

Upper Platte Basin-Wide Plan Update

By Dani Bischoff

Background

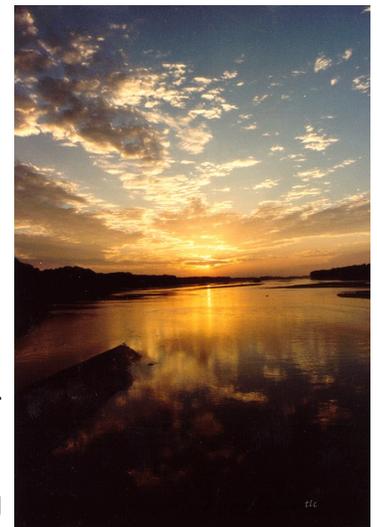
The first 10-year increment of the Upper Platte Basin-Wide Integrated Water Management Plan (Plan) was effective on September 11, 2009. The Plan was developed to meet the requirements of *Nebraska Revised Statutes* § 46-715(5)(a) for the portions of the Platte River Basin upstream of the Kearney Canal Diversion designated as over-appropriated by the NeDNR on September 15, 2004. The first increment of the Plan was created in collaboration with stakeholders representing various interests throughout the Basin. That collaboration process is being continued into the second increment of the Plan.

The first increment of the Plan for the Upper Platte River Basin (Basin) is set to end in September of 2019. To prepare for the second 10-year increment of the Plan, the NeDNR, the Upper Platte River Basin NRDs (Central Platte, North Platte, South Platte, Twin Platte, and Tri-Basin NRDs), and stakeholders have begun the planning process.

Second Increment

Formal meetings for the second increment of the Plan began in June of 2016. So far, there have been a total of 11 Stakeholder Planning Group (SPG) meetings for the second increment planning process. NeDNR and the Upper Platte River Basin NRDs (NRDs) have been using the data and information collected within the first increment of the Plan in the planning process to develop the outline for the second increment Plan. The most recent meeting of the SPG took place on May 16, 2018. At the meeting stakeholders, the NeDNR, and the NRDs discussed the goals and objectives that they felt should be incorporated into the second increment of the Plan.

One of the major topics of discussion at the May SPG meeting was drought planning and the role that the Plan would play when it came to drought mitigation and/or response. There were concerns about how a drought might affect the economic viability of the Basin and what



Platte River at sunset



Upper Platte Cont.

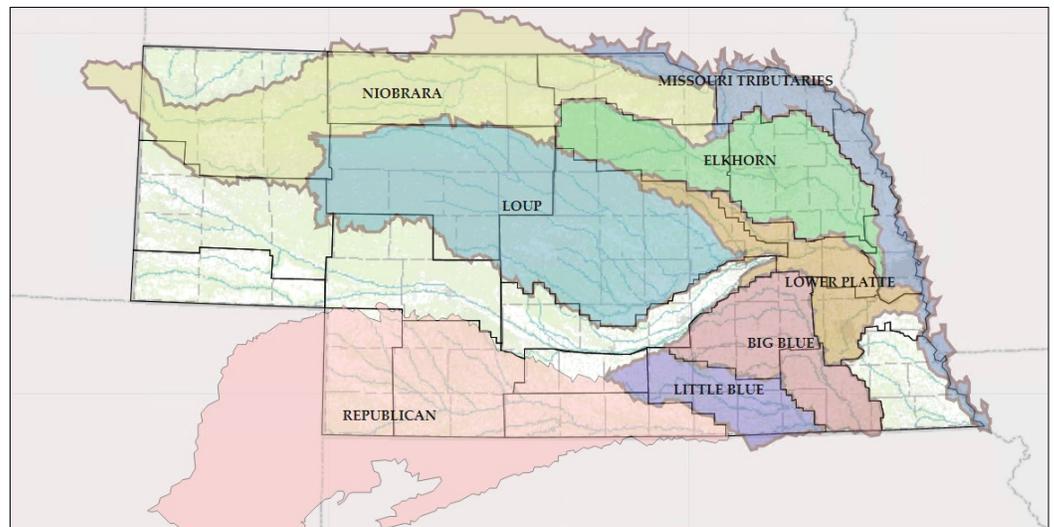
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measures could be included within the Plan to prepare each NRD within the Basin for a drought situation. Stakeholders also discussed the condition of the Basin and how to balance impacts to economic viability, while ensuring appropriate levels of water use from the Basin's aquifers and streams. The need for protecting water within the Basin for future generations was reiterated during the meeting as well.

NeDNR and the NRDs are working together to incorporate the input they received from stakeholders at all of the meetings into the new draft for the second increment Plan. The information received from stakeholders, along with data gathered by the NRDs and NeDNR through various analytical tools such as INSIGHT, will be used to implement the second increment. The next stakeholder meeting is set to take place on September 19, 2018.

Republican River Basin data Is added to INSIGHT

The Republican River Basin data has now been added to INSIGHT. The purpose of INSIGHT is to provide an annual snapshot of water conditions across the state. Hydrologic data are consolidated from several different sources, including the Nebraska Department of Natural Resources, U.S. Geological Survey, U.S. Bureau of Reclamation, and local natural resources districts and presented in charts for the following categories: water supplies, water demands, nature and extent of use, and water balance. These data are presented in a consistent format and become more local as the user drills down from the statewide level to the basin-wide and subbasin levels. It is intended that additional sources of hydrologic data will be added over time to provide a more complete picture of water conditions and trends in the state, so please check back often. INSIGHT is found on the NeDNR website at nednr.nebraska.gov/INSIGHT



Lower Platte River Consortium Formed

By Jennifer Schellpeper

The Lower Platte River Consortium (Consortium) was formed to find a way to sustain the water supply in the Lower Platte River Basin (Basin) during droughts. Towards this goal, the Department of Natural Resources, Lincoln Water Systems, the Lower Platte North NRD, the Lower Platte South NRD, Metropolitan Utilities District, and the Papio-Missouri NRD have teamed up to form the Lower Platte River Drought Contingency Plan (Plan).

On June 19th, a public open house was held to present the Consortium's ideas towards making the Plan. The open house was meant to provide the public with information about droughts and the purpose of a drought contingency plan, and to gather feedback from the public.

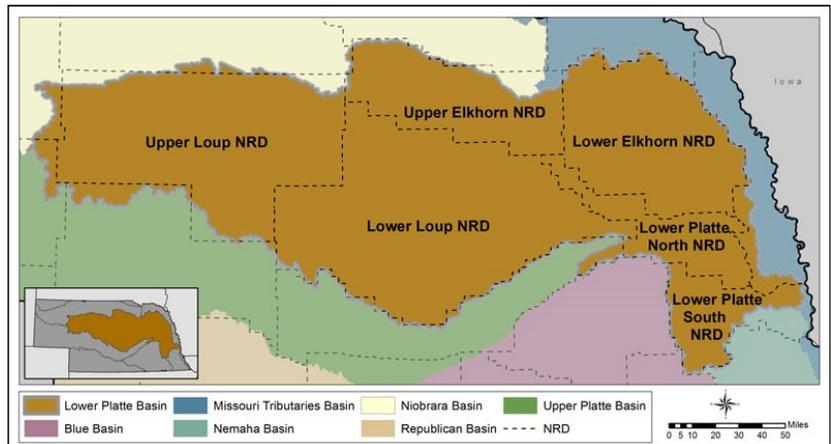
A formal presentation was given in order to educate the public on droughts and the proposed methods of preventing widespread impact in the Basin during the next drought. The presentation

highlighted the various agricultural, economic, and recreational impacts of droughts, showing members of the public how this problem could impact them personally. It then described how the Plan could help minimize the severity of drought in those sectors. The Consortium will develop measures to assess the Basin's vulnerability to drought and reduce that vulnerability by implementing mitigation and response actions.

Mitigations are preventative measures taken during non-drought conditions to reduce potential impacts and risks when a

drought does occur, while response actions are implemented during drought conditions to manage the remaining water supply and decrease the overall impact of the drought. These actions would ensure that the effects of drought are reduced, benefiting both the public and the Basin as a whole.

The open house was concluded by giving the public the opportunity to provide their thoughts and feedback on the Plan. The Consortium welcomes public comment, and will take it into careful consideration for the remaining process of developing the Plan. The Consortium is still taking public feedback. If you wish to add your own comments and questions, you can send them to droughtplanstudy@gmail.com. For more information on the June 19th open house and the Plan, go to <http://www.lpsnrd.org/Consortium/PlatteConsortium.htm>.



A tale of successful risk management and acquisition in Beatrice, Nebraska

FEMA and Katie Ringland

The Mitigation Division’s Risk Analysis Branch, in partnership with the Nebraska Department of Natural Resources and the City of Beatrice, completed a mitigation effectiveness study to measure the economic benefits of the flood-prone property acquisition program that has been ongoing in Beatrice for over 40 years. The study results show an estimated **\$12.9 million in avoided flood losses** from the May 2015 flood event in Beatrice.

Beatrice is a city of approximately 12,500 people and is the county seat of Gage County in southeastern Nebraska. The Big Blue River flows through Beatrice and has been a source of flood risk since the city was founded. After the city’s largest flood of record in 1973, they began to systematically acquire flood-prone properties converting the acquired land to parks, hiking and biking trails, ballfields, and other open space uses that restore many of the natural and beneficial functions of the Big Blue River floodplain. Since 1973, three additional significant flood events have occurred in Beatrice in 1984, 1993, and 2015. In May of 2015 during the City’s third-largest flood of record, flood waters poured into the same areas that have flooded previously; but this time the damages were remarkably less as a result of the acquisition program.

In addition to city funds, private contributions and gifts, community leaders have utilized several mitigation funding sources to support the program including FEMA’s Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and Project Impact funds as well as HUD’s Community Development Block Grant. Factoring in the initial investment of \$4.9 million (adjusted to 2017), the net savings in avoided losses realized just from the 2015 singular event is estimated to be \$8 million. Many of the structures were acquired prior to the 1984 and 1993 floods. Cumulative avoided damages from all historical floods since the program began would be significantly higher while consideration of future events would add up to even more savings. An online interactive [Story Map](#) has been developed to allow readers to take a virtual journey through the history of flooding turned to mitigation success in Beatrice. This story of flood resilience also shows how Beatrice has combined

“The mitigation efforts in Beatrice and the cost-savings evidenced by this study are the result of a long-term strategy and a commitment on the part of community leaders spanning over 40 years. This is an example of responsible community mitigation planning, dedication, and the ability to make use of multiple programs and available resources to achieve a common goal.”

- David I. Maurstad, Deputy Associate Administrator for the Federal Insurance and Mitigation Administration; Mayor of Beatrice (1991-1994)



On Tour on the Republican River

By Carol Flaute

On June 20, 2018, the new Regional Director of the US Bureau of Reclamation, Michael Black, joined agency representatives from Nebraska, Kansas, and Colorado on a tour of several key water management facilities in the Republican River Basin. At some stops along the tour, participants were also joined by staff from some of the irrigation districts and natural resources districts that are located within the Republican River Basin. This tour provided representatives from the three states with the opportunity to meet Mr. Black and to review progress that has been made in the basin through recent renewed cooperation among the three states.

This view includes the Harlan County Dam and the Republican River downstream of the dam. Water from the reservoir can be released directly to the Franklin and Naponee Canals or to the river for use by downstream canals.



The new Regional Director of the Bureau of Reclamation, Michael Black (second from right) introduced himself to participants at the Superior-Courtland Diversion Dam, near Guide Rock, Nebraska.

Republican Tour Continued

Ross Montgomery of Nebraska Bostwick Irrigation District showed participants a newly-installed automated gate system on the Franklin Canal.



The Superior-Courtland Diversion Dam, near Guide Rock, Nebraska. The dam serves to divert water through the Superior and Courtland Canals for the Nebraska and Kansas Bostwick Irrigation Districts.

Participants visited the Cambridge Diversion Dam, which diverts water into the Cambridge Canal.



NeDNR Internship Program

By Dani Bischoff

In the Water Planning Division of the Department of Natural Resources (NeDNR), several interns have been hired to assist with a variety of projects this summer. Before we started this internship, most of us had no idea about the amount of planning and time that goes into managing our water resources. We've learned a lot about Nebraska and the 23 Natural Resource Districts that make up our state. Nebraska's water planning system is unique, and we're all glad to be a part of this complex system that helps manage our resources now and for future generations.

Within the Water Planning Division, there are two classifications of interns: Integrated Water Management (IWM) Specialist Intern and IWM Planner Intern. Four of the interns are IWM Specialist and two are IWM Planner. The different positions come with different responsibilities and learning objectives, and even within the same position, each individual has their own projects and schedule.

IWM Specialist Interns:

The IWM Specialist Interns, Merrett Lane, Anna Cole, Nicole Smith, and Christopher Urkoski, tend to do more data analysis and modeling. Most of the Specialist Interns regularly work with software such as MatLab, Microsoft Excel, ArcGIS to analyze data and create maps. A typical day for the specialist interns consists of individual work at their computer with regular meetings where they can discuss progress they've made or get help if something isn't working correctly.

Due to the fact that many of the Specialist Interns are using software that they have never, or very rarely, used before, their supervisors, Kari Burgert and Philip Paitz, are very involved and check in with them regularly to ensure they have the necessary knowledge to complete the task. ArcGIS, along with some of the other software that is used by the interns, is a powerful software program with many incredible capabilities. However, the software can be hard to learn right away, and, according to Merrett, that's "when it is really nice to have a team of experienced hydrologists who are all willing to help out with everyday challenges."

Despite the same position title, there is still a variety of responsibilities and projects that are unique to each person. Anna and Merrett are working closely with Kari to compose and analyze data to test whether or not the actions within integrated management plans in the Upper Platte River Basin are meeting the goals and objectives of the plans, including the Robust Review, which is a comprehensive accounting report on Nebraska water usage. The project mainly requires the use of Excel and MODFLOW to evaluate basin-wide depletions and accretions. Nicole is currently



Nicole Smith



Christopher Urkoski



Merrett Lane

Interns Continued

testing the differences between two GIS softwares, ArcGIS and QGIS, and composing a list of pros and cons for each system for each. All of the Specialist Interns are kept busy with their list of tasks to perform and work hard to make sure they're done correctly.

IWM Planner Interns:

As IWM Planner Interns, Hannah Atkin and I have slightly different responsibilities than the IWM Specialist Interns. Just like the Specialist Interns, we spend most of our days working individually at our desks on different projects; however, rather than spending the bulk of our time doing data analysis and model runs, we spend it editing documents, prepping meeting materials, and filing. We also interact regularly with other members of the Water Planning Division, doing things like collaborating on plans or sitting in on meetings and taking notes. Note-taking isn't the most glamorous job that we do, but it's crucial for the smooth function of the Division. Our note-taking helps to ensure that the Division follows through on final plan documents and action items that were agreed to at meetings; without that follow-through, trust, and collaboration with NRD partners and other state agencies would be negatively impacted. The successful execution of any plan rests on the ability of the Water Planning Division to communicate our accomplishments and next steps to both our planning partners and the citizens of Nebraska. IWM Planner Interns fulfill this niche within the Division.

The versatility of our position allows us to work on many different types of projects. Throughout the internship, we've been able to work closely with many other members of the Water Planning Division, which makes the work that we do a more engaging and collaborative experience. Both of us have traveled to different cities to participate in basin-wide meetings, usually to take notes and to help us understand how the stakeholder process works. Hannah says she really enjoys meetings, both internal and external, because, "it allows [her] a chance to interact with more of the staff." Hannah and I have also been involved in the Republican River Basin-Wide planning process, both editing sections of the plan and prepping for the meetings. When we're not traveling or in meetings, long-term filing projects fill our time and make up most of our workload.

The Intern Experience:

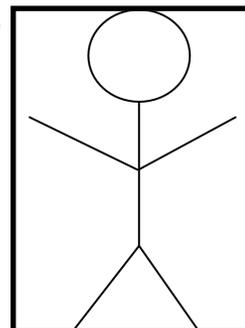
For most of us, this internship is our first real experience working in a professional office environment. At times it may not be what we have expected, but we're learning many lessons and skills that will be valuable to us in our studies and future careers. Anna said that this internship has been "an incredible expansion of the work [she's] done in class." The work that we do here has been very rewarding and the friendships we've made have made this a welcoming, exciting place to work. Our experience at NeDNR has been a wonderful learning opportunity and we're so glad that we've been able to become a part of this team.



Hannah Atkin



Anna Cole



Dani Bischoff
(Photo not available)