More than 100 Midwest water users looked at irrigation and power generating projects in Western Colorado's Uncompahgre Valley on the Four States Irrigation Council summer tour in early August.

"The area has some different challenges and some unique ways of dealing with them, compared to what water users are used to here in Nebraska," said Bob Volk, director of the University of Nebraska's Water Center/Environmental Programs.

Most on the tour were producers and irrigators from council states of Colorado, Kansas, Nebraska and Wyoming.

"Every other year we tour one of the four states, this year the group opted for Montrose," said Brian Werner, one of the council's directors. It was the first time since the council organized in 1952 that members toured the Montrose area on the western slopes of Colorado's famed Rocky Mountains.

Farming in that area's higher elevations is primarily hay production and cattle ranching. In the lower elevations around Montrose, Olathe and Delta, producers grow a variety of crops including onions, sweet corn, lettuce, oat hay, pinto beans and feed and seed corn hybrids.

Water to irrigate those crops and to supply electricity and municipal needs, comes mainly from the Gunnison and Uncompahgre Rivers.

The group observed and discussed local water issues related to those rivers. They saw many of the water delivery systems, including a vast system of canals, provided by the hosting Uncompahgre Valley Water Users' Association.

"This is a hands-on group of people who benefit from irrigation and agriculture. They understand the issues. We want to give them a taste of what we have,"

(Continued on page 7)
From the Director

Bob G. Volk

It’s official. The new School of Natural Resources Sciences has been approved by the Coordinating Board of Higher Education with a unanimous vote. We are one of several core units within the new school and look forward to working with the new Director, Blaine Blad on a variety of program activities effecting teaching, research and extension.

Fall, and the beginning of a new academic year, gives us opportunities to get involved in many excellent public outreach activities. Two of these are the Fall Festival of Color at NU’s Agricultural Research and Development Center (ARDC), near Mead and Husker Harvest Days, in Grand Island. Approximately 9,000 attended this year’s fifth annual Festival of Color. This Saturday program has expanded dramatically over the past 4 years and the lawn and garden and landscaping-oriented events, displays, and talks are outstanding.

Husker Harvest Days has grown to become one of the largest agricultural shows in the country and is one of the few such shows with a permanent site dedicated to it. Dr. Larry Schulze, extension pesticide coordinator within the Water Center Environmental Programs, does an outstanding job of coordinating University of Nebraska activities within the Institute of Agriculture and Natural Resources (IANR) building on the show grounds, near Grand Island. Dr. Schulze coordinates displays and activities from approximately two dozen NU departments and centers during the busy three-day event. The displays were well visited and we fielded many questions. Many of these dealt with pollution concerns stemming from large hog confinement operations. Others were concerned about nitrate contamination of their drinking water wells. Approximately 225,000 attended this years 20th annual event.

The Water Conference Council meeting September 13 was very informative and allowed for a wide ranging discussion on such topics as “hypoxia” and “the Lower Platte River Corridor Alliance” and updates on current water issues, e.g. the Republican River and the Platte River.

Now that irrigation season has ended, and in such a dry year, I am again reminded of this tremendous natural resource that Nebraska has. We are truly blessed as a state to have such an abundant quantity of quality groundwater. I am convinced that Nebraskans are very concerned about protecting and preserving this resource so that it will remain available to future generations.

We recently published an updated listing of NU faculty having expertise and interests in a variety of wetland-related topics and issues. These faculty represent a tremendous collective resource for information on Nebraska wetlands. For a free copy of the directory, contact Tricia Liedle at the address or telephone numbers listed at the bottom of this page.

Water Current

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Roy F. Spalding — Associate Director,
Water Sciences Laboratory Director
Edward F. Vitzthum — Coordinator of Environmental Programs
Robert D. Kuzelka — Assistant to the Director
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Water Rights Implications of the Platte River Memorandum of Agreement

By J. David Aiken

Signing the Platte River Memorandum of Agreement (MOA) between Colorado, Nebraska, Wyoming and the federal government ushered in a new era of Platte River water management.

The MOA establishes a framework for cooperation between the three states and the federal government in managing river flows to protect endangered species. Two particular MOA implementation challenges for Nebraska will be: (1) ensuring habitat water delivered to the Colorado and Wyoming borders reaches the habitat area, and (2) mitigating any habitat flow depletions resulting from new water uses.

One MOA goal is to reduce shortage to target habitat flows by an average of 130,000 - 150,000 acre-feet of water per year at Grand Island. Approximately 100,000 acre-feet of water per year will be contributed by the Central Nebraska Public Power and Irrigation District and by the Nebraska Public Power District, to be used for habitat flows.

In addition, the MOA establishes a goal of providing up to an additional 60,000 acre-feet of water per year for habitat through water conservation. One conservation option to be examined is water marketing: the voluntary purchase of irrigation water rights and converting them to instream water rights.

Protecting habitat water deliveries

Portions of the Platte River are losing stream segments, particularly during the irrigation season. This means that water from the river feeds the groundwater aquifer, rather than traveling downstream.

This raises the possibility that groundwater withdrawals near the river may, under some circumstances, interfere with habitat water deliveries. Under existing law, the Nebraska Department of Water Resources (DWR) is authorized to regulate the diversion or withdrawal of water from a stream to ensure that approved water deliveries occur. This authority probably extends to wells, as well as to direct surface water diversions, although wells have yet to be regulated under this authority.

In addition, natural resource districts (NRDs) and the DWR may regulate groundwater pumping and well drilling to deal with (among other things) satisfying interstate water agreements.

These authorities have yet to be implemented, but may be required to meet Nebraska MOA obligations. This could include restrictions on well pumping and (as a last resort) bans on new high capacity wells if needed to ensure habitat water deliveries. Only time will tell whether these authorities are adequate to meet Nebraska's MOA requirements.

Streamflow replacement requirements

All three states are required to develop a system for determining streamflow depletions resulting from new (post-MOA) water uses, and to compensate for any new streamflow depletions that reduce habitat flows.

For example, if an irrigator diverted 300 acre-feet from the Platte River for new irrigation, and irrigation return flows equaled 120 acre-feet, a potential stream depletion of up to 180 acre-feet could be created.

If habitat flows were depleted by the new 300 acre-foot diversion, the new irrigation could be required to replace the habitat flow depletions as a condition of the irrigation water right.

This could be accomplished in Nebraska by e.g. purchasing storage rights in Lake McConaughy (assuming they are available) to supply the necessary replacement water.

New irrigation wells depleting Platte habitat flows could be subject to similar replacement water requirements.

New legislation may be needed to meet this MOA requirement.

Water marketing

Nebraska statutes currently authorize irrigation appropriations to be sold for agricultural use within the same river basin. Nebraska statutes also authorize groundwater to be sold for off-site uses, which could include streamflow augmentation for habitat purposes. These water marketing provisions could be extended to authorize surface appropriations to be sold (on a voluntary basis) for habitat uses.

This would allow water users subject to replacement water requirements to purchase irrigation appropriations for replacement water. Similarly, conservation groups seeking to obtain more water for habitat flows could purchase water rights from irrigators and devote the water to habitat maintenance.

The Platte MOA signals a new era in Nebraska water law. Hopefully, some new water management tools, such as water marketing, will allow us to protect existing water users and flows for endangered species as well.

(Editors note: Aiken is a water and agricultural law specialist in the Department of Agricultural Economics, University of Nebraska-Lincoln).
Corridor Alliance Bringing People Together to Preserve Platte River

by Steve Ress

Like the braided effect of the Lower Platte River’s channels, a newly formed Alliance is hoping to weave a variety of interests and entities into unified action to preserve and restore the river and its corridor.

From drinking and irrigation water to fishing and recreation, the Platte River has always been an important resource for Nebraskans, but there hasn’t always been agreement on how to use and protect that resource. The recently formed Lower Platte River Corridor Alliance is bringing the river’s diverse interests together to work toward a common vision for its future.

The Alliance began involving counties and communities in the Lower Platte River corridor in a series of informational meetings and tours this summer. The agenda includes further meetings and a public opinion survey that will lead to a community council conference and retreat this coming spring.

Focus group meetings this fall will help draw out the issues. Eight general interest areas will be represented at these meetings: public water supplies, fishing, housing development, agricultural production, mining, tourism, recreation and wildlife habitat.

The public survey is scheduled for late this fall and will be followed by a series of facilitated public meetings early next year.

The ambitious agenda is being led by former University of Nebraska extension educator Diana Allen, who was recently hired as Alliance coordinator.

“The Alliance developed from a need to bring agencies together to share knowledge on the corridor, to compare programs and projects and work with counties and communities to forge a long-term vision of the corridor’s future,” Allen said.

That puts the alliance’s emphasis on communication, collaboration and coordination, she said.

“We want to create a forum where citizens and public officials can bring their perspectives to the table and find common goals and solutions,” she continued. “A vision for the corridor should be forged by taking a more regional approach in the sharing of ideas.”

The Alliance stemmed from passage of an inter-local agreement among The Lower Platte South, Lower Platte North and Papio-Missouri River Natural Resources Districts, and the Nebraska Natural Resources Commission, Nebraska Department of Water Resources, Nebraska Department of Health and Human Services, Nebraska Department of Environmental Quality, Nebraska Game and Parks Commission, Nebraska State Military Department and the University of Nebraska Conservation and Survey Division.

The corridor is defined as the river, bluffs and adjoining public and private lands from Columbus to the mouth of the river, near Plattsmouth.

Counties served by the alliance are Douglas, Sarpy, Cass, Platte, Butler, Dodge, Saunders and Colfax. Within them are the communities of Columbus, Richland, Bellwood, Schuyler, Octavia, Linwood, Rogers, North Bend, Morse Bluff, Cedar Bluffs, Fremont, Inglewood, Leshara, Valley, Yutan, Waterloo, Gretna, Ashland, South Bend, Memphis, Springfield, Cedar Creek, Plattsmouth, La Platte and Ames.

“The idea for the Alliance actually began in 1991 when the NRDs organized an airboat tour of the river and invited natural resources-related agencies, state senators and congressmen to spend a morning on the river,” said Allen. That journey set the stage for discussions that eventually led to the Alliance’s creation.

Flooding in 1993, that caused millions of dollars in damage along the river’s floodplain, focused further attention on the need for information sharing to promote local protection and restoration actions.

“The goals of the Alliance are basically three-fold: To foster increased understanding of the river’s resources; to support local efforts to protect the long-term vitality of the corridor; and to promote cooperation among local, state and federal organizations and the public to meet the varied interests of those in the corridor,” Allen explained.

Historically, the Platte pointed the way for westward migration that helped build a growing nation. Today it’s drinking and irrigation water is part of Nebraskans’ lifeblood.

“Over 50 percent of our state’s population is dependent on the surface and groundwater systems offered by the Platte River,” she said. “It’s a resource who’s water literally flows through the veins of most Nebraskans.”

(Editor’s Note: Diana Allen can be reached at the Lower Platte River Corridor Alliance, 3125 Portia St., P.O. Box 83581, Lincoln, NE 68501-3581. Phone (402) 476-2729 or email dallen@nrcede.nrc.state.ne.us.)
“Nebraska Water 2000” to Convene in Kearney

“Nebraska Water 2000” is the theme for the next three annual Nebraska water conferences, beginning with the 1998 conference in Kearney, Mar. 9-11.

The conferences will explore how Nebraska should plan and manage its water resources into the next century.

The opening speaker for the 1998 conference will give an overview of the role of a good information base in planning and managing water resources. This will be followed by a special visual presentation on Nebraska’s diverse river basins as a way of setting the stage for other conference discussions.

The remainder of the first day’s agenda will focus on three main areas of water information...physical, biological and human. Presentations on each of these areas will be made by experts from beyond Nebraska’s borders, with responses on Nebraska-specific information.

On day two of the conference, conditions related to these information areas will be presented on three important Nebraska river basins: the Niobrara, Platte and Republican basins.

Other conference events include a gala opening reception on March 9th, an awards banquet on the evening of March 10th and optional tours in the area on March 11th.

Future water conferences in the series will emphasize planning for the future (in 1999) and management for the future (in 2000). All of Nebraska’s river basins will be highlighted through the series.

Detailed program and registration information for the 1998 conference will be in December’s Water Current.

NWRA/NSIA Join Joint Conference in Grand Island

The Nebraska Water Resources Association and the Nebraska State Irrigation Association will hold their annual joint conference Dec. 1-2 at Grand Island’s Mid-Town Holiday Inn.

“Water For Sale” is the conference theme. It will explore water marketing practices in adjacent states and highlight potential advantages and disadvantages of implementing water marketing strategies in Nebraska.

Participants will also gain knowledge of past water marketing attempts in Nebraska. Additionally, conference participants will have an opportunity to provide input on the Platte River Cooperative Agreement.

For further information, or to register for the conference, contact Sara Kay, at NWRA, 402-474-3242 or toll free, 1-888-474-6972.

Fourteen Presentations Planned for 1998 Water Resources Seminar Series

In fourteen sessions presenters will explore interrelationships of water, native grasslands and wetlands during the University of Nebraska-Lincoln’s 1998 Water Resources Seminar beginning in January.

“Speakers will explore the history and future of the diversity and changes in the great plains grass biome,” said series coordinator Bob Kuzelka, assistant to the director of UNL’s Water Center/Environmental Programs.

The series begins Jan. 14th and meets weekly through April 29th, with the exception of March 11th and 25th. Sessions are 50 minutes and begin at 3 p.m. in room 116, L.W. Chase Hall, UNL East Campus.

The series will include Kremer and Williams lectures, the latter named in recognition of the major funding source for the annual series.

As in past years, the seminar will be offered both as a public lecture series and as a one-hour credit course for students. It will also be available for distance learners and

(Continued on page 6)
Yo uth (and their parents too) learned how aquifers form, and how easy they are to contaminate, through an activity called ‘Edible Aquifers’ at September’s fifth annual Festival of Color, near Mead. The lawn, garden and landscaping family event drew more than 9,000 to the University of Nebraska’s John Seaton Anderson Turfgrass and Ornamental Research Area (photo: Steve Ress).

Extension Conference to Minnesota’s North Woods

Ruttger’s Bay Lake Lodge in Deerwood, MN will host an “Extension Natural Resources Conference” planned for May, 1998.

The national conference is aimed at cooperative extension service people working in the areas of forestry, forest products, fisheries, wildlife, range management and environmental education.

It will be the first national conference to bring these disciplines together, organizers said. A conference goal is to share technical information, extension education methods, evaluation techniques, funding and policy strategies, program ideas and educational materials.

The conference is scheduled for May 17-20, 1998. For more information, contact one of the following steering committee members:

Elaine Andrews, Environmental Education, University of Wisconsin, (608) 262-0142 (eandrews@facstaff.wisc.edu).

Mel Baughman, Steering Committee Chair, Extension Forester, University of Minnesota, (612) 624-0734 (mbaughm@forestry.umn.edu).

Stephan Carlson, Center for 4-H Youth Development, University of Minnesota, (612) 626-1259 (scarlson1@mes.umn.edu).

78,000 Groundwater Documents Available

More than 78,000 groundwater documents are available through The National Ground Water Association's web site.

The “Ground Water On-Line” collection of information is advertised as the largest and most comprehensive of its kind in the world. NGWA members receive free, automatic, unrestricted use of the web site, while nonmembers can access it for a fee.

The NGWA web site has received an average of 50,000 hits per month since its debut in April. It is located at http://www.h2o-ngwa.org

Call for Papers: Precision Ag Conference

The Fourth International Conference on Precision Agriculture will be held in Saint Paul, MN this coming July 19-22, 1998 and a call for papers is out.

The conference will provide a forum for presentations on the status of precision agriculture research and application worldwide. Examples of conference themes are natural resources variability, precision management, technology, information management, profitability, environment and education/outreach.

The conference will facilitate interaction among specialists, scientists, researchers, industry representatives, agriconsultants and producers. The program will consist of presentations and activities for both researchers and practitioners.

Abstracts for oral and poster presentations are being accepted until Dec. 1 (200-300 word maximum).

For conference content information, contact Dr. Pierre Robert, chair, at (612) 625-3125 or email probert@soils.umn.edu. For other information, contact Tracy Svee, program coordinator, at (612) 625-3125 or (800) 367-5363; email tsvee@mes.umn.edu.

Internet users can access conference information at http://precision.agri.umn.edu/98conf.

Fourteen Presentations Planned for 1998

(continued from page 5)

the public at satellite downlink sites across the state (to be announced).

The 1998 seminars are cosponsored by the UNL Water Center/Environmental Programs, Center for Grasslands Studies and School of Natural Resource Sciences.

For more information and a complete list of dates, speakers and lecture topics, contact the Water Center/Environmental Programs after Nov. 1st at (402) 472-3305.

More seminar information will be in December’s Water Current.
Western Colorado Irrigation Projects

(continued from page 1)

said Marc Catlin, UVWUA assistant manager and local producer.

Among the points of interest the group toured were Morrow Point and Crystal Dams on the Gunnison River. They also saw the Gunnison River’s Black Canyon National Monument and west and east portals of the Gunnison Tunnel. The tunnel was completed in 1912 and dedicated by then President William Howard Taft. The eight-year undertaking was one of the U.S. Bureau of Reclamation’s first projects. The 5.8 mile-long tunnel taps water from the Gunnison River and routes it through the base of a mountain so it can supply irrigation and drinking water needs in the Montrose area.

Also looked at were the earthen dam of Ridgeway Reservoir and canal diversion points along the Uncompahgre River.

Tours of valley farming operations followed. Participants watched as Olathe sweet sweet corn was picked and boxed in the field, before being iced and packed into refrigerated semi trailers for delivery to Chicago, Los Angeles, New York and other major markets.

“This is a local operation that has grown to be nationally famous in just six years,” said UVWUA manager Jim Hokit.

Those on the tour were able to sample the exceptional corn at a barbecue that featured Colorado grown pinto beans and Colorado beef.

“It seems very clear that residents of this formerly remote area of Colorado are dedicated to developing and using their vast water resources. This helps develop their communities, expand their agricultural economy and increase tourism,” said Volk of the tour.

The tour was Aug. 6-8. It was offered in place of the annual Nebraska Water Conference Council tour, which was not held this year.

President of the Four States Irrigation Council is Don Schepler of the Central Nebraska Public Power and Irrigation District, Holdrege.
Foundation Staff Help with Urban Water Festival in Washington D.C.

Staff from the Lincoln-based Groundwater Foundation traveled to Washington D.C. this summer to help youth better understand how to preserve our water and environment through a hands-on urban water festival.

"Educating Our Youth to Save Our Environment" used a variety of activities to aid youth in better understanding how they can protect vital water and environmental resources.

Festival activities like 'Water Jeopardy,' building an 'Aquifer in a Cup,' a water cycle terrarium, mapping neighborhood green spaces and 'Go With the Flow' (how water moves through the ground) helped about 400 inner city youth (ranging in age from four to 17) get a better idea of how they fit into the overall picture of water use, conservation and protecting our environment.

"We learned a lot about the universal appeal of this form of environmental education to all youth," said Susan Seacrest, president of The Groundwater Foundation.

"The partnership of participating organizations helped this festival to be a real success," added Bob Kuzelka, assistant to the director, Water Center/Environmental Programs, University of Nebraska-Lincoln. Kuzelka also consults The Groundwater Foundation's growing Groundwater Guardian program and assists with other foundation projects.

Primary organization for the event was led by Hyder Houston, manager of the Job Search Center of the Greater Washington Urban League, Inc.

Other festival co-sponsors were The Groundwater Foundation and the Water Environment Federation. Support also came from the U.S. Environmental Protection Agency Office of Groundwater and Drinking Water and the U.S. Geological Survey.

Additional assistance came from The Terrene Institute, League of Women Voters, Environmental Alliance for Senior Involvement, Smithsonian Institution Museum Magnet School Program and Friends of the Earth, to name a few.

Festival volunteers came from across the greater Washington D.C. area.

Before attempting a festival of their own, organizers studied other festivals for ideas and planning help, including The Groundwater Foundation's annual Children's Groundwater Festival in Grand Island.

The event was held at Washington D.C.'s Anacostia Park and Skating Pavilion in late July.

More than 400 inner city youth got a better idea of how they fit into the overall picture of water use, conservation and environmental protection at an urban water festival in Washington D.C. this summer. Staff from the Lincoln-based Groundwater Foundation helped organize and run the festival (photo: The Groundwater Foundation).