



# Nebraska Resources

Newsletter

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### Editor's Note:

A full color electronic version of this newsletter can be found on the Department's web site along with back issues at <http://www.dnr.ne.gov/dnrnews/newsarchive2.html>.

## Integrated Management Plans Adopted

By Jesse Bradley, P.G.

The Nebraska Department of Natural Resources (DNR) has completed recent modifications to the **Upper Republican Natural Resources District (URNRD) and Middle Republican Natural Resources District (MRNRD) integrated management plans (IMPs)**. These modifications were pursued jointly by the DNR and the Natural Resources Districts (NRDs) to bolster monitoring and forecast procedures that, when linked to newly added surface water and groundwater controls, will ensure Nebraska maintains Republican River Compact

(Compact) compliance through dry precipitation periods, as well as average and above-average periods of precipitation.

The most extensive modifications to the IMPs were expansion of the monitoring and forecast procedures. Each IMP contains extensive procedures for evaluating each NRD's use of streamflow relative to their portion of the supply. These procedures were the result of extensive technical analyses

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## Floodplain Mapping Status and Outlook

By Shuhai Zheng, Ph.d., P.E., CFM

One of the statutory responsibilities charged to the Nebraska Department of Natural Resources (DNR) is to provide local governments having jurisdiction over flood-prone lands with technical data and maps adequate to develop or support reasonable floodplain management regulation. Under the Cooperating Technical Partnership (CTP) Agreement dated August 16, 1999, between DNR and the Federal Emergency Management Agency

(FEMA), the DNR Floodplain Management program has been able to leverage FEMA funding to speed up county-wide digital floodplain mapping efforts. Currently, **47 counties have effective maps, nine counties have preliminary maps and eight counties are under data development** (see map on page 2).

In the past year, DNR has been working on mapping projects for **Dawes, Colfax, and portions of Lancaster County**. Working maps have been completed

*Continued on p.2*



*Floodplain Mapping Status and Outlook continued from p.1*

for **Cedar and Dixon counties**. With the Community Development Block Grant from the Nebraska Department of Economic Development, DNR has begun to develop working maps for **Seward, York, Hamilton, Adams, and Jefferson counties**. These five counties are being mapped using current and more accurate Light Detection and Ranging (LiDAR) topographic elevation data. The LiDAR data was acquired last year and processed earlier this year for south-central Nebraska.

Since 2009, FEMA has transitioned into the Risk Mapping, Assessment, and Planning (Risk MAP) program. The vision for Risk MAP is to deliver quality data that increases public awareness and leads to action that reduces risk to life and property. In general, flood studies will be carried out on an 8-digit hydrologic unit code (HUC) watershed. **Little Salt Creek Watershed in Lancaster County has been selected as a pilot project** to demonstrate the new Risk MAP products. In federal fiscal year 2011, DNR's first flood study under Risk MAP program will be HUC 10270207. **This watershed covers portions of Jefferson, Thayer, Fillmore, and Saline counties**. Two other map revision projects starting in the 2011 fiscal year are **Big Slough in Howard County** and the **Little Bazile Creek Watershed above Bloomfield in Knox County**.

For watershed level studies in the future, FEMA

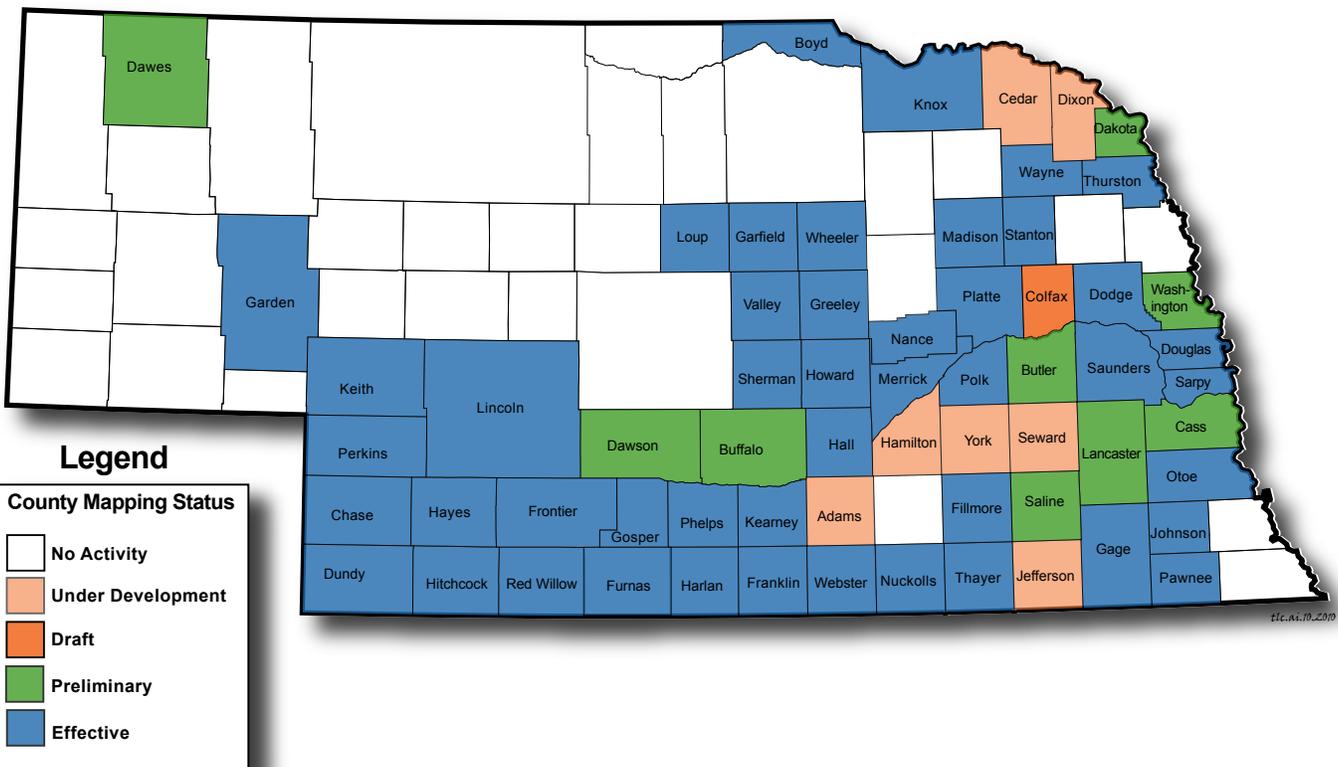
will prioritize projects based on the "trifecta," which is risk, need, and the availability of elevation data. Risk will be determined using the annualized loss estimate study results. Need will be based on the Coordinated Needs Management Strategy (CNMS) data, and new LiDAR data meeting FEMA standards will be considered as newly-available elevation data. To help facilitate FEMA's project prioritization, DNR is currently conducting a statewide CNMS project to evaluate the validity of current floodplains determined with detailed engineering analyses,



except for those located inside the Papio-Missouri River Natural Resources District boundary. This CNMS project is funded by FEMA under the CTP agreement between FEMA and DNR, and it is scheduled to be completed by the end of December 2010.

## Nebraska County-Wide Flood Map Update Status

as of October 5, 2010



# Land Auction

to be held  
January 18, 2011

By Kent Zimmerman



The Little Blue Natural Resources District (LBNRD) plans to sell the following tract of land, including a reservoir of approximately 146 acres, on January 18th, 2011.

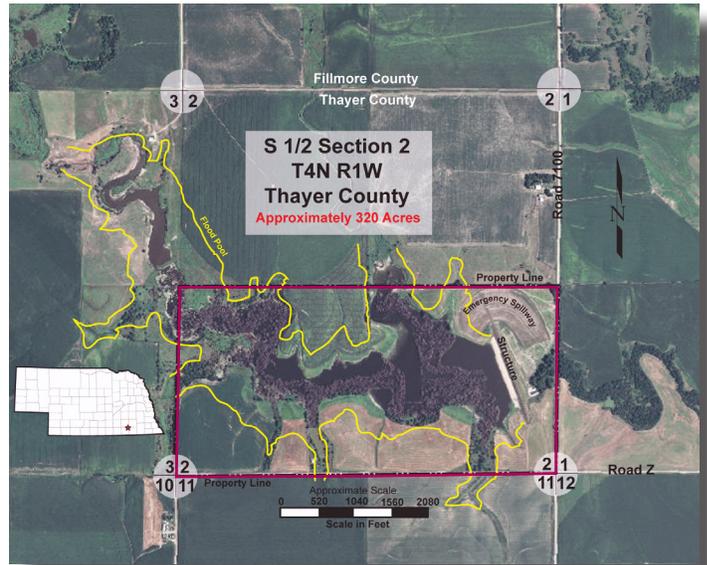
**Approximately 320 acres or the South ½ of Section 2, Township 4 North, Range 1 West of the 6th P.M. in Thayer County, Nebraska**

At full conservation pool, the dam establishes a reservoir of approximately 146 acres, including flooded timber, creating the potential for various recreational uses.

The sale will be held at the LBNRD office in Davenport, Nebraska. This tract of land was purchased utilizing the **Small Watersheds Flood Control Fund**, a revolving fund managed by the Nebraska Natural Resources Commission. The LBNRD has constructed a dam on this site with cost share assistance provided by the Commission's **Natural Resources Development Fund** for the purpose of flood control and groundwater recharge.

Information regarding the sale will be available on the DNR website <http://dnr.ne.gov/LittleSandyCreek/>.

All proceeds from this land sale will return to the Small Watersheds Flood Control Fund and become available for other watershed projects.

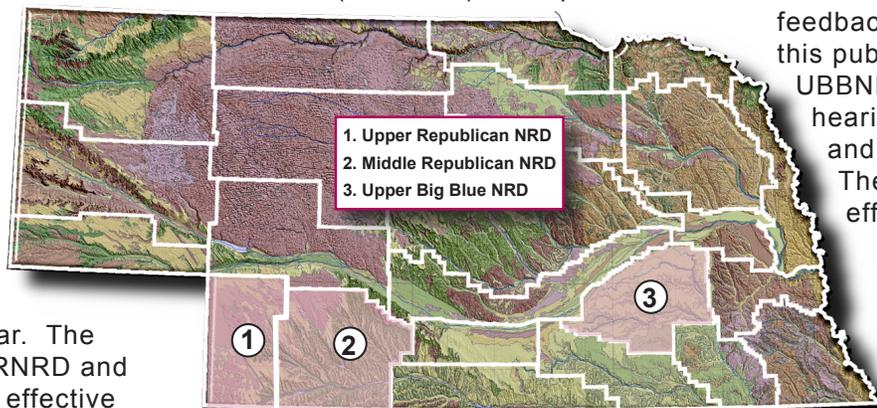


*Integrated Management Plans Adopted continued from p.1*

conducted by the DNR's Integrated Water Management Division, as well as coordination with the URNRD and MRNRD staff and boards. These forecasting procedures will provide Nebraska with the ability to proactively evaluate if additional management actions will be necessary for Compact compliance when dry conditions exist within the next year. The newly modified URNRD and MRNRD IMPs are effective November 1, 2010.

In addition to the IMPs modified and adopted in the URNRD and MRNRD, the DNR has recently completed an IMP with the **Upper Big Blue Natural Resources District** (UBBNRD). The plan was

developed through close coordination with UBBNRD and with the participation of stakeholders. The DNR and UBBNRD held a public meeting in Phillips, Nebraska, on March 24, 2010, to receive feedback on the IMP. Following this public meeting, the DNR and UBBNRD finalized the plan for hearing, held a public hearing, and agreed to adopt the plan. The UBBNRD IMP became effective October 18, 2010.



# Niobrara River Basin Study

By Brandi Flyr, P.h.d.

The Nebraska Department of Natural Resources (DNR) will receive a **\$350,000 grant from the Bureau of Reclamation's Basin Study Program to study water management options in the Niobrara River Basin.** The Basin Study Program is part of the WaterSMART (Sustain and Manage America's Resources for Tomorrow) program, with the purpose of studying western water basins to develop sustainable management strategies. Seventeen western states are eligible for funding through the program. The Niobrara River Basin study is one of six projects funded by the Basin Study Program in 2010. The study will include state, local, and federal interests to develop management strategies or options that best suit the needs of water users within the Niobrara River Basin.

**The purpose of the Niobrara River Basin Study is to model the hydrologic (surface-groundwater interactions) and economic effects of various water management strategies, through variable water supply and climatic conditions, with the goal of providing water management options**

that optimize use of both surface and groundwater resources. Evaluation of management options will include impacts to both the water supply and the economy of the region. **The study will advance the knowledge of basin hydrology, aquifer characteristics, and surface-groundwater interactions.** Analyzing both the hydrologic and economic impacts of various management options allows water managers to choose conjunctive water management strategies that best fit the water management goals and objectives of the region.

**The study region will include the Niobrara River from its headwaters in Wyoming to its confluence with the Missouri River in northeast Nebraska.** The project proposal received support from a large group of basin stakeholders. The basin stakeholders include Upper Niobrara-White Natural Resources District, Upper Elkhorn Natural Resources District, Ainsworth Irrigation District, Nebraska Public Power District, National Park Service, U.S. Fish and Wildlife Service, Nebraska Game and Parks Commission, and the State of Wyoming. The study will begin January 2011 with project completion expected in two years.



## Water Matters

The DNR recently released the fifth edition of *Water Matters*, the Integrated Water Management Division's publication in which topics related to integrated water management in Nebraska are explained and explored in an approachable way.

The article, titled "Stream Depletion and Groundwater Pumping; Part Two: The Timing of Groundwater Depletions," is about the lag effect and other timing components of groundwater pumping.

In most areas of Nebraska, the groundwater system is in direct hydrologic connection with the surface water system. Therefore, the consumptive use of groundwater will have some impact on the amount of groundwater discharge (baseflow) to hydrologically connected streams. Reductions in baseflow due to groundwater pumping are not instantaneous, and may take years or decades to be fully realized. The time lag between the start of pumping and the advent of streamflow depletions is largely dependent on the distance between the well and the stream, as well as the aquifer and streambed properties.

To learn more about stream depletion, groundwater pumping, and the timing of depletions, read *Water Matters No. 5*. Issues of *Water Matters* are available at [www.dnr.ne.gov/iwm](http://www.dnr.ne.gov/iwm) or contact DNR to be added to the mailing list.



## 2010 State of Nebraska Employee and Supervisor/Manager of the Year Awards

Since 1985, state government, on behalf of the Governor's Office, has sponsored a recognition program honoring both exceptional state employees and career service employees. Governor Heineman proclaimed the month of October 2010, as State of Nebraska Employee Recognition Month and a ceremony honoring the Employees/Managers of the Year was held in the State Capital Rotunda on Wednesday, October 27, 2010. At that ceremony, Governor Heineman presented awards to the honorees. In addition to that ceremony, several Length of Service ceremonies were held across Nebraska during the month of October honoring employees for their length of service to the State of Nebraska.



The 2010 **Supervisor of the Year** for the Nebraska Department of Natural Resources (DNR) is **Pam Bonebright**, Supervisor of the Groundwater Registration Section of the Permits and Registration Division. Pam has been a state employee for 16 years and supervises four employees in the section that maintains groundwater registrations for the State of Nebraska. Pam is eager to take on challenges, such as the new water well registration database and online well registration system recently launched by DNR. Pam strives for efficiency in her section and has great organizational skills. The DNR appreciates Pam's professionalism, which make her very deserving of the Supervisor of the Year Award for the Department.



Receiving the 2010 **Employee of the Year Award** for DNR is **Janet Adamson**, an Information Technology (IT) Senior Programmer with the IT Operations Section for the past three years. Jan is an extremely cheerful employee who is always ready to assist with projects or individual employee requests. Jan says she enjoys *"working in an atmosphere conducive to getting work done."* Jan has spent the better part of the past year working on a wells conversion program. The new program is part of the Integrated Water Information Project software. *"It eliminates some restrictions we had with the old Access database and is a more robust data base,"* according to Jan. With her abilities and dedication, Jan is a true asset to the Department.

The skills and performance of both these employees have helped the DNR in accomplishing its goals and objectives over the past year. **The Department staff and the State of Nebraska would like to congratulate both of these exceptional people on their awards and thank them for their outstanding service and dedication to Nebraska and its citizens.**



Employee	Years of Service
James R. Williams	10
Jeremy F. Gehle	10
Jennifer J. Schellpeper	10
Mary J. Kreiner	15
Leonard E. Beall	20
Terry D. Green	20
Jill M. Richters	25
Richard A. Kern	35
Lynette C. Koehne	40
John N. Mendlik	40

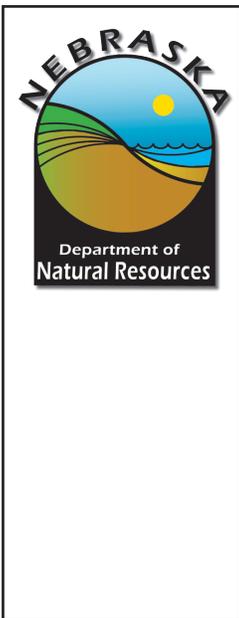
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## State of Nebraska

Dave Heineman, Governor

## Nebraska

## Department of Natural Resources

Brian P. Dunnigan P.E., Director

The *Nebraska Resources* is a quarterly publication of the Nebraska Department of Natural Resources. We welcome your comments and suggestions.

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Nebraska Department of Natural Resources....

....dedicated to the sustainable use and proper management of the State's natural resources.