



Nebraska Resources

Newsletter

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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>.



Director Ann Bleed Retires

Ann Bleed, Director of the Nebraska Department of Natural Resources (DNR) retired on March 24, 2008.

Gov. Heineman said, *"I deeply appreciate the 20 years of service Ann has given to our state. Her expertise in water management has been critical in helping our state face our many water challenges. Ann is not only an intelligent and capable engineer, but also a good director who understands the science of water administration and water use, and the*

people who play a central role in these issues."

Bleed was appointed director in 2007 after serving as acting director since August 2005. Prior to that, she was the deputy director of the department for more than four years. She joined DNR in 1988 as State Hydrologist; a position she held for 12 years.

Bleed said, *"Working with Nebraskans across the state was very rewarding, and I will remember the people I worked with very fondly. I have also deeply enjoyed working with the Department of Natural Resources staff. They are capable, hardworking and very dedicated to achieving a sustainable future for the use of Nebraska's water resources and to implementing the water laws of the state in a manner that is fair to all water users."*

Gov. Heineman has named DNR Deputy Director Brian Dunnigan as Acting Director of the department. Bleed named Dunnigan deputy in 2007.

Previously, he had been Acting Deputy, supervising DNR's Dam Safety, Flood Plain Management and Photogrammetry divisions. State law requires the DNR director to be a professional engineer with at least five years experience in irrigation-related work. Dunnigan is a registered professional engineer and a certified flood plain manager, and has spent more than 20 years with DNR.

Expedited Transfers

By Pam Andersen

One of the many changes made to the surface water appropriation laws by LB 962 in 2004 was a change in the intrabasin surface water transfer law to allow "expedited transfers." New language in Section 46-291(1) **authorizes the Department of Natural Resources to issue surface water transfers under certain circumstances without having to first give notice of the transfer application to the public and mortgage holders and invite them to object to the issuance of the transfer permit.** An "expedited transfer" is faster because the Department does not have to publish a notice in the local newspaper for three weeks and invite objections and comments about the pending application for a transfer.

The criteria for being eligible for an expedited transfer are:

- (1) the appropriation must be for irrigation;
- (2) the land to which the water is being transferred must be within the same quarter section as the appurtenant land or within a quarter section of land that is contiguous to the appurtenant land;
- (3) if the appropriation is held in trust by an irrigation district or other surface

Continued on p.2

Dueling Permits--Dams and Reservoirs

By Pam Andersen

In Nebraska, building a dam and creating a reservoir, with **over 15 ac-ft of normal storage or planned withdrawals from the reservoir for a beneficial use**, requires the dam owner to get two permits and comply with both the Safety of Dams and Reservoirs Act (Chapter 46, Article 16 of the Nebraska state statutes) and the surface water appropriation laws (Chapter 46, Article 2 of the Nebraska state statutes). The two sets of laws complement one another in every way except when it comes to beginning construction of the project. Failure to begin construction by the date set in the permit voids the permit and an order of cancellation is issued. Section 46-1654(4) of the Safety of

Dams and Reservoirs Act authorizes the Department to grant an extension on the date set for beginning construction. However, Section 46-238 of the surface water laws prohibits the Department from granting extensions on the date set to begin construction of a surface water project. The public policy behind the differing requirements is understandable. As a matter



of public safety, it would rarely matter if construction of a dam did not begin within six months but as a matter of economic development, it does matter

if someone ties up the priority date on a surface water appropriation. If the applicant does not have the means to begin construction promptly and put the water to good use promptly, it is in the public interest to have the appropriation cancelled so the

water can be appropriated to someone else who can put it to use.

Expedited Transfers continued from page 1

water provider, the land to which the water will be transferred has to be within the boundaries or service area of the district or provider;

(4) there can be no increase in the number of appurtenant acres;

(5) the owner of the appropriation must remain the same or the transfer must occur within the same irrigation district or other surface water provider boundaries;

(6) the point of diversion will not change; and

(7) the transfer won't harm another water user by causing a loss of return flow or have any other negative effect.

All of the restrictions and benefits of normal surface water transfers also apply to expedited transfers. For example, if there is an incidental underground water storage permit associated with the appropriation being transferred, it may also be transferred. Some of the restrictions are listed below.

(1) If the appurtenant land is in an area that is fully or overappropriated and there is also a groundwater well capable of irrigating the appurtenant land,

the transfer will not be allowed if it will increase the amount of irrigated land in the basin.

(2) The surface water appropriation must have been used in the last five years. If the water right meets the criteria for cancellation, it will be cancelled.

(3) The transfer can't leave small tracts of appurtenant land that are not capable of being irrigated. The water rights to the remaining tracts will be cancelled.

(4) If the transferred water is combined with an existing appropriation (referred to as "stacking") the total rate of all appropriations cannot exceed a rate of 70 cubic foot per second or an annual volume of three acre-feet per acre.

The only thing different about an expedited transfer is that the Department doesn't have to notify mortgage holders

about the transfer application or publish a notice in the newspaper and invite objections and hold a pre-decision hearing about the pending application. However, even with an expedited transfer, someone claiming to be harmed by the transfer may still request a contested case hearing before the director by filing a petition within 15 days of the date of the order granting the transfer.



Nebraska Seeks Better Elevation Data with LiDAR

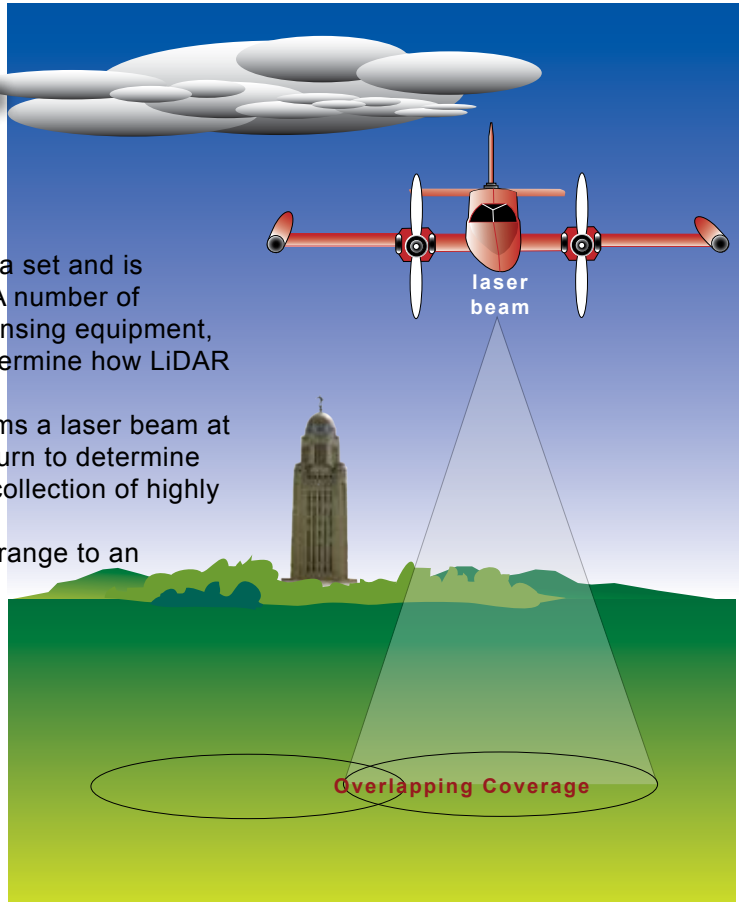
By Frank A. Aebly

The State of Nebraska wants to update its elevation data set and is eagerly anticipating using a new technology called LiDAR. A number of Nebraska counties have already used the optical remote-sensing equipment, and now the state is initiating an Advisory Committee to determine how LiDAR can be best put to use.

LiDAR, an acronym for Light Detection and Ranging, aims a laser beam at the ground from an aircraft. It then measures the laser's return to determine ground or canopy elevations thereby enabling the efficient collection of highly accurate surface-elevation data for large geographic areas.

Like radar, which uses radio waves instead of light, the range to an object is found by measuring the time delay between transmission of a pulse and detection of the reflected signal. The primary difference between LiDAR and radar is that with LiDAR much shorter electromagnetic spectrum wavelengths are used, typically in the ultraviolet, visible or near infrared.

Scientists and engineers are continuously finding new ways to use multiple returns of LiDAR. Current applications include environmental and natural resource management, archaeology, geography, geology, seismology, geomorphology, atmospheric research, meteorology, remote sensing and atmospheric physics.



LiDAR Advisory Committee

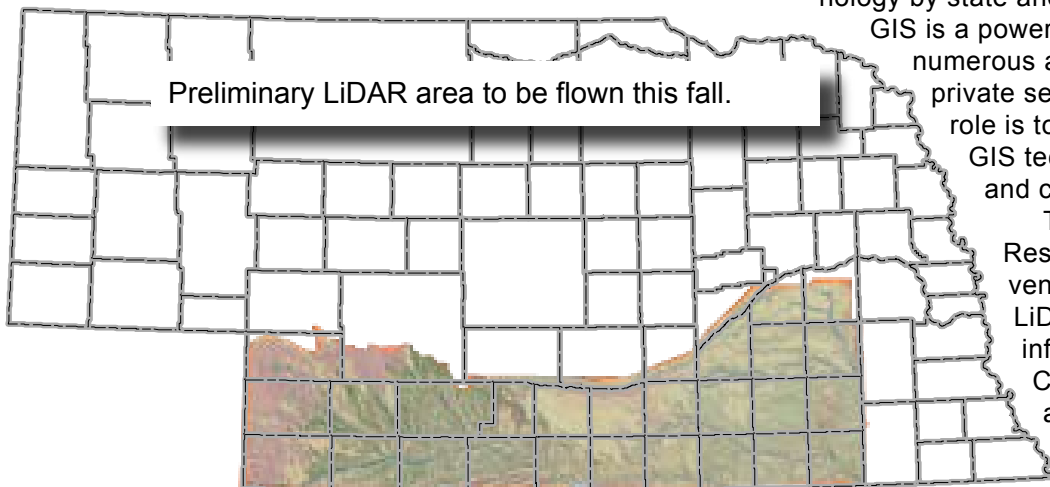
To study and make recommendations on issues related to the use of LiDAR technology, the Nebraska Geographic Information Systems (GIS) Steering Committee recently formed a LiDAR Advisory Committee. The Committee will investigate using LiDAR to develop enhanced surface elevation data for Nebraska, and to provide a data infrastructure for the state.

Meanwhile, a number of state, local and federal agencies have expressed an interest in further exploring the merits and possibilities of statewide LiDAR development. Plans are now in motion among the **Republican River Compact Group, the Platte River Recovery Project and the Rainwater Basin Joint Venture** to have between **12,000 and 18,000 square miles of LiDAR flown this fall** covering an area from Nebraska's western border with Colorado to the western border of Gage County, north to the Platte River.

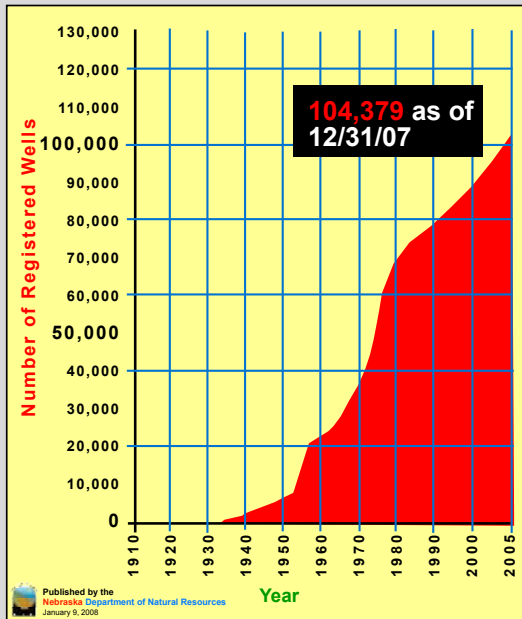
The GIS Steering Committee, established by the Legislature in 1991, coordinates the implementation of GIS technology by state and local governments in Nebraska.

GIS is a powerful information technology that has numerous applications in both the public and private sectors. The Steering Committee's role is to ensure that public investment in GIS technology is achieved efficiently and cost effectively.

The Department of Natural Resources has taken the lead in convening and providing support to the LiDAR Advisory Committee. For more information on the LiDAR Advisory Committee, contact Frank A. Aebly at 471-3936.



Cumulative Totals of Irrigation Wells Registered in Nebraska 1910 - 2007



Workshops Continue

The **Department of Natural Resources** is presenting a series of workshops developed for groundwater modeling and technical groups. Times and locations can be found at <http://dnr.ne.gov/docs/currentmeetingschedule.html> or you can contact Doug Hallum at 402-471-1114 or dhallum@dnr.ne.gov.

Thursday, May 29th, 2008

Topic: Geophysical Investigations: Magnetic Resonance Sounding

Presented by: Jim Cannia US Geological Survey

Time and Location: TBD

Thursday, June 26th, 2008

Topic: A Risk Management Approach to Numerical Modeling

Presented by: Jim Schneider Nebraska Department of Natural Resources

Time: 3:00pm - 4:00pm

Location: University of Nebraska, Lincoln - East Campus Hardin Hall, Room 901, Lincoln, NE

Thursday, July 31st, 2008

Topic: Platte River Conjunctive Management Study

Presented by: Duane Woodward Central Platte NRD

Time and Location: TBD

2007 Well Registration Information

Current Nebraska law requires that all water wells must be registered with the State. Exceptions to the law include test holes in existence for ten days or less, dewatering wells with intended use of 90 days or less, domestic or livestock wells completed prior to September 9, 1993. Water well contractors are now responsible for filing the well registration for newly constructed water wells with the Nebraska Department of Natural Resources (DNR) within 60 days of well completion. Well owners are responsible for registering existing wells which have not been previously registered. Forms are available at DNR's offices or website. Failure to register a water well is a Class IV misdemeanor.

The electronic address for searching for well registration information is: <http://dnrdata.dnr.ne.gov/wellssql/>

Forms are available at: <http://dnr.ne.gov/docs/wellforms.html>

Type and number of wells registered in 2007

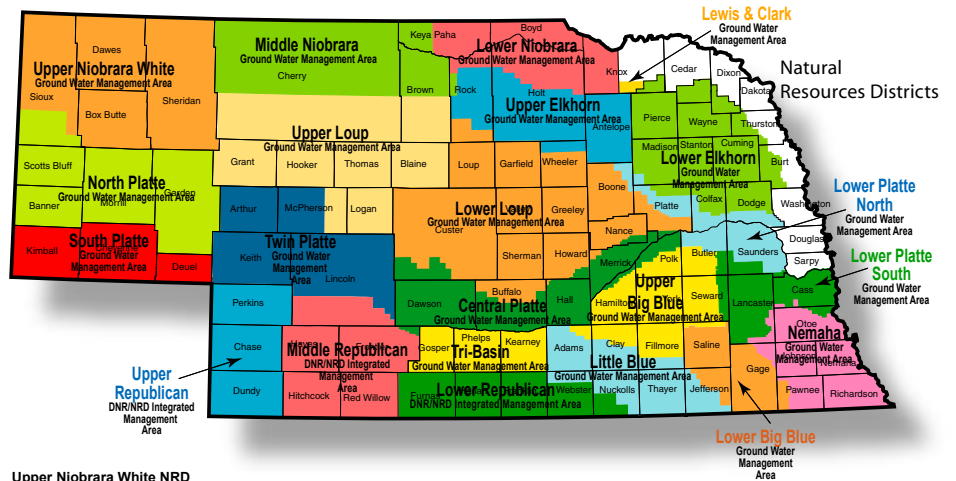
	1.	2.	3.
Central Platte	102	182	562
Lewis & Clark	43	43	136
Little Blue	59	90	212
Lower Big Blue	47	59	226
Lower Elkhorn	160	173	503
Lower Loup	202	245	735
Lower Niobrara	75	81	164
Lower Platte North	67	82	362
Lower Platte South	6	7	405
Lower Republican	1	9	109
Middle Niobrara	46	50	170
Middle Republican	1	1	178
Nemaha	20	24	242
North Platte	29	38	279
Papio-Missouri River	16	17	413
South Platte	1	2	84
Tri-Basin	24	49	130
Twin Platte	22	42	252
Upper Big Blue	127	178	341
Upper Elkhorn	98	103	270
Upper Loup	15	16	267
Upper Niobrara-White	19	27	419
Upper Republican	0	7	50

- 1. New Irrigation**
New wells used for the purpose of irrigation.
- 2. Irrigation**
New and replacement wells used for the purpose of irrigation.
- 3. Total**
All wells registered with the State in 2007 including aquaculture, dewatering irrigation, replacement, public water supply, commercial/industrial, domestic, ground heat exchanger, groundwater source heat pump, injection, livestock, monitoring, observation, pit for irrigation and recovery wells.

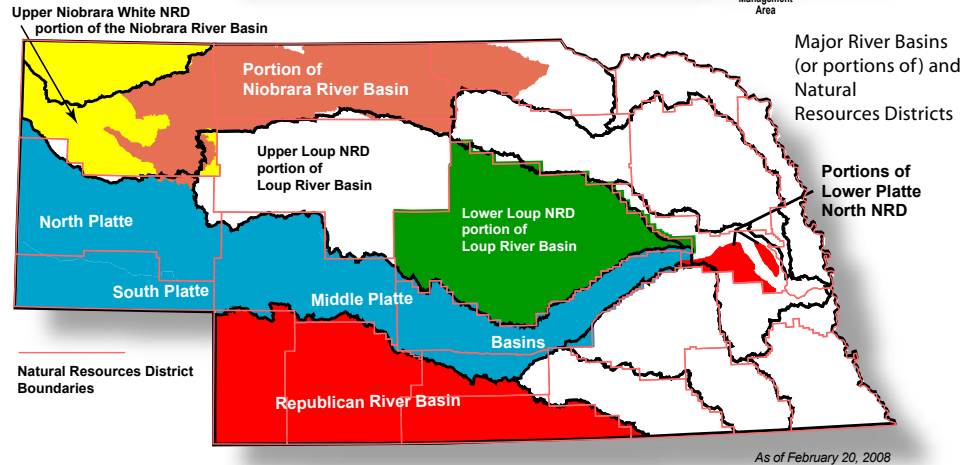


SNAPSHOT OF PRESENT WATER MANAGEMENT AREAS AND RESTRICTIONS

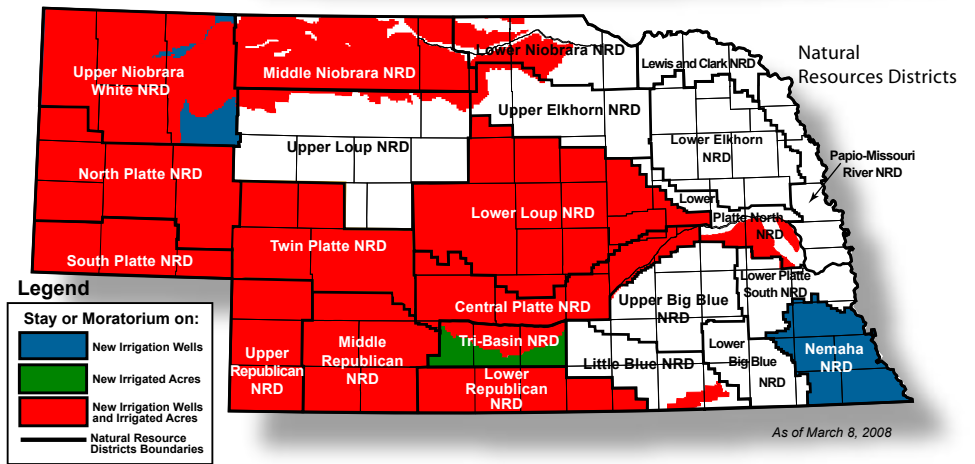
**Nebraska Ground Water Management Areas/
DNR/NRD Integrated Management Areas**



**Moratoriums/Stays on
New Surface Water Appropriations**



**Moratoriums/Stays on
New Groundwater Wells/Irrigated
Acres**
(NRD well permits)

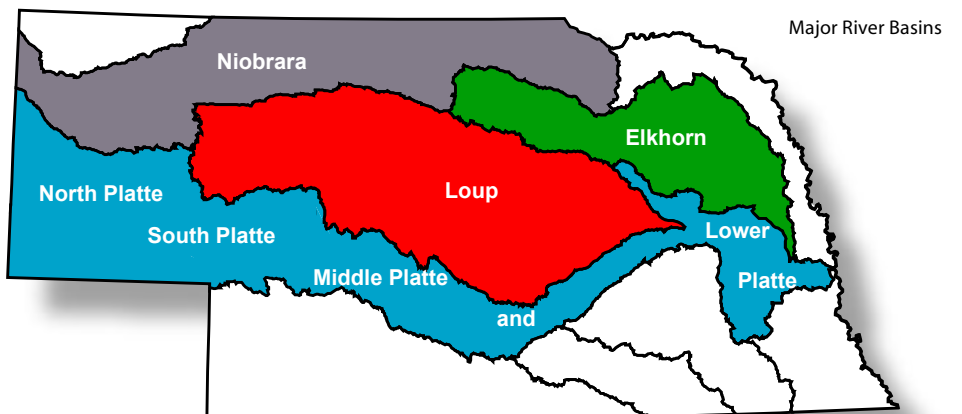


Legend

Stay or Moratorium on:

- New Irrigation Wells
- New Irrigated Acres
- New Irrigation Wells and Irrigated Acres
- Natural Resource Districts Boundaries

**Endangered
Species
Restrictions**



maps not intended for the purpose of measurement

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State of Nebraska

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Nebraska

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Brian P. Dunnigan P.E., Acting Director

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Nebraska Department of Natural Resources....

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