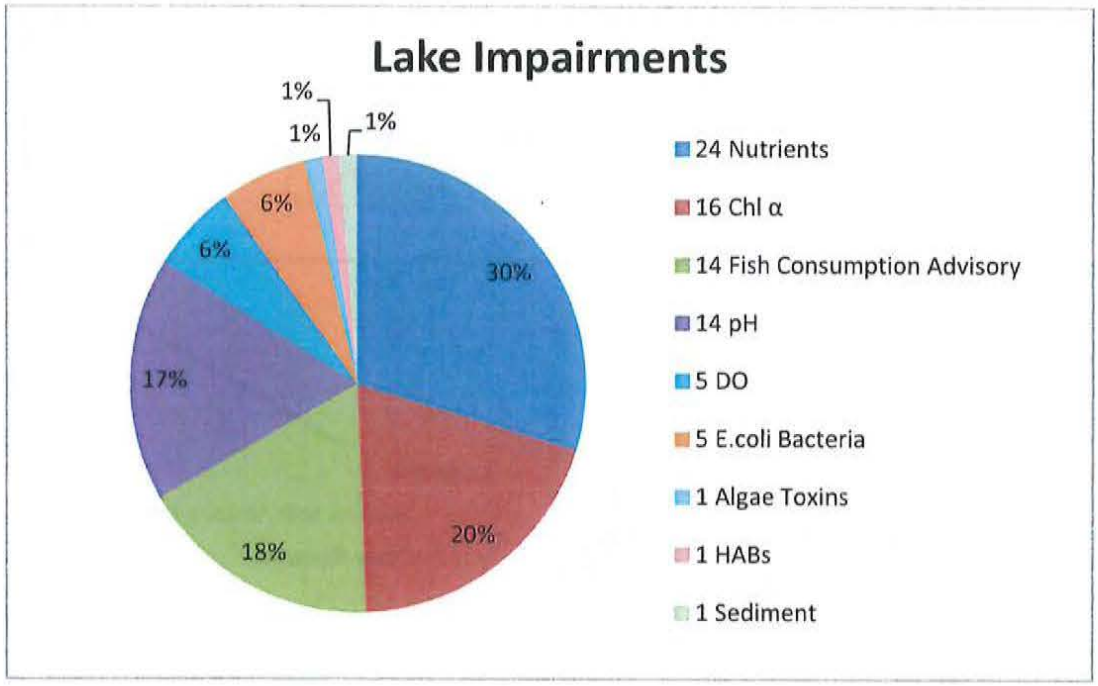
2016 Integrated Report
Atrazine Impairments





10 Atrazine Impaired Streams have TMDLs and are listed as 4a

8 *E.coli* Bacteria Impaired Streams have TMDLs and are listed as 4a.



1 Nutrient Impaired lake is currently being renovated and is listed as 4r.

In 2013, EPA approved 23 TMDLs in the Big Blue Basin for ten stream segments impaired by E. coli, three of which were revised TMDLs from 2005, and thirteen stream segments impaired by Atrazine. See the table below.

TMDL Development: Blue River Basin Waterbodies with Established/Approved TMDLs

Basin	ID	Waterbody Name	Imapired Use	Impairment	WMP	Notes
BB	BB1-10000	Big Blue River	Primary Contact Recreation	E coli	Lower Big Blue River Basin	revised TMDL
			Aquatic Life	Atrazine	Lower Big Blue River Basin	
	BB1-10100	Mission Creek	Aquatic Life	Atrazine	Lower Big Blue River Basin	
			Primary Contact Recreation	E coli	Lower Big Blue River Basin	
	BB1-10800	Big Indian Creek	Aquatic Life	Atrazine	Lower Big Blue River Basin	
			Primary Contact Recreation	E coli	Lower Big Blue River Basin	
	BB1-10900	Big Indian Creek	Aquatic Life	Atrazine	Lower Big Blue River Basin	
	BB1-20000	Big Blue River	Primary Contact Recreation	E coli	Lower Big Blue River Basin	revised TMDL
			Aquatic Life	Atrazine	Lower Big Blue River Basin	
	BB1-L0030	Big Indian Lake	Aesthetics, Aquatic Life	T.Phosphorus	Big Indian Reservoir	
			Aesthetics, Aquatic Life	Sediment	Big Indian Reservoir	
	BB2-10000	Turkey Creek	Aquatic Life	Atrazine	Lower Big Blue River Basin	
			Primary Contact Recreation	E coli	Lower Big Blue River Basin	
	BB2-20000	Turkey Creek	Primary Contact Recreation	E coli	Lower Big Blue River Basin	
			Aquatic Life	Atrazine	Lower Big Blue River Basin	
	BB3-10000	West Fork Big Blue River	Primary Contact Recreation	E coli	None	revised TMDL
			Aquatic Life	Atrazine	None	
	BB3-10300	Beaver Creek	Aquatic Life	Atrazine	None	
	BB3-20000	West Fork Big Blue River	Primary Contact Recreation	E coli	None	
			Aquatic Life	Atrazine	None	
	BB4-10000	Big Blue River	Primary Contact Recreation	E coli	None	
			Aquatic Life	Atrazine	None	
	BB4-20000	Big Blue River	Primary Contact Recreation	E coli	None	
	BB4-20800	Lincoln Creek	Aquatic Life	Atrazine	None	
	BB4-40000	Big Blue River	Aquatic Life	Atrazine	None	
LB	LB1-10000	Little Blue River	Primary Contact Recreation	E coli	Draft Little Blue River Basin	revised TMDL
			Public Drinking Water Supply	Atrazine	Draft Little Blue River Basin	
			Aquatic Life	Atrazine	Draft Little Blue River Basin	
	LB1-10200	Rock Creek	Primary Contact Recreation	E coli	Draft Little Blue River Basin	
	LB2-10000	Little Blue River	Primary Contact Recreation	E coli	Draft Little Blue River Basin	revised
			Aquatic Life	Atrazine	Draft Little Blue River Basin	
	LB2-10100	Big Sandy Creek	Aquatic Life	Atrazine	Draft Little Blue River Basin	
	LB2-10100	Big Sandy creek	Primary Contact Recreation	E coli	Draft Little Blue River Basin	
	LB2-20000	Little Blue River	Aquatic Life	Atrazine	Draft Little Blue River Basin	
			Primary Contact Recreation	E coli	Draft Little Blue River Basin	
	LB2-30000	Little Blue River	Primary Contact Recreation	E coli	Draft Little Blue River Basin	

319 Activities in the Blue River Basin:

Lower Big Blue NRD

- LBBNRD has a 9-element basin plan in place, effective 2013.
- LBBNRD's 319 project to treat the Cub Creek 12A watershed was just wrapped up this spring, final report is forthcoming.
- LBBNRD applied to NDEQ and NET to renovate Cub Creek 12A in 2014 and 2015. NET did not fund. They plan to adjust and reapply in 2016.

Little Blue NRD

- LBNRD has a draft 9-element basin plan under review currently at NDEQ.
- LBNRD applied for 319 funds to do a streambank stabilization project (pending approval of the basin plan), but were not funded for NET (for their match), therefore this project will not be going forward at this point.
- LBNRD is working on alternative projects since the streambank stab. Project fell through.

Kansas 303d listings, TMDL development, and 319 Activities in the Blue River Basin

Little has changed between the 2014 and 2016 lists for streams and lakes in Kansas with a variety of impairments, mostly on the streams in the basin.

Subbasin	Biology	pH	Eutro	Copper	Lead	Arsenic	Sulfate	Phosphorus	TSS
Big Blue	5	2	0	1	0	1	2	6	3
Little Blue	1	1	1	1	1	1	0	4	3

The priority for TMDL development will be the stream phosphorus impairments in both sub-basins. Those TMDLs are slated for completion in 2019. TMDLs addressing the biology impairments are planned for 2022. The remaining impairments will be scheduled in 2023 and beyond. Thirty TMDLs have been completed in the basin (18 in Big Blue; 12 in Little Blue). These TMDLs, largely established in 2000 and 2007, primarily dealt with atrazine, lake eutrophication and bacteria (formerly fecal coliform, now E coli).

The Tuttle Creek WRAPS (Watershed Restoration and Protection Strategy) continues to be the centroid of activity in abating non-point source pollution through the EPA 319 grant and the Kansas State Water Plan Fund. Streambank stabilization is the dominant practice expenditure currently and in the foreseeable future because of the Governor's Vision to extend the capacity of Kansas Federal reservoirs, such as Tuttle Creek, which supports the Kansas River and over one-third of the state population. Funding of $300,000 has been previous directed toward streambank stabilization in the basin at priority sites with another $500,000 slated for the future. An additional $100,000 is allocated for typical livestock and cropland management practices. The existing watershed plan is undergoing revisions to reflect past experience and reset priority areas.

2016 303(d) List of All Impaired/Potentially Impaired Waters
Kansas Lower Republican Basin

10270205
Lower Big Blue

Cat.	Stream/Lake	Impaired Use	Impairment	Station	Counties	Body Type	Priority	
5	Big Blue River Near Oketo	Water Supply	Arsenic	SC233	MS	Watershed	2023	
5	Big Blue River Near Oketo	Aquatic Life	Biology	SC233	MS	Watershed	2022	
5	Black Vermillion River Near Frankfort	Aquatic Life	Biology	SC505	MS,NM	Watershed	2022	
5	Horseshoe Creek	Aquatic Life	Biology	SB475	MS	Watershed	2022	
5	North Fork Black Vermillion River Near Vliets	Aquatic Life	Biology	SC128	MS, NM	Watershed	2022	
5	Spring Creek	Aquatic Life	Biology	SB476	MS	Watershed	2022	
5	Big Blue River Near Blue Rapids	Aquatic Life	Copper	SC240	MS	Watershed	2023	
5	Big Blue River Near Blue Rapids	Aquatic Life	pH	SC240	MS	Watershed	2022	
5	Big Blue River Near Oketo	Aquatic Life	pH	SC233	MS	Watershed	2022	
5	Fancy Creek Near Randolph	Water Supply	Sulfate	SC502	WS, CY, RL	Watershed	2023	
5	Horseshoe Creek Near Marysville	Water Supply	Sulfate	SC717	MR, CS	Watershed	2023	
5	Big Blue River Near Blue Rapids	Aquatic Life	Total Phosphorus	SC240	MS	Watershed	2019	
5	Big Blue River Near Oketo	Aquatic Life	Total Phosphorus	SC233	MS	Watershed	2019	
5	Black Vermillion River Near Frankfort	Aquatic Life	Total Phosphorus	SC505	MS,NM	Watershed	2019	
5	Horseshoe Creek Near Marysville	Aquatic Life	Total Phosphorus	SC717	MR, CS	Watershed	2019	
5	North Elm Creek Near Oketo	Aquatic Life	Total Phosphorus	SC731	MS, NM	Watershed	2019	
5	Robidoux Creek near Frankfort	Aquatic Life	Total Phosphorus	SC754	MS	Watershed	2019	
5	Big Blue River Near Blue Rapids	Aquatic Life	Total Suspended Solids	SC240	MS	Watershed	2023	
5	Big Blue River Near Oketo	Aquatic Life	Total Suspended Solids	SC233	MS	Watershed	2023	
5	Black Vermillion River Near Frankfort	Aquatic Life	Total Suspended Solids	SC505	MS,NM	Watershed	2023	

2016 303(d) List of All Impaired/Potentially Impaired Waters
Kansas Lower Republican Basin

10270205
Lower Big Blue

Cat.	Stream/Lake	Impaired Use	Impairment	Station	Counties	Body Type	Priority	
4a	Tuttle Creek Lake	Aquatic Life	Alachlor	LM021001	MS, RL, PT	Lake	High	
4a	Centralia Lake	Recreation	Aquatic Plants	LM073701	NM	Lake	Medium	
4a	Big Blue River Near Blue Rapids	Aquatic Life	Atrazine	SC240	MS	Watershed	High	
4a	Big Blue River Near Oketo	Aquatic Life	Atrazine	SC233	MS	Watershed	High	
4a	Black Vermillion River Near Frankfort	Aquatic Life	Atrazine	SC505	MS,NM	Watershed	High	
4a	Fancy Creek Near Randolph	Aquatic Life	Atrazine	SC502	WS, CY, RL	Watershed	High	
4a	Horseshoe Creek Near Marysville	Aquatic Life	Atrazine	SC717	MR, CS	Watershed	High	
4a	North Elm Creek Near Oketo	Aquatic Life	Atrazine	SC731	MS, NM	Watershed	High	
4a	Tuttle Creek Lake	Aquatic Life	Atrazine	LM021001	MS, RL, PT	Lake	High	
4a	Big Blue River Near Blue Rapids	Recreation	E. coli	SC240	MS	Watershed	High	
4a	Big Blue River Near Oketo	Recreation	E. coli	SC233	MS	Watershed	High	
4a	Black Vermillion River Near Frankfort	Recreation	E. coli	SC505	MS,NM	Watershed	High	
4a	Fancy Creek Near Randolph	Recreation	E. coli	SC502	WS, CY, RL	Watershed	Medium	
4a	Horseshoe Creek Near Marysville	Recreation	E. coli	SC717	MR, CS	Watershed	High	
4a	Centralia Lake	Aquatic Life	Eutrophication	LM073701	NM	Lake	Medium	
4a	Tuttle Creek Lake	Aquatic Life	Eutrophication	LM021001	MS, RL, PT	Lake	High	
4a	Centralia Lake	Aquatic Life	pH	LM073701	NM	Lake	Medium	
4a	Tuttle Creek Lake	Water Supply	Siltation	LM021001	MS, RL, PT	Lake	High	
3	Centralia Lake	Water Supply	Arsenic	LM073701	NM	Lake		
3	Rocky Ford W.A.	Food Procuremen	Mercury	LM020601	RL	Lake		

2016 303(d) List of All Impaired/Potentially Impaired Waters
Kansas Lower Republican Basin

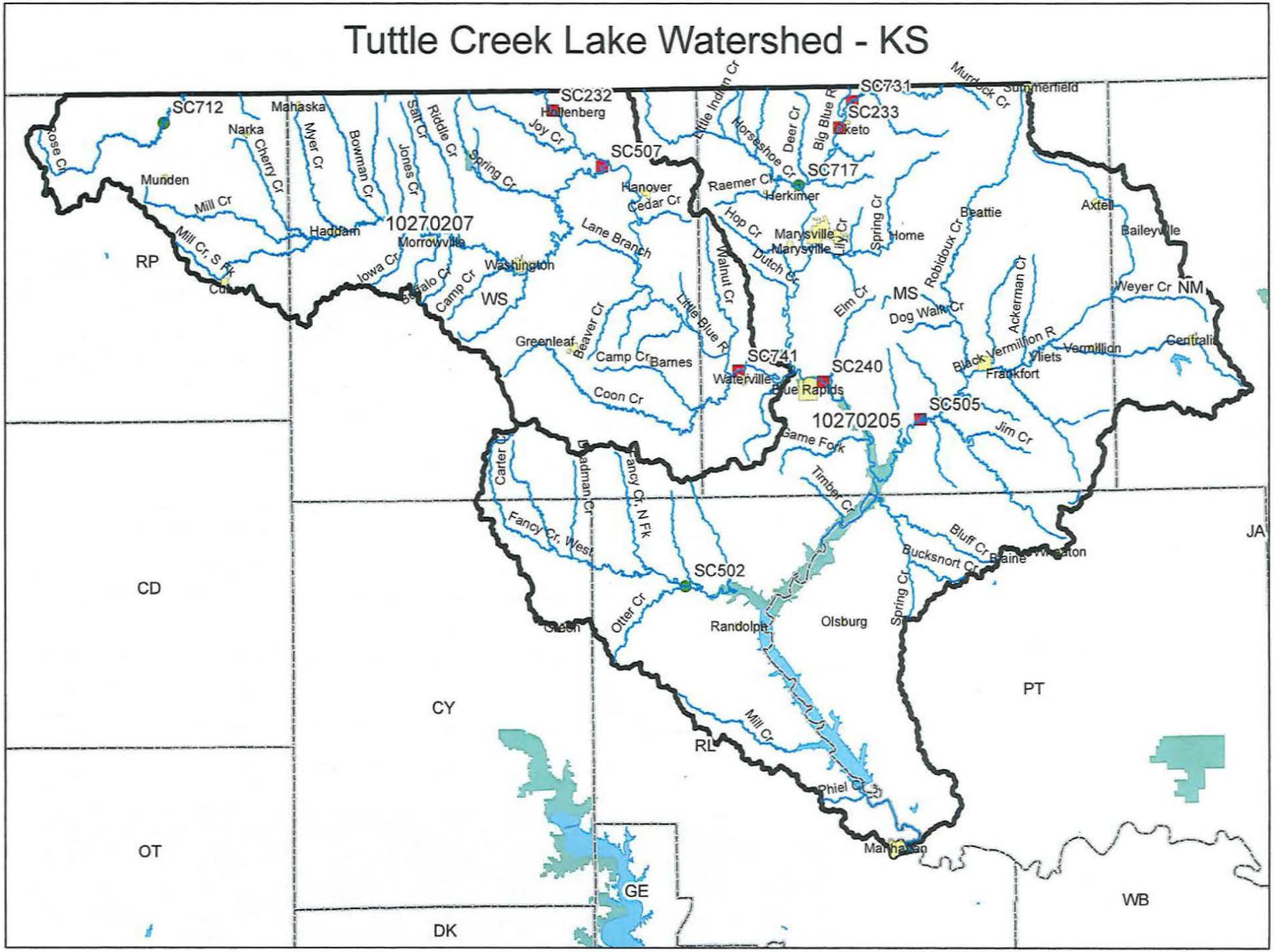
10270207
Lower Little Blue

Cat.	Stream/Lake	Impaired Use	Impairment	Station	Counties	Body Type	Priority	
5	Rose Creek Near Narka	Water Supply	Arsenic	SC712	RP	Watershed	2023	
5	Little Blue River Near Hollenberg	Aquatic Life	Biology	SC232	RP, WS	Watershed	2022	
5	Little Blue River Near Hollenberg	Aquatic Life	Copper	SC232	RP, WS	Watershed	2023	
5	Washington Co. SFL	Aquatic Life	Eutrophication	LM010901	WS	Lake	2023	
5	Washington W.A.	Aquatic Life	Lead	LM010941	WS	Lake	2023	
5	Little Blue River Near Hollenberg	Aquatic Life	pH	SC232	RP, WS	Watershed	2022	
5	Little Blue River Near Hollenberg	Aquatic Life	Total Phosphorus	SC232	RP, WS	Watershed	2019	
5	Little Blue River Near Waterville	Aquatic Life	Total Phosphorus	SC741	WS, MS	Watershed	2019	
5	Mill Creek Near Hanover	Aquatic Life	Total Phosphorus	SC507	RP, WS	Watershed	2023	
5	Rose Creek Near Narka	Aquatic Life	Total Phosphorus	SC712	RP	Watershed	2019	
5	Little Blue River Near Hollenberg	Aquatic Life	Total Suspended Solids	SC232	RP, WS	Watershed	2023	
5	Little Blue River Near Waterville	Aquatic Life	Total Suspended Solids	SC741	WS, MS	Watershed	2023	
5	Mill Creek Near Hanover	Aquatic Life	Total Suspended Solids	SC507	RP, WS	Watershed	2023	
4a	Washington Co. SFL	Recreation	Aquatic Plants	LM010901	WS	Lake	Low	
4a	Little Blue River Near Hollenberg	Aquatic Life	Atrazine	SC232	RP, WS	Watershed	High	
4a	Little Blue River Near Waterville	Aquatic Life	Atrazine	SC741	WS, MS	Watershed	High	
4a	Mill Creek Near Hanover	Aquatic Life	Atrazine	SC507	RP, WS	Watershed	High	
4a	Rose Creek Near Narka	Aquatic Life	Atrazine	SC712	RP	Watershed	High	
4a	Washington Co. SFL	Aquatic Life	Dissolved Oxygen	LM010901	WS	Lake	Low	
4a	Little Blue River Near Hollenberg	Recreation	E. coli	SC232	RP, WS	Watershed	High	

2016 303(d) List of All Impaired/Potentially Impaired Waters
Kansas Lower Republican Basin

10270207
Lower Little Blue

Cat.	Stream/Lake	Impaired Use	Impairment	Station	Counties	Body Type	Priority	
4a	Little Blue River Near Waterville	Recreation	E. coli	SC741	WS, MS	Watershed	High	
4a	Mill Creek Near Hanover	Recreation	E. coli	SC507	RP, WS	Watershed	High	
4a	Lake Idlewild	Aquatic Life	Eutrophication	LM061201	MS	Lake	Low	
4a	Washington W.A.	Aquatic Life	Eutrophication	LM010941	WS	Lake	Low	
4a	Washington W.A.	Water Supply	Siltation	LM010941	WS	Lake	Low	
3	Washington W.A.	Aquatic Life	Dissolved Oxygen	LM010941	WS	Lake		
3	Rose Creek Near Narka	Recreation	E. coli	SC712	RP	Watershed		


Tuttle Creek Lake Watershed - KS
SC712
Mahaska
Narka
Cherry Cr
Myer Cr
Bowman Cr
Salt Cr
Jones Cr
Riddle Cr
Spring Cr
Rose Cr
Munden
Mill Cr
Haddam
Mill Cr, S Fk
10270207
Morrowville
Iowa Cr
Buffalo Cr
Camp Cr
Washington
RP
WS
SC232
Hollenberg
Joy Cr
SC507
Hanover
Cedar Cr
Lane Branch
Little Indian Cr
Horseshoe Cr
Deer Cr
Big Blue R
SC731
SC233
Keto
Murdock Cr
Summerfield
SC717
Raemer Cr
Herkimer
Hop Cr
Marysville
Dutch Cr
Lily Cr
Spring Cr
Home
Beattie
Axtell
Baileyville
Robidoux Cr
Ackerman Cr
Weyer Cr
NM
MS
Walnut Cr
Elm Cr
Dog Walk Cr
Greenleaf
Beaver Cr
Camp Cr
Barnes
Little Blue R
SC741
Waterville
SC240
Blue Rapids
Black Vermillion R
Vliets
Vermillion
Frankfort
Centralia
Coon Cr
SC505
10270205
Jim Cr
Game Fork
Timber Cr
Carter Cr
Cadman Cr
Fancy Cr, West
Fancy Cr, N Fk
Bluff Cr
Blaine
Bucksnort Cr
JA
SC502
Otter Cr
Randolph
Olsburg
Spring Cr
CD
CY
RL
PT
Mill Cr
Phiel Cr
Manhattan
OT
GE
DK
WB

Water Quality Milestone Update

	Sampling Sites	Current Condition (2000-2009)	Improved Condition (2010-2019)	Reduction Needed	Current Condition (2000-2009)	Improved Condition (2010-2019)	Reduction Needed
		Total Phosphorus (median of data collected during indicated period), ppb			Total Suspended Solids (median of data collected during indicated period), ppm		
SC240	Blue Rapids (Blue River)	623 ↑	560	**63**	107 ↓	70	**37**
SC741	Waterville (Little Blue River)	366 =	300	**66**	47 ↑	35	**12**
SC505	Black Vermillion River	259 =	230	**29**	55 ↓	40	**15**
SC507	Hanover (Mill Creek)	255 ↑	180	**75**	37 ↓	30	**7**

300k 319 - streambank
100k - lim/ag
500k - streambank
Δ priority areas

Blue River Compact

Load Reduction Achievement Update

Tuttle Watershed Plan

BMP Load Reduction Evaluation - WRAPS Priority Scoring Matrix

Watershed Plan Annual Reduction Goals	Plan	WRAPS	NRCS FFY 11		DOC	Other	Actual	% of Total
Timeframe	Year 1	SFY 11	Protracts	NonPro	SFY 11	SFY 11	Year 1	
Pollutant								
Phosphorus (lbs/yr)	71,419	0	15,960	12,017	706	1,062	29,745	42%
Sediment (tons/yr)	77,405	0	15,249	9,510	262	0	25,021	32%

Tuttle Watershed Plan

BMP Load Reduction Evaluation - WRAPS Priority Scoring Matrix

Watershed Plan Annual Reduction Goals	Plan	WRAPS	NRCS FFY 12		DOC	Other	Actual	% of Total
Timeframe	Year 2	SFY 12	Protracts	NonPro	SFY 12	SFY 12	Year 2	
Pollutant								
Phosphorus (lbs/yr)	71,419	2148	2,785	11,379	810	0	17,122	24%
Sediment (tons/yr)	77,405	814	2,117	9,041	194	0	12,166	16%

Tuttle Watershed Plan

BMP Load Reduction Evaluation - WRAPS Priority Scoring Matrix

Watershed Plan Annual Reduction Goals	Plan	WRAPS	NRCS FFY 13		DOC	Other	Actual	% of Total
Timeframe	Year 3	SFY 13	Protracts	NonPro	SFY 13	SFY 13	Year 3	
Pollutant								
Phosphorus (lbs/yr)	71,419	6329	18,053	12,655	635		37,672	53%
Sediment (tons/yr)	77,405	91	17,380	10,386	106		27,963	36%

Avg Achievement Phosphorus = 40%

Avg Achievement Sediment = 28%

Evaluation of nine element plan implementation (for most recent three years of implementation)

☑ WRAPS-funded BMP implementation
- ⊗ Actual implementation vs. PIPs for evaluation period
- ⊗ Implementation in targeted areas vs. non-targeted areas
- ⊗ Actual load reduction vs. PIPs for evaluation period
- ⊗ Cost-benefit vs. benchmark

☑ Combined BMP implementation (WRAPS funded + non-WRAPS funded)
- ⊗ Actual implementation: % WRAPS funded vs. % non-WRAPS funded
- ⊗ Actual implementation vs. plan goals for evaluation period *
- ⊗ Actual load reduction vs. benchmark

UPDATE OF NINE ELEMENT WATERSHED PLAN

1. Identification of triggers signaling need to update watershed plan

☑ New pollution load reduction goals (based on new/revised TMDLs, 303d listings, significant changes to water quality conditions)
☑ De-listings ("success stories")
☑ Significant changes in water quality conditions
☑ Insufficient progress in implementing WRAPS-funded BMPs
☑ Insufficient progress in meeting load reduction goals
☑ Low cost-benefit results
☑ Plan goals being achieved primarily by non-WRAPS programs
☑ New reservoir construction, dredging of existing reservoirs
☑ Presence of outstanding natural resource waters
☑ Water resource in need of restoration or protection not addressed in current watershed plan
☑ Critical information revealed through additional assessments

2. Identification of elements of watershed plan and implementation strategy open to change/revision

☑ BMP types
- ⊗ Are opportunities for implementing the "low hanging fruit" diminishing?
- ⊗ Have landowners expressed interest in implementing other BMPs not currently included in plan?
- ⊗ Would a different mix of BMPs result in higher load reductions and/or cost-benefit?
- ⊗ Is a higher cost-share rate needed as an incentive for landowners to implement certain practices?

☑ BMP adoption rate goals
- ⊗ Are external influences creating need to change adoption rates to make them more realistic?
- ⊗ Do changes to WQ goals or load reduction goals require more/less aggressive adoption rates?
- ⊗ Does a lack of landowner interest require changes to the adoption rates?
- ⊗ Is a higher cost-share rate needed as an incentive for landowners to implement certain BMPs?

☑ BMP cost-effectiveness
- ⊗ Should a minimum cost-benefit ratio be established for funding BMPs?

☑ Targeted areas
- ⊗ Do targeted areas need to change to achieve revised load reduction goals?
- ⊗ Are opportunities for implementing BMPs in existing target areas diminishing? (Are adoption rate goals being achieved in targeted areas?)
- ⊗ Is there a proven lack of landowner interest in certain targeted areas?
- ⊗ Is there a need to adjust targeted areas based on greater emphasis being placed on other WQ goals or load reduction goals as a result of greater progress being achieved by non-WRAPS programs?
- ⊗ Do the proposed changes to targeted areas maintain the "80/20" balance in the watershed?
- ⊗ Is a higher cost-share rate needed as an incentive for landowners to implement BMPs in high priority targeted area?
- ⊗ Do targeted areas need to remain in place to protect delisted water bodies?

3. Ammonia and Variances for Small Town Lagoons

Nebraska has adopted the newly recommended criteria for ammonia to protect aquatic life, notably mussels, into their water quality standards last year. Kansas is poised to adopt the same criteria values in its water quality standards later this year. Most large mechanical plants should be able to meet the new limits based on the new criteria, even though they are more stringent. However, many small towns in both States use lagoon systems that retain wastewater for 120 – 300 days. These lagoons are gravity fed, low cost treatment systems that require rudimentary maintenance but are otherwise stand alone. They have been shown to be quite effective in reducing the levels of nutrients, suspended solids, BOD and bacteria. But, they typically cannot meet the tighter limits coming forth from the new ammonia criteria.

The demographics in both States are such that these small towns are not likely to grow substantially, if at all. Furthermore, their respective financial capability to support a new mechanical wastewater treatment plant is severely limited. EPA allows for granting a variance in these situations, citing widespread social and economic impact. A variance is a temporary expression of an alternative designated use and/or criteria to be applied under conditions anticipated with the adoption of the ammonia criterial. A variance is considered part of the water quality standards and thus must go through regulations to be effective, including EPA approval.

Kansas is completing a process to allow for granting a multiple discharger variance for a class of dischargers, in this case, small town lagoons, reflecting the limited ability of these towns to meet any new limits. By using a multi-discharger variance (MDV), permits can be renewed with alternative limits without having to go through the scrutiny of an individual request for a variance from each of these potentially impacted communities. KDHE will evaluate the financial capability of each town as well as the operation of its lagoon system to determine eligibility for the variance. As Kansas begins to outline its process, Nebraska will follow suit with a variance provision of its own.

Thirty-four towns, all but two with populations under 1000, are located in the Nebraska portion of the basin. Fifteen towns are in the Kansas portion, with all but two below a population of 1000 and eleven of the towns showing population declines since 2010. Additionally, three districts in Kansas discharge small volumes of wastewater from lagoon systems and would be subject to eligibility for the variance

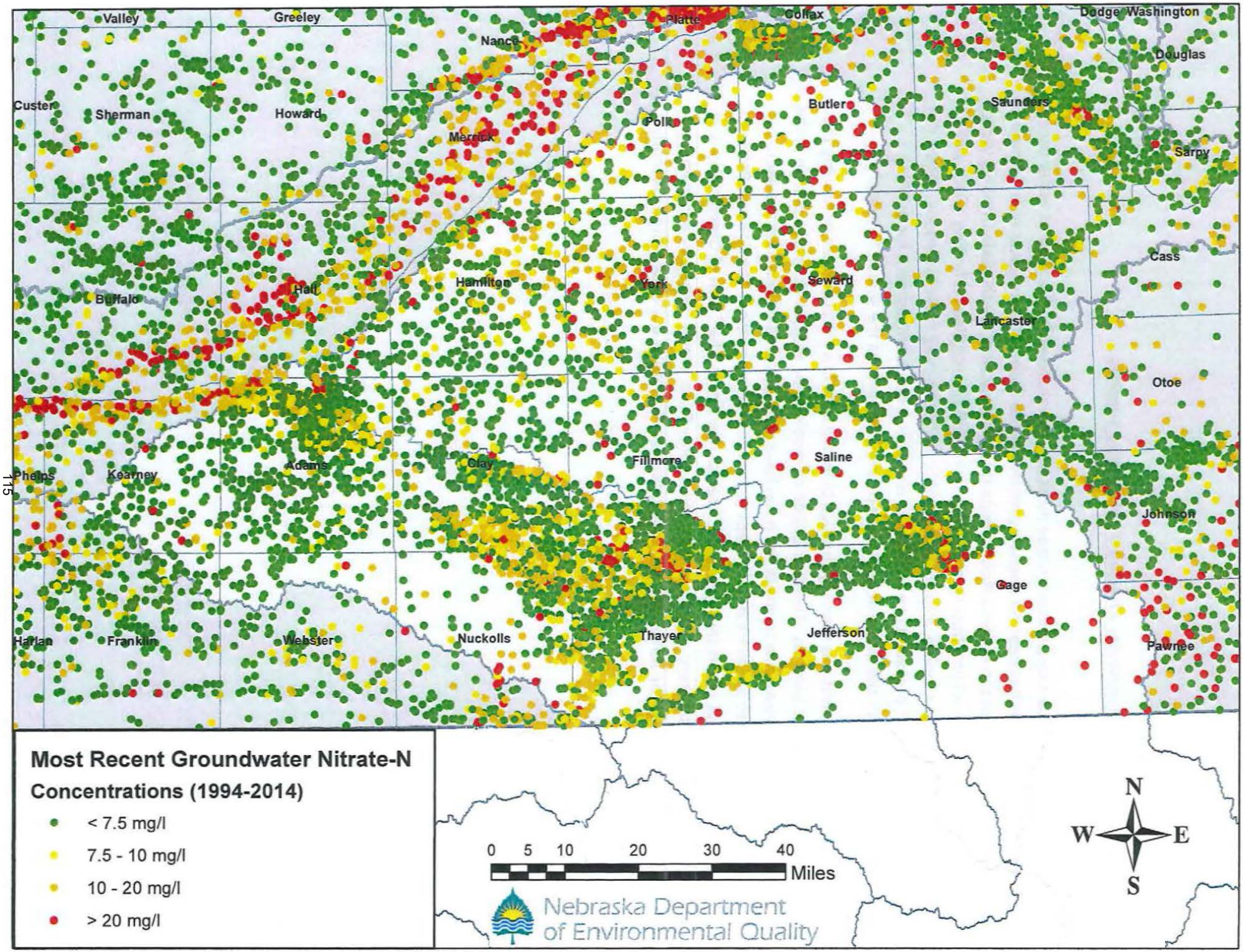
BLUE RIVER BASIN TOWNS TO BE CONSIDERED FOR LAGOON NH3 VARIANCE

TOWN	KS PERMIT #	EXPIR_DATE	DESIGN MGD	MONITORING	2014 POP	2010-14 %CHG
VERMILLION, CITY OF	M-BB20-OO01	20200331	0.02	JAN-APR-JUL-OCT	110	-1.79%
BEATTIE, CITY OF	M-BB03-OO01	20201231	0.02	JAN-APR-JUL-OCT	197	-1.50%
SUMMERFIELD, CITY OF	M-BB23-OO01	20200930	0.02	JAN-APR-JUL-OCT	154	-1.28%
CUBA, CITY OF	M-BB06-OO01	20201231	0.02	JAN-APR-JUL-OCT	150	-3.85%
RANDOLPH, CITY OF	M-BB19-OO01	20200630	0.02	JAN-APR-JUL-OCT	169	3.68%
OLSBURG, CITY OF	M-BB18-OO01	20200331	0.03	JAN-APR-JUL-OCT	226	3.20%
AXTELL, CITY OF	M-BB01-OO01	20200930	0.06	JAN-APR-JUL-OCT	409	0.74%
GREENLEAF, CITY OF	M-BB08-OO01	20200331	0.07	JAN-APR-JUL-OCT	314	-5.14%
CENTRALIA, CITY OF	M-BB05-OO01	20200630	0.08	JAN-APR-JUL-OCT	508	-0.78%
HANOVER, CITY OF	M-BB10-OO02	20200930	0.08	JAN-APR-JUL-OCT	665	-2.49%
WATERVILLE, CITY OF	M-BB22-OO01	20200930	0.09	JAN-APR-JUL-OCT	662	-2.65%
BLUE RAPIDS, CITY OF	M-BB04-OO01	20200331	0.16	JAN-APR-JUL-OCT	997	-2.16%
WASHINGTON, CITY OF	M-BB21-OO01	20200930	0.18	JAN-APR-JUL-OCT	1087	-3.89%
FRANKFORT, CITY OF	M-BB07-OO01	20200630	0.20	JAN-APR-JUL-OCT	711	-2.07%
MARYSVILLE, CITY OF	M-BB13-OO02	20200331	0.60	MONTHLY	3295	0.03%
TERRA HEIGHTS - RILEY CO.	M-BB25-OO05	20200930	0.01	JAN-APR-JUL-OCT		
BAILEYVILLE IMPROVEMENT DISTRICT #1	M-BB26-OO02	20200630	0.02	JAN-APR-JUL-OCT		
HOME CITY SEWER DIS. 1 - MARSHALL CO.	M-BB27-OO01	20200331	0.02	JAN-APR-JUL-OCT		

4. Nitrates in Groundwater Affecting Public Water Supplies

As has been documented by past committee meetings, nitrate levels in the ground water used for public water supply has been an ongoing problem in the basin. Nitrate levels over 10 mg/l represent a violation of the maximum contaminant levels prescribed by the Safe Drinking Water Act. In the aftermath of Flint, Michigan, EPA has increased the scrutiny on finding issues with contaminants in water supplies, informing the public and correcting those violations. While the lead issue of Flint isn't prevalent in either State, nitrate is a dominant concern for drinking water, particularly with the heavy dependence on ground water as the source for supply.

Treatment of the raw water is typically through blending with low nitrate water or running the water through reverse osmosis. The distribution of problematic wells in Nebraska is seen in the following map. In Kansas, few towns in the basin have seen elevated nitrate over the MCL, necessitating having to put in treatment steps to reduce concentrations. The Town of Palmer has been over the MCL and is taking steps to treat its raw water. The Town of Greenleaf is right at the MCL in its most recent sampling. Republic County Rural Water District #2 has nitrate in the 9 mg/l range while the remaining water suppliers see nitrate at or below 6 mg/l currently.


Valley
Greeley
Nance
Platte
Colfax
Dodge
Washington
Douglas
Custer
Sherman
Howard
Merrick
Polk
Butler
Saunders
Sarpy
Cass
Buffalo
Hall
Hamilton
York
Seward
Lancaster
Otoe
Phelps
Kearney
Adams
Clay
Fillmore
Saline
Johnson
Gage
Harlan
Franklin
Webster
Nuckolls
Thayer
Jefferson
Pawnee
Most Recent Groundwater Nitrate-N
Concentrations (1994-2014)
< 7.5 mg/l
7.5 - 10 mg/l
10 - 20 mg/l
> 20 mg/l
0 5 10 20 30 40
Miles
N
W
E
S
Nebraska Department
of Environmental Quality

Attachment O

RESOLUTION OF THE KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION
HONORING
Mr. JAMES C. SCHNEIDER

WHEREAS, Mr. James C. Schneider served as a Representative of the State of Nebraska on the Kansas-Nebraska Big Blue River Compact Administration from 2012 to 2015; and

WHEREAS, Mr. Schneider has voluntarily elected to resign as Director of the Nebraska Department of Natural Resources and from the Kansas-Nebraska Big Blue River Compact Administration; and

WHEREAS, Mr. Schneider did faithfully and diligently serve on the Compact Administration and their Committees as the Representative of the State of Nebraska providing excellent representation and positive input and attitude.

NOW THEREFORE, BE IT RESOLVED, that the Kansas-Nebraska Big Blue River Compact Administration does hereby acknowledge and express its appreciation for the contributions of James Schneider to this Administration and extends to him the best wishes for continued good health and happiness in all of his future endeavors; and

BE IT FURTHER RESOLVED, that this resolution be entered into the records of the 2016 Annual Compact Commission Meeting Minutes and the 2016 Annual Report and that the Compact Secretary be instructed to send a copy of the Annual Report to Mr. Schneider.

Entered this 18th day of May, 2016, at the Annual Meeting of the Kansas-Nebraska Big Blue River Compact Administration in Manhattan, Kansas.

Kansas-Nebraska Big Blue River Compact Administration 44th Annual Meeting
Manhattan, KS
May 18, 2016

Name	Organization	Phone	Email
Jeff Fassett	Nebraska DNR	402-471-2366	Jeff.Fasset@Nebraska.gov
Katie Burke	Kansas Dept. of Ag.	785-564-6624	katie.burke@kda.ks.gov
Tom Stiles	KS Dept of Health & Env	785-296-6170	tstiles@kdheks.gov
Ginger Pugh	KDA-DWR	785-564-6677	ginger.Pugh@kda.ks.gov
Bob Lorenz	Lower Big Blue Director	4028260298	rj168333@windstream.Net
Dave Clabaugh	Lower Big Blue NRD Board	402-228-3402	clabaugh@lbbnrd.net
Katie Tietsort	KDA-DWR-TFO	785-296-1886	katie.tietsort@kda.ks.gov
Karen Hunter	KDA-DWR	785-564-6670	Karen.Hunter@Kda.KS.gov

Kansas-Nebraska Big Blue River Compact Administration 44th Annual Meeting
Manhattan, KS
May 18, 2016

Name	Organization	Phone	Email
Marie Kawsnick	UBBNRD	402 362-6601	mebel@upperbigblue.org
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Robert Swanson	USGS	402-328-4110	rswanson@usgs.gov
JASON LAMBRECHT	USGS	402-328-4124	jmlambre@usgs.gov
Jeremy Gehle	Nebraska DNR	402-471-3933	jeremy.gehle@nebraska.gov
Jim Ostolick	Nebr DNR	402 471-3089	Jim.Ostolick@nebraska.gov
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LeRoy Sievers	Ne DNR	402 471-1113	leroy.sievers@nebraska.gov
LARRY KMOORE	UBBNRD	402-366-6231	lmoore@sctewireless
David Eigenberg	UBBNRD	402-362-6601	deigenberg@upperbigblue.org
Kayla Sharp	Nebraska DNR	402-471-3940	kayla.sharp@nebraska.gov
Kari Burgert	Nebraska DNR	402-471-2363	kari.burgert@nebraska.gov

Kansas-Nebraska Big Blue River Compact Administration 44th Annual Meeting
Manhattan, KS
May 18, 2016

Name	Organization	Phone	Email
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Chris Beightel	KDA-DWR	785.564.6659	chris.beightel@kda.ks.gov
Sharon Schwartz	Ks. Advisor State Representative	785-747-7113	parkshop@bluevalley.net
David Barfield	Kansas Dept of Agriculture Div of Water Resources	785-564-6670	david.barfield@kda.ks.gov
W Don Nelson	Compact Chairman	402/430-3027	donnel@windstream.net
Jeff Fassett	Neb. Dept. of Nat. Resources State Commissioner	402.471-2366	Jeff.Fassett@nebraska.gov
Amy Zoller	NE Dept. of Natural Resources	402-471-0625	amy.zoller@nebraska.gov
Robert Large	KDA/DWR	785-564-6715	robert.large@kda.ks.gov