



Nebraska Resources

Newsletter

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Agency Numbers to Remember

Agency address:

Nebraska
Department of Natural Resources
301 Centennial Mall South
Fourth Floor
P.O. Box 94676
Lincoln, Nebraska 68509-4676

Agency phone number:

(402) 471-2363

Agency fax number:

(402) 471-2900

Agency homepage address:

<http://dnr.ne.gov>

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.gov/dnrnews/newsarchive2.html>.

DNR Forms

Integrated Water Management Division

By Jim Schneider, Ph.D.

The Department of Natural Resources has established an **Integrated Water Management Division (IWMD)**. The IWMD assembles technical, planning and interstate coordination staff to work with the Natural Resources Districts (NRDs) in the process of integrated water management. The division will also work closely with legal, regulatory and other planning staff to ensure statutory compliance, review rules and regulations, and draft new rules, regulations and integrated management plans (IMP). Table 1, on page 2 of this newsletter, lists the integrated water management contacts for the Department.



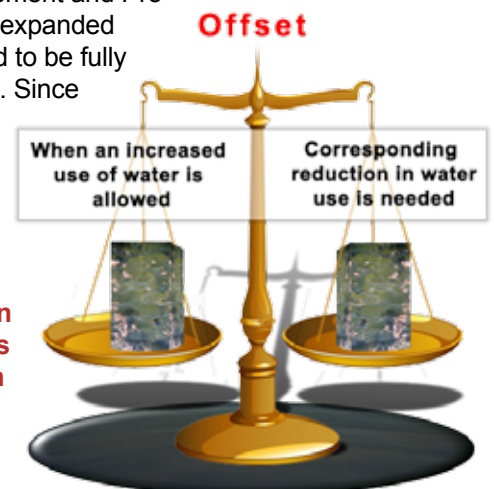
The process of integrated management (see Figure 1 on page 2) was initiated by the enactment of Legislative Bill 962. The Department and NRDs in fully or overappropriated river basins are required to develop and implement IMPs. Improved scientific information and continued monitoring

Continued on p. 3

What is an Offset?

By Doug Hallum, P.G.

The Nebraska Groundwater Management and Protection Act requires management of any expanded use of water in areas that are determined to be fully or overappropriated (Section 46-715 (3)). Since new uses of water will be needed to accommodate future development within the state, description of a process by which new uses can be implemented is required. The concept that the Department employs is the notion of an offset. **Fundamentally, the idea of an offset is that when an increased use is allowed, a corresponding reduction in use (offset) is needed such that the streamflow is maintained as if the new use had not occurred.**



There are several variables that must be considered when contemplating a new use and its corresponding offset, including: amount, location, timing of effects and impacts to existing users.

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Integrated Water Management Division continued from p. 1

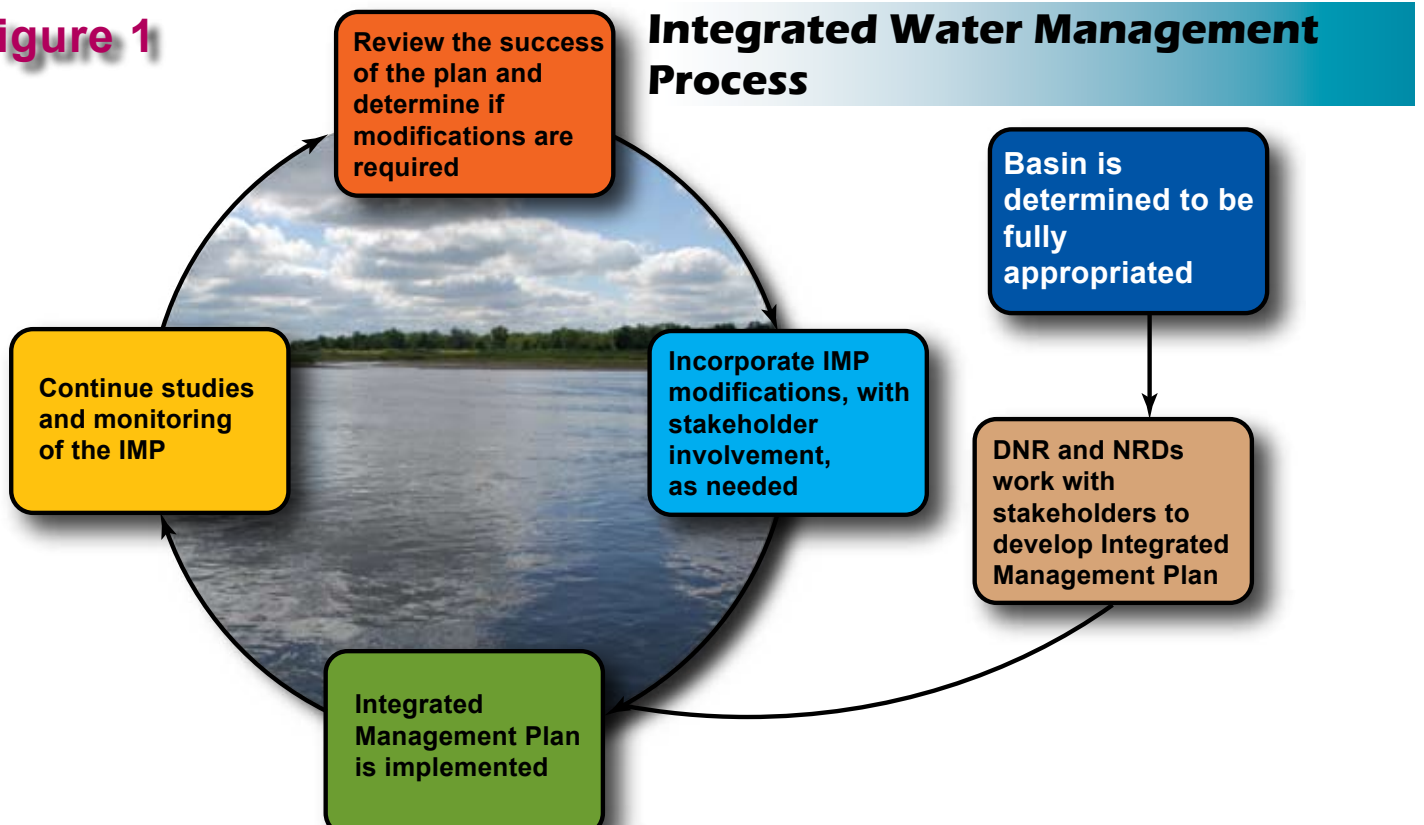
Table 1
Integrated Water Management Contacts for the Department of Natural Resources

Jim Schneider, Ph.D.
 Head, Integrated Water Management Division
 402-471-3141
 jim.schneider@nebraska.gov

Contact Area	DNR Contact	Responsible for:	Phone	E-mail
Integrated Water Management Planning Process / Technical Studies / Fully Appropriated Determinations	Jesse Bradley	Niobrara and Lower Platte Basin (including Elkhorn and Loup Basins)	402-471-0586	jesse.bradley@nebraska.gov
	Doug Hallum	Platte River Basin above Columbus	402-471-1114	doug.hallum@nebraska.gov
	Jason Kepler	Republican and Blue River Basins, Missouri Tributaries	402-471-0378	jason.kepler@nebraska.gov
Statutes / Rules and Regulations	Tracy Zayac*	Niobrara and Lower Platte Basin (including Elkhorn and Loup Basins)	402-471-0584	tracy.zayac@nebraska.gov
	Tina Kurtz*	Platte River Basin above Columbus Blue River Basin, Missouri Tributaries	402-471-1697	tina.kurtz@nebraska.gov
	Ron Theis*	Republican River	402-471-0577	ron.theis@nebraska.gov
Interstate Compacts, Agreements, and Decrees	Jennifer Schellpeper	Cooperative Agreement, PRRIP, North Platte Decree, Niobrara Compact, South Platte Compact	402-471-2899	jennifer.schellpeper@nebraska.gov
	James Williams	Republican River Compact Coordinator, Blue River Compact	402-471-1026	james.williams@nebraska.gov
	Paul Koester	Republican River Accounting	402-471-1225	paul.koester@nebraska.gov

* DNR staff outside of the Integrated Water Management Division assisting with the Integrated Management Plans

Figure 1



Integrated Water Management Division continued from p. 1

of the hydrologic system will drive periodic evaluations of the success of the integrated management plans in achieving their goals.

To date, the Department's efforts have been concentrated in the initial phases of the integrated management process: 1) fully appropriated determinations, and 2) development of integrated management plans. The IMPs for many districts with fully and overappropriated areas are complete or nearly complete. Areas encompassing other districts were recently declared fully appropriated and are just beginning the integrated water management planning process. The remaining portions of the state will continue to be evaluated by the Department on an annual basis (see map below) with the best scientific data, information and methodologies readily available. Establishment of the Integrated Water Management Division reinforces the Department's dedication to continue working cooperatively with the NRDs to ensure compliance with statutes and interstate obligations, and effectively manage the beneficial use of interconnected ground and surface water.

IWMD Mission
 The competing doctrines of correlative rights for groundwater use and prior appropriations for surface water use require an integrated management approach when the groundwater and surface water resource is hydrologically connected. The goals of integrated management are to ensure a balance between water supplies and uses in the short and long term, and to protect the rights of existing users of surface water and groundwater when possible. The Integrated Water Management Division provides technical expertise, planning assistance and coordination to ensure successful implementation of the integrated management process.



What is an Offset continued from p. 1

Since diverting surface water or pumping groundwater does not result in all the pumped or diverted water being permanently removed from the system, only the portion that is not returned is considered. This is the consumptive use. **Consumptive use is defined as the difference between water removed (pumped or diverted) from groundwater or surface water and water returned to the groundwater or surface water.** Therefore, a new use is the increase in consumptive use of water at a given location. Similarly, an offset is the decrease in consumptive use at a location that is used to balance (offset) the new use.

Additionally, the portion of consumptive use considered when managing new uses and offsets only includes the effect and timing of changes to streamflow. Streamflow effects are calculated as some portion of the overall con-

sumptive use, depending on the local hydrogeology. A variety of methods are currently used in Nebraska to reliably estimate the amount and timing of streamflow changes relating to new uses and offsets. Each new use, when combined with its corresponding offset, should either maintain current streamflow or increase streamflow. **In other words, effective management of a new use and offset should never decrease streamflow.**

The final consideration is the effect on existing users. Existing users are identified by the location of their well (groundwater) or point of diversion (surface water). Maintaining streamflow as described above at all points of diversion affected by each new use (and offset) will ensure that existing water users are protected.

Map Mod Program Over but Floodplain Mapping to Continue

By Shuhai Zheng Ph.D., P.E., CFM
Chief, Floodplain Management

The **Federal Emergency Management Agency's Flood Map Modernization Program** (Map Mod) has concluded, but that doesn't mean the Nebraska Department of Natural Resources (NDNR) will curtail its mapping efforts. Since 2003, when FEMA initiated the five-year Map Mod program, NDNR leveraged its funding to speed up floodplain mapping in Nebraska. **As of Sept. 30, 2008, 37 Nebraska counties have Digital Flood Insurance Rate Maps** or DFIRMs. This endeavor was actually a continuation of flood mapping projects that began 35 years ago when the Nebraska State Legislature gave NDNR's predecessor agency, the Natural Resources Commission, the responsibility of coordinating all aspects of floodplain management within the state – including mapping.

Initially, floodplain mapping entailed a survey crew going out for a few weeks to do a detailed study of known problem areas on limited segments of a creek. Up until 1998-99, we were also conducting detailed studies of larger rivers that hadn't been mapped by others, such as parts of the Elkhorn River and the Big Blue River.

In the meantime, FEMA had been providing flood hazard maps since its inception in 1979. Designed to reduce risk for the more than 20,000 communities that participate in the National Flood Insurance Program nationwide, most of FEMA's early maps were on paper.

Then, in 2003, after pressure from participating communities, the Association of State Floodplain Managers, realtors and governors, Congress provided funding to FEMA to launch Map Mod in an attempt to update all existing FIRMs, digitize existing paper maps, and develop procedures for producing all future maps in digital form.

Long before FEMA's decision to go digital, NDNR was using digital technology. In 2000, we started digitally mapping large areas under what was termed the Large Area Mapping Initiative or LAMI. NDNR established LAMI to ensure maps were the best available. Using digital techniques, four

counties were mapped in 2000-2001; seven counties in 2001-2002; and seven counties in 2002-2003.

Beginning in 2003, NDNR received FEMA funding enabling us to map more counties than ever before. This also increased the number of requests for technical assistance we received. Counties and communities dealing with flood maps for the first time needed guidance to work with the administrative procedures necessary to design and pass their ordinances and resolutions.

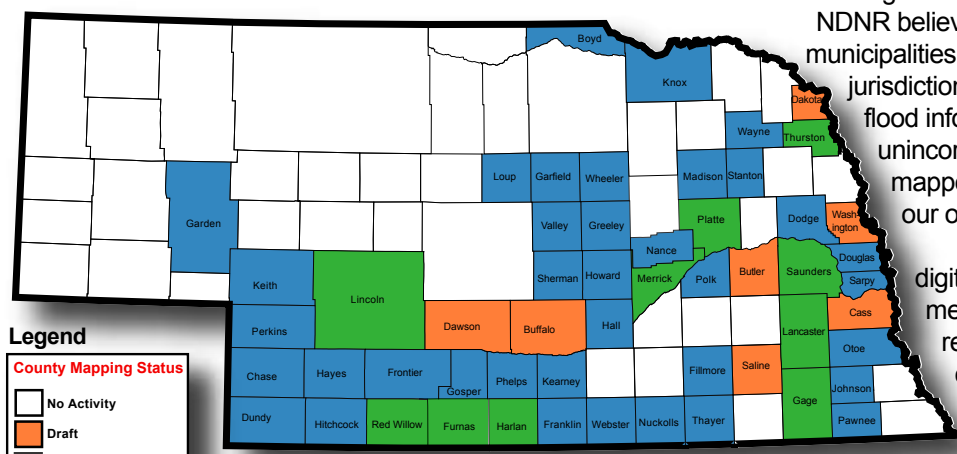
Then, in 2006, FEMA made a mid-course correction in the Map Mod program. Recommendations from Congress and stakeholders indicated a preference for FEMA to redirect its resources to communities at greatest flood risk. Consequently, Nebraska's funding for the final two years of the program was discontinued.

Even though there is some talk in Congress about restarting federal funding for floodplain mapping, money hasn't been allocated as yet. NDNR, however, will carry on with its legislatively mandated initiative to map the entire state. Right now we are working on Dawes, Cedar and Dixon counties.

NDNR's focus will be on "approximate" mapping because it is a lot less expensive. This will include designating flood "awareness" areas in Zone A. It is important that we continue this process because, even though many counties have been digitally mapped, one-half of the state's land area is still unmapped and all flood hazards should be identified. Later we can go back and do detailed digital maps.

NDNR believes all incorporated municipalities and their extra-territorial jurisdictions should have detailed flood information available. All other unincorporated areas should be mapped for flood hazards. This is our overriding goal.

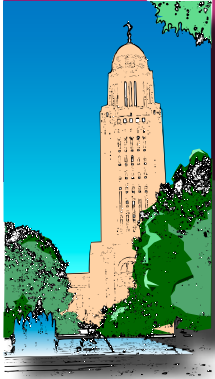
The move from paper to digital is definitely an improvement. Even though there is still resistance to digital maps and we produce them on paper when requested, NDNR encourages counties to accept their maps in digital form. Because online maps are always available instantly, many users no longer keep an



Nebraska County-Wide Flood Map Modernization Status

(as of September 30, 2008)

Continued on p.6



2008 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 employees and career service employees. Governor Heineman proclaimed the month of October 2008, 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 Thursday, October 30, 2008. In addition to that ceremony, several Length of Service ceremonies were also held across Nebraska during the month of October honoring employees for length of service to the State of Nebraska.



The **2008 Manager of the Year** for the Nebraska Department of Natural Resources (DNR) is **Christine Southwick**, with the Permits and Registration Division of the Department. Christine is a Natural Resources Program Specialist in the surface water area of the division and has been with DNR for seven years. Responsibilities include dealing with Nebraska's citizens on a daily basis answering questions over the phone and through correspondence about surface water, applications and the process, and other related surface water issues.

Christine enjoys her job and the public contact that comes with it. *"I enjoy the challenge of the job, explaining to someone why we take or don't take the necessary actions. I just enjoy working with and helping people, both the citizens of Nebraska and my fellow employees."*

Christine and her husband Les have been married for 21 years. *"Best 21 years of my life,"* she said with a smile. She enjoys bird watching, golf and reading in her spare time.

If you have a question on surface water applications and you call DNR, you could very possibly speak with Christine.

Length of Service Awards

Kenneth A. Huber.....	10 Years
Andrea G. Kessler.....	10 Years
Steve W. McMaster.....	10 Years
Kimberly A. Menke.....	20 Years
Karen Best.....	20 Years
Daniel R. Kloch.....	20 Years
Bradley D. Edgerton.....	25 Years
Brian P. Dunnigan.....	25 Years
Kenneth M. Meikle.....	30 Years
Susan E. Berlowitz.....	30 Years
Terry L. Cartwright.....	35 Years
Margaret F. Hoagstrom.....	35 Years
Guy H. Lindeman.....	35 Years
William H. Birkel.....	40 Years



Receiving the **2008 Employee of the Year Award** for the Nebraska Department of Natural Resources is **Ken Huber**, an Infrastructure Support Technician with the Management Services Division. When someone at DNR is having a problem with a computer, printer or plotter, Ken is a person they look for to receive help. Ken has been with DNR for 10 years and supports the staff in the Lincoln office as well as five field offices with their software, hardware, servers and network connection needs. Ken said, *"I honestly enjoy it when there is a really difficult problem and you solve it. That thrill of accomplishment, I enjoy that."*

Ken and his wife Nancy of 13 years have two children. He is involved with the Boy Scouts of America, enjoys woodworking, shooting pool, gardening, hunting, and getting together with friends and family and having a good time.

The skills and dedication of both of these employees have helped the Department tremendously over the years in accomplishing its goals. The Department staff and the State would like to congratulate both of these exceptional people on their awards, and thank them for their continued outstanding service to Nebraska and its citizens.

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Nebraska Department of Natural Resources
301 Centennial Mall South, 4th Floor
P.O. Box 94676
Lincoln, Nebraska 68509-4676

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State of Nebraska

Dave Heineman, Governor

Nebraska

Department of Natural Resources

Brian P. Dunnigan P.E., Acting Director

The *Nebraska Resources* is a quarterly publication of the Nebraska Department of Natural Resources. Your comments and suggestions are welcomed.

inventory of paper maps on hand. In addition, digital maps reduce costs. Since FEMA began distributing digital maps, the demand for paper maps has been reduced by 50 percent and, **in the future, the cost of map revisions will be greatly reduced through digital processing.**

In addition, to make floodplain maps readily accessible to all Nebraskans, NDNR recently added a floodplain interactive mapping tool to its website so people can get information online rather than having to call. This effort was supported with Map Modernization Management Support money.

Looking ahead, FEMA has recently introduced a new strategy called "Risk MAP." MAP is an acronym for mapping, assessment and planning. The strategy represents a philosophical and tactical shift in how the agency delivers information necessary for flood hazard reduction. FEMA hopes Risk MAP will bridge the gap between previously described concepts and future implementation. It wants Risk MAP to help move the partnership with local communities beyond simply mapping the flood hazard to taking actions that reduce risk to life and property.

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Nebraska Department of Natural Resources....

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