 Conjunctive Use

Sharing a Resource

1994 Nebraska Water Conference

March 14-16
Cornhusker Hotel & Convention Center
Lincoln, Nebraska
Conference Program

Monday, March 14

5 to 9 p.m. Registration in the Atrium

7 to 9 p.m. Exhibits and Poster Sessions on Conjunctive Use with Coffee and Soft Drinks in the Atrium

Tuesday, March 15

7:30 a.m. Registration in the Atrium
Coffee and Rolls in the Atrium
Exhibits in the Atrium

(Opening and Plenary Sessions will be in Convention Center Ballroom)

8:45 a.m. Welcome by Chancellor Graham B. Spanier, University of Nebraska-Lincoln

FIRST PLENARY SESSION
Moderated by Dayle Williamson, Director of the Nebraska Natural Resources Commission

9:00 a.m. Introduction to Physical Aspects of Issue by James Goeke, Research Geologist, Conservation & Survey Division, UNL

9:30 a.m. Current Nebraska Law/Future Issues by Donald Blankenau, Legal Counsel/Assistant Director, Nebraska Department of Water Resources

10:00 a.m. Break in the Atrium

10:20 a.m. Report on Current Activities of the State Legislature and the Nebraska Water Council by Michael Jess, Director, Nebraska Department of Water Resources
EXECUTIVE ORDER

No. 93-4

WHEREAS, it is recognized that water is one of Nebraska's most valuable natural resources and the management, conservation, and beneficial use of ground water and surface water are essential to the continued economic prosperity and well-being of the state; and

WHEREAS, it is further recognized that there is a hydrologic relationship between ground water and surface water in many parts of the state; and

WHEREAS, the State of Nebraska can and should study the implications of current and alternative state water policies concerning the relationship between ground water and surface water and the impact of those policies on the agricultural, environmental, and economic well-being of the state;

NOW, THEREFORE, I, E. Benjamin Nelson, Governor of the State of Nebraska, by the authority vested in me by the Constitution and the Statutes of the State of Nebraska, do hereby order the creation of the Nebraska Water Council. The Council shall study the hydrologic relationship between ground water and surface water and make specific legislative recommendations, if any, regarding how ground water and surface water in the state might be more efficiently and effectively managed. Members of the Council shall be appointed by and serve at the pleasure of the Governor for one year.

IN WITNESS WHEREOF, I have set my hand, and the Great Seal of the State of Nebraska to be affixed, this ___ day of June, 1993.

[Signature]
E. Benjamin Nelson
Governor

ATTEST:

Allen J. Beermann
Secretary of State
10:45 a.m. Public Trust by John Cavanaugh, Attorney, Summit Limited, Omaha

11:10 a.m. Water Markets by Walraven F. Ketellapper, President, Stillwater Resources & Investments, Inc., Boulder, CO


Noon LUNCHEON in the Ballroom
Presiding: Bryce P. Neidig, Chair, Nebraska Water Conference Council
Conference Charge: Warren Fairchild, Retired

SECOND PLENARY SESSION

Moderated by Susan Seacrest, President of The Groundwater Foundation, Lincoln

1:30 p.m. Case Study on Conjunctive Use Potential in the Republican River Basin by Bob Kutz, Area Manager, U.S. Bureau of Reclamation, Nebraska-Kansas Area Office, Grand Island

2:15 p.m. Case Study on Conjunctive Use Potential in the Platte River Basin by David F. Mazour, Assistant General Manager, Central Nebraska Public Power & Irrigation District, Holdrege

3:00 p.m. Break in the Atrium
Conjunctive Use

Conjunctive use of water is a term meaning different things to different people. Generally, the term, or concept, envisions hydrologic, legal or economic methods of interrelating the various uses of water from ground and surface water sources. Commonly, though, the term is rather narrowly considered to mean the development of one set of laws that treats the right to use groundwater and surface water the same. Implied in this approach is the belief (mistaken in my view) that water from the two sources is directly and intimately related. And since surface water laws were enacted first in the western states, the tendency for the sake of simplicity and uniformity in law is to protect surface water rights by imposing the archaic concept of the priority system (first in time, first in right) upon those using groundwater.

Surface water and groundwater are related in the sense that both are derived from precipitation and the supply of both is renewed annually. Management techniques can be devised to integrate the supply of water from precipitation and from surface and groundwater sources for all our various uses. The opportunity (and the challenge) for Nebraskans is to perfect methods of integrating the use of our total water supply, something nature has not done. The first and greatest opportunity is to manage the precipitation that falls on the land.

— Vincent H. Dreeszen, Professor Emeritus, Conservation and Survey Division, University of Nebraska-Lincoln (March 1994)
GROUP DISCUSSION SESSION

NOTE: Locations for group discussions will be announced. Each attendee will be able to attend one discussion group. Group assignment is indicated by letter on your nametag. Each group will look at conjunctive use policy options for the basin to include status quo. They will examine the options as to potential areas of conflict and potential for conflict solution. A one-page summary from each group discussion will be distributed to all attendees at the Third Plenary Session on the morning of March 16.

3:25 p.m. Group A. Republican River Basin
Leader: Lavon J. Sumption, Resource Development Specialist, Institute of Agriculture and Natural Resources, UNL
Resource Persons: David L. Pope, Chief Engineer-Director, Division of Water Resources, Kansas State Board of Agriculture; Anne Matherne, Research Hydrologist, Conservation & Survey Division, UNL; Harry Smolik, Member, Harlan County Water Resources Committee; Ralph Sindt, Farmer, Riverton

Group B. Republican River Basin
Leader: Rollin Hotchkiss, Research Hydrologist, Department of Civil Engineering, UNL
Resource Persons: James Goeke; Rick Calkins, President, Harlan County Water Resources Committee; Clayton Lukow, Farmer, Holstein

Group C. Platte River Basin
Leader: Ron Bishop, General Manager, Central Platte Natural Resources District, Grand Island
Resource Persons: David F. Mazour; Jerry Obrist, Chief Engineer of Water Works, City of Lincoln; Brent Lathrop, Stewardship and Protection Specialist, The Nature Conservancy, Nebraska Field Office, Aurora; Bob McCue, Field Supervisor, Nebraska Ecological Services Field Office, U.S. Fish & Wildlife Service, Grand Island

Group D. Platte River Basin
Leader: Steve Oltmans, General Manager, Papio-Missouri River Natural Resources District, Omaha
Resource Persons: Tom Wurtz, General Counsel/Director of Governmental Affairs, Metropolitan Utilities District of Omaha; Steve Anschutz, Assistant Nebraska Field Supervisor, U.S. Fish & Wildlife Service, Ecological Services, Nebraska Field Office; Larry Hutchinson, Water Resource Program Manager, Nebraska Game & Parks Commission

5:00 p.m. Discussion groups adjourn
Conjunctive use: Trust me, it’s vital

I call it the Big C. You’ve probably heard or read about it — conjunctive use. When lawmakers and farmers talk about conjunctive use, they’re talking about water.

Conjunctive use is one of those terms that has the power to glaze a reader’s eyes. People who see conjunctive use in a story often turn the page and go on to something they can understand, like yard waste.

I, too, am under the spell of the Big C. I have this fear that one day someone will ask me to explain what it means. I’ve had several close calls already. I’ve managed to muddle through an explanation leaving out most of the bureaucratic and scientific jargon that comes from the same alphabet stew that gave us the term in the first place.

People I’ve talked to about conjunctive use typically nod their heads and do all of the other things that come with showing they understand. But, more often than not, the glaze starts forming in their eyes even before I finish.

Conjunctive use, some believe, is one of those terms that defies explanation. For me, it ranks right up there with superconductors, quantum physics and Einstein’s theory of relativity.

But, in an effort to ward off any more inquiries, I will try to explain it in its simplest form. I guarantee that anyone who continues to read this column will come away with a greater understanding of conjunctive use. They may not care, but at least they will know what it is, at least as much as I do.

My explanation requires the use of imagination. Close your eyes and imagine that you are holding a slinky in your hand. You know, one of those toys with a series of thin, metal loops that kids sort of pour back and forth between their hands.

Now, imagine that the thin metal loops are water. In your right hand, you have water that is found underground. Let’s call that ground water. Your left hand contains water that is found in a river or stream. Let’s call that surface water.

Now, move the slinky/water back and forth from one hand to the next. See how the water flows from one hand to the other — that’s conjunctive use.

In the real world, it works the same way. Rain falls and seeps into the ground. That water eventually finds its way via gravity to a river or stream and empties into it. Scientists call that recharging a river or stream.

It works the other way, too. Water found in a river or stream recharges ground water. Wetlands and marshes along rivers and streams are evidence of this recharging phenomenon.

What I have described is a relationship between ground water and surface water, in other words conjunctive use.

So why is conjunctive use important? If you live in Lincoln, you should care about conjunctive use because it affects the water you drink. Lincoln gets its water from the Platte River near Ashland. Water is pumped from the ground on the west side of the river, transferred to a treatment plant and sent on its way to the Capital City. Without the Platte and its ability to recharge ground water, Lincoln residents wouldn’t have enough water to drink.

Right now, Lincoln and other cities are trying to get the Legislature to recognize that a relationship exists between ground water and surface water. In essence, they want to protect their water supplies.

Nebraska water law does not recognize conjunctive use and only regulates water pumped from rivers or streams.

If you are a farmer or rancher, your concerns about conjunctive use are different. Farmers may pump water from a river or stream to irrigate crops. Sometimes they have wells nearby to pump water in case there isn’t enough water in the stream or if the state shuts off their water supply because of drought.

Some farmers view ground water and surface water as separate. They worry that if the state recognizes conjunctive use, then it will be forced to regulate wells that are used to pump ground water.

The test will be next week.
6:00 p.m. Social Hour in the Atrium
Hosted by Lindsay Manufacturing Co.

7:00 p.m. AWARDS BANQUET in the Ballroom
Presiding: Jack Aschwege, Vice Chair, Nebraska Water Conference Council
Awards: Pioneer Irrigation Award and Progress Award
Entertainment: Lincoln Chapter of Sweet Adelines
Sponsored by Farmers National Co.

Wednesday, March 16

7:00 a.m. BUFFET BREAKFAST in the Ballroom
Welcome and Introductions
by Vice Chancellor for Research Priscilla C. Grew, UNL
Address by Nebraska Governor E. Benjamin Nelson

THIRD PLENARY SESSION
Moderated by Bob G. Volk,
Director of the Water Center/Environmental Programs, UNL

8:30 a.m. Reports from the Group Discussions by group leaders

9:30 a.m. Break in the Atrium

10:00 a.m. Panel and Audience Response to Group Reports
Panel Members: Robert B. Crosby, Attorney, Crosby, Guenzel, Davis, Kessner & Kuester, Lincoln; Donald Kraus, General Manager, Central Nebraska Public Power & Irrigation District; Rex Amack; Director, Nebraska Game & Parks Commission; J. David Aiken, Water and Agricultural Law Specialist, Department of Agricultural Economics, UNL; Bryce P. Neidig, President, Nebraska Farm Bureau

11:15 a.m. CONFERENCE SUMMARY: Warren Fairchild

Noon LUNCHEON in the Ballroom
Presiding: Everett Vogel, Vice Chair Elect, Nebraska Water Conference Council
Address by State Senator Chris Beutler

1:30 p.m. Conference adjourns
**Water Glossary**

**Groundwater** is water that occupies voids, cracks or other spaces between particles of clay, silt, sand, gravel or rock within the saturated underground formation referred to as aquifer.

**Groundwater recharge** is the process where water enters the soil and eventually replaces the saturated zone. Recharge varies from place to place due to the amount of rainfall, infiltration and surface vegetation.

**Maximum contaminant levels (MCLs)** are legally enforceable drinking water standards required by the Safe Drinking Water Act. These standards establish the maximum permissible concentration of selected contaminants in public water supplies.

**Nonpoint source (NPS) pollution** is the source of surface or groundwater pollution originating from diffuse areas without well-defined sources. The most common examples are chemicals that enter surface water during runoff events from cropland and turfgrass and soil erosion from cropland and construction sites.

**Point source (PS) pollution** is the source of surface or groundwater pollution that originates from a well-defined source. Examples include industrial effluent, large animal containment facilities, city waste water treatment discharges or chemical spills.

**Watersheds** are regional basins drained by or contributing water to a particular point, stream, river, lake or ocean.
Optional Tour
Wednesday, March 16 Afternoon
Lincoln Water System Ashland Plant

You will visit the new 50 MGD water treatment plant under construction which includes the ozone building, the filter building and the maintenance and control areas. The tour also will visit the new pumping station adjacent to the new 6 million gallon finished water reservoir. The new well system on an island in the Platte River will be explained. The tour has been arranged and will be conducted by Jerry Obrist, Chief Engineer of Water Works, City of Lincoln.

Transportation by van to the plant is available for $5 per person or you may drive on your own. Vans will leave at 2 p.m. from in front of the Cornhusker Convention Center and will return by 5 p.m. If you are traveling by personal car, please be at the plant by 2:30 p.m. The map below indicates routes to the plant.

Please notify the conference registration desk by the 9:30 a.m. break on March 16 if you plan to take the tour either by van or personal car.
Exhibitors

Nebraska Association of Resources Districts
Nebraska Department of Environmental Quality
The Groundwater Foundation
UNL Biological Systems Engineering
UNL Conservation & Survey Division
UNL Institute of Agriculture and Natural Resources
UNL South Central Research & Extension Center
  - Mid Nebraska Water Quality Demonstration Project
  - Platte River Demonstration Project
UNL Water Center / Environmental Programs
U.S. Environmental Protection Agency
U.S. Geological Survey

Poster Sessions

UNL Conservation & Survey Division
  - Jerry Ayers
  - Darryll Pederson
Credits

Conference Sponsors
Nebraska Water Conference Council
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln
Water Center/Environmental Programs
Nebraska Research Initiative

Special Contributors
Farmers National Co., Omaha
Lindsay Manufacturing Co., Lindsay
Valmont Industries Inc., Omaha

Conference Co-Chairs
Les Sheffield and Bob Kuzelka

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Rex Amack, Kevin Boyd, Jack Daniel, Jim Ducey, Rollin Hotchkiss, J. Michael Jess,
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Rachael Herpel, Bettina Heinz Hurst, Larry Hutchinson, Anne Matherne, David Mazour,
Jerry Obrist, Kent Zimmerman

Support Staff
Chris Grant, Jean Klasna, Cindy LeGrande
1994 Conference Presenters Biographies

(Biographies were developed from information provided by presenters.)

J. DAVID AIKEN, Water and Agricultural Law Specialist and Professor of Agricultural Economics, University of Nebraska-Lincoln. A native Nebraskan, Dr. Aiken graduated from Hastings College in 1972 and received his law degree in 1975 from George Washington University of Washington, D.C. While attending law school, he worked in the U.S. Department of Agriculture on a study of water rights in western states. He joined UNL in 1975. An attorney, he is a member of both the District of Columbia and Nebraska bar associations and a former chair of the Natural Resources Section of the Nebraska State Bar Association.

REX AMACK, Director, Nebraska Game and Parks Commission, Lincoln.


JACK ASCHWEGE, State Statistician (retired), State Statistical Office, Agricultural Statistics Service, U.S. Department of Agriculture and Director, Agricultural Statistics Division, Nebraska Department of Agriculture, Lincoln. Aschwege is a Merrick County native. He earned a degree in agricultural economics from the University of Nebraska-Lincoln College of Agriculture and began his career in statistics as a student trainee with the Nebraska Agricultural Statistics Service during his senior year at UNL. He joined the staff full time upon graduation in 1956. Following assignments in Nebraska, Iowa and Washington, D.C., Aschwege returned to Nebraska as state statistician. He retired in October 1993.

CHRIS BEUTLER, Nebraska State Senator, District 28. A native of Omaha, Beutler graduated with a B.A. from Yale University and a law degree from the University of Nebraska College of Law. His legislative experience includes serving as state senator from 1979 to 1986 and from 1991 to present; chairperson of the Rules Committee from 1981 to 1982, chairperson of the Judiciary Committee (1983-1985) and chairperson of the Executive Board (1985-86). He currently chairs the Natural Resources Committee and is a member of the Education Committee. He is vice president of the Nebraska Title Co. and has previously
worked as attorney and researcher for the Nebraska Crime Commission.

RON BISHOP, General Manager, Central Platte Natural Resources District. Bishop was hired as general manager of the Central Platte NRD when it was first formed in 1972 and has remained in that position since that time. Prior to 1972 he spent four years as manager of the Mid Platte Valley Watershed, an organization established to deal with flooding problems in south-central Nebraska, two years as manager of the Douglas County Soil and Water Conservation District, Omaha, and seven years with the Soil and Conservation Service in south-central and western Nebraska.

DONALD BLANKENAU, Legal Counsel/Assistant Director, Nebraska Department of Water Resources, Lincoln. A native of Dodge, Blankenau graduated from the University of Nebraska-Lincoln in 1983 with a B.S. in natural resources, water specialty. In 1987, he graduated from the UNL College of Law. After serving as a deputy county attorney, he joined the Department of Water Resources as legal counsel in 1991. In 1993 he assumed his present position as legal counsel and assistant director.

RICK CALKINS, Attorney, Alma. An attorney in private practice, Calkins is a 1979 graduate of the Creighton University School of Law. His practice is in Alma, located on the Harlan County Lake and Republican River. Calkin is president of the Harlan County Water Resources Committee, which is active in conservation and conjunctive use issues in the area.

JOHN J. CAVANAUGH, Chair/Chief Executive Officer, Summit Limited, Omaha. Summit Limited has had more than 17 years of experience in the former Soviet Union in the area of food production, food processing and product sales. In addition to his position with Summit Limited, Cavanaugh also serves as counsel to Kutak Rock, a national law firm with offices in Atlanta, Denver, New York, Omaha and Washington, D.C. He received his bachelor's degree from Regis College in 1967 and his law degree from Creighton University School of Law in 1972. A former member of the U.S. Congress, he served as a member of the Committee on Banking, Finance and Urban Affairs; the Committee on Foreign Affairs; the Subcommittee on International Economic Policy and Trade.

ROBERT B. CROSBY, Attorney, Lincoln, and Former Nebraska Governor (1953-1955). Born in North Platte, Crosby attended Hastings College, Hastings; earned his B.A. from the University of Minnesota in 1931 and his LL.B. in 1935 from Harvard University Law School. He practiced law in Omaha and North Platte and is senior partner in the Lincoln law firm of Crosby, Guenzel, Davis, Kessner & Kuester (1955 to present). His memberships include the Lincoln Bar Association, Nebraska State Bar Association and American Bar Association, American College of Trial Lawyers and International Society of Barristers. He served in the Nebraska State Legislature, 1941 and 1943, was speaker of the Legislature in 1943 and served as lieutenant governor of Nebraska from 1947 to 1949. Crosby has had numerous offices in the Nebraska Republican Party. He received a Distinguished Service Award in
1974 from the Nebraska Water Resources Association, a Headgate Award in 1984 from the 4-State Irrigation Conference and a Pioneer Irrigation Award in 1988 from the Nebraska Water Conference Council.

WARREN D. FAIRCHILD, Retired, Alexandria, Va. Fairchild served as principal water specialist for the World Bank in Washington, D.C., from 1976 to 1992. In that position, he was mission leader for 10 water project appraisals with project costs exceeding $1 billion and project leader for macro water sector plans in Pakistan, Bangladesh and Yemen. He served as director of the U.S. Water Resources Council from 1973 to 1976 and as assistant commissioner for the U.S. Bureau of Reclamation from 1970 to 1973. From 1957 to 1970, he had the position of executive secretary with the Nebraska Soil and Water Conservation Commission. Prior to that position, he had worked as soil scientist and Gage County Work Unit conservationist for the U.S. Soil Conservation Service in Nebraska.

JIM GOEKE, Associate Professor/Research Hydrogeologist, Conservation & Survey Division, University of Nebraska-Lincoln, North Platte. Goeke received his B.S. in 1966 at the University of Wisconsin and his M.S. in 1970 from Colorado State University. He joined the Conservation & Survey Division in 1970 and was in charge of the test drilling program before his transfer to North Platte in 1976. Since 1976 he has worked on regional groundwater studies involving water quantity and quality in central and southwest Nebraska.

PRISCILLA C. GREW, Vice Chancellor for Research, University of Nebraska-Lincoln. Dr. Grew is also a professor in the Department of Geology and in the Conservation & Survey Division of the Institute for Agriculture and Natural Resources. She has a B.A. in geology from Bryn Mawr College and a Ph.D. in geology from the University of California at Berkeley. She previously served as director of the Minnesota Geological Survey, commissioner of the California Public Utilities Commission and director of the California Department of Conservation.

ROLLIN H. HOTCHKISS, Assistant Professor, Department of Civil Engineering, University of Nebraska-Lincoln. Dr. Hotchkiss joined the Civil Engineering Department at the University of Nebraska-Lincoln in 1979. He came to Lincoln with professional experience in hydrology from the Tennessee Valley Authority and a Ph.D. in hydraulics from the University of Minnesota. He teaches courses in hydrology, hydraulics and sediment transport. His main research interests include rainfall/runoff processes in Nebraska, reservoir sedimentation and stream stability problems.

D. ERIC HULTMAN, Attorney, Washington, D.C. Hultman's practice is primarily in areas of federal policy including energy and environment. He currently represents a Midwestern power and irrigation district that is seeking renewal of a federal hydroelectric license from the Federal Energy Regulatory Commission. The firm is also representing the client before the U.S. Court of Appeals and the U.S. Supreme Court involving a number of issues relat-
ing to the Federal Endangered Species Act and state proprietary water rights. Hultman received his undergraduate degree from Brown University in 1969 and his law degree from the University of Nebraska College of Law in 1972.

J. LARRY HUTCHINSON, Water Resource Program Manager, Nebraska Game and Parks Commission, Lincoln. Hutchinson is a graduate of Kansas State University with a B.S. in fish and wildlife science. He started his career in 1965 at North Platte with the Nebraska Game and Parks Commission working with fisheries management. He worked for three years in southeast Nebraska, primarily developing fisheries of the Salt Valley reservoirs. From 1971 to 1980 Hutchinson served as District II fisheries supervisor in a 16-county area of north-central Nebraska. Since 1980, he has been located in Lincoln working as a specialist with responsibilities for review and assessment of water project effects on fisheries and for coordination of the commission's instream flow projects.

J. MICHAEL JESS, Director, Nebraska Department of Water Resources, Lincoln. Jess has a bachelor's and a master's degree in civil engineering from the University of Nebraska-Lincoln. He has work experience with the Conservation & Survey Division, UNL; served on active duty with the U.S. Army Corps of Engineers; and worked for the Illinois State Water Survey. In 1981, he was appointed to his present position. Jess is also chair of the Nebraska Boundary Commission and secretary of the Missouri River Basin Association. He is a registered professional engineer in both Nebraska and Illinois.

WALRAVEN F. KETELLAPPER, President, Stillwater Resources & Investments Inc., Boulder, Colo. Ketellapper has a B.A. in geography and international relations from the University of California at Davis and conducted graduate work in geography at the University of Colorado at Boulder with emphasis on water resources development. Stillwater Resources & Investments implements water marketing solutions to water supply problems and manages projects related to development, acquisition, management and marketing of water resources in Colorado, California, Nevada and other western states. From 1985 to 1987, Ketellapper served as vice president of Sundowner Western Corp., Lakewood, Colo. He was the acting director of utilities for the Department of Utilities, City of Thornton, Colo, from 1979 to 1985 and served in the State of California's Governor's Office, Sacramento, Calif., from 1977 to 1979.

DON KRAUS, General Manager, Central Nebraska Public Power and Irrigation District, Holdrege. Kraus started as electrical engineer in Gothenburg from 1971 to 1974, worked in Marshalltown, Iowa, as systems engineer for Fisher Controls and returned to Holdrege as electrical engineer for the district in 1976. He served as chief electrical engineer there from 1986 to 1990. He then served as assistant general manager until his appointment as general manager in 1992. Kraus is a 1971 graduate of the University of Nebraska with a B.S. in electrical engineering and is a registered professional engineer in Nebraska.
BOB KUTZ, Area Manager, Bureau of Reclamation, Nebraska-Kansas Area Office. Kutz is a native of southwest Nebraska (Republican River Basin) and began his career with the U.S. Bureau of Reclamation in 1948. He is graduate of the University of Nebraska with a civil engineering degree. Kutz has had various positions, from surveying to his current position. He is now in charge of all Reclamation activities in the Niobrara, Lower Platte and Kansas River basins in Nebraska, Colorado and northern Kansas. There are 16 multipurpose dams and reservoirs in this area with 13 irrigation districts.

BRENT LATHROP, Stewardship and Protection Specialist, The Nature Conservancy, Nebraska Field Office, Aurora. Lathrop is responsible for stewardship and protection activities on the Conservancy’s preserves in Nebraska, with particular emphasis on the Platte River and Rainwater Basin areas of the state. His work experience includes three years as legislative aide to State Sen. David Bernard-Stevens and 14 years as assistant manager with the Twin Platte Natural Resources District, North Platte. He has a bachelor’s in geography from the University of Nebraska at Kearney.

CLAYTON LUKOW, Farmer, Holstein. Lukow is very involved in water issues on the local, state, national and international level. He serves on the Nebraska Water Council appointed by Gov. Ben Nelson and is former president and director of the Southern Rural Public Power District.

ANNE M. MATHERNE, Hydrologist, Conservation & Survey Division, University of Nebraska-Lincoln. Dr. Matherne’s research emphasis is with wetlands and groundwater-surface water interactions. Current projects deal with the effect of leakage from irrigation canals on the formation of semi-arid wetlands, wet meadow hydrology in the Nebraska Sandhills and the effects of channelization on delivery of flood waters in the 1993 flood.

DAVID F. MAZOUR, Assistant General Manager, Central Nebraska Public Power & Irrigation District. Mazour previously served as relicensing coordinator at CNPP&ID. A 1966 graduate of the University of Nebraska in agronomy and soil conservation, he also received an M.S. degree from UNL in 1974 in water resource economics. Prior to his position with CNPP&ID, Mazour was general manager for the Little Blue Natural Resources District. Prior employment includes positions with the Nebraska Natural Resources Commission and the Soil Conservation Service at McCook.

BOB MCCUE, Field Supervisor, Nebraska Ecological Services Field Office, U.S. Fish & Wildlife Service, Grand Island. McCue, a Stockton, Kan., native, graduated from Fort Hays Kansas State College in 1973 with a degree in zoology and entered the U.S. Fish & Wildlife Service in 1974. He assumed his present position as field supervisor in 1989. McCue is a member of the board of directors of the Heritage Zoo, Grand Island, and immediate past chair of the Wings Over the Platte Task Force.
BRYCE P. NEIDIG, Farmer, Madison County, and President, Nebraska Farm Bureau. Neidig is native of Madison County, where he and his son farm. They raise irrigated and dryland corn as well as soybeans and alfalfa. His son is the fifth generation to farm some of this same Madison County land. In 1990, Neidig was elected to a fourth three-year term as president of the Nebraska Farm Bureau. He serves on the American Farm Bureau Board of Directors and is a member of the AFBF Trade Advisory Committee. In 1986 he was elected to the Nebraska Hall of Agriculture Achievement, and in 1988 he received AK-SAR-BEN's Service to Agriculture award. Neidig is a board member of the Nebraska Council of Education, and he serves on the Board of Directors of the Nebraska Leadership Education/Action Development Program.

E. BENJAMIN NELSON, Governor, State of Nebraska. Governor Nelson, who was elected in 1990, is a native of McCook. He earned degrees in logic, philosophy and law from the University of Nebraska and has been awarded honorary doctor of law degrees from two of Nebraska’s higher education institutions. He entered the practice of law in 1970 and was eventually named general counsel, president and chief executive officer for a national insurance group. He also served as executive vice president of the National Association of Insurance Commissioners. Nelson joined Kennedy, Holland, DeLacy & Svoboda as attorney-of-counsel in 1985 and has also served as Nebraska’s director of insurance. As governor, Nelson has instituted a Strategic Budget Plan and established the Environmental Trust Fund. He has served as chair of the Governors’ Education Goals Panel in 1992-93, as chair of the Governors’ Ethanol Coalition and chair of the Midwestern Governors’ Association. He serves as the lead governor of the National Governors’ Association’s Agriculture Committee and as a member of its Education Committee. He also serves as president of the Council of State Governments.

JEROME G. OBRIST, Chief Engineer of Water Works, Public Works/Utilities Department, City of Lincoln. A Pawnee City native, Obrist has a B.S. and M.S. in civil engineering from the University of Nebraska. He is a registered professional engineer in Nebraska. He has been in his present position since 1982. From 1976 to 1982, he served as chief engineer of Wastewater System for the Public Utilities Department, City of Lincoln. Other previous work experience includes the positions of sanitary engineer and laboratory technician for the Public Utilities Department, City of Lincoln, and engineering aide for the U.S. Soil Conservation Service and U.S. Forest Service. Obrist is past chair of the American Water Works Association, the Water Pollution Control Federation and the Nebraska State Professional Engineers in Government Committee.

STEVEN G. OLTMANS, General Manager, Papio-Missouri River Natural Resources District. A Nuckolls County native, Oltmans received a bachelor of science degree from the University of Nebraska in 1966 with a major in soil conservation. He has been with the Papio-Missouri River NRD since 1986. Other career background includes general manager of the Lower Elkhorn NRD, general manager of the Maple Creek Watershed Board, assis-
tant manager of the Papio Watershed Board and conservationist for the Nebraska Soil and Water Conservation Committee.

DAVID L. POPE, Chief Engineer-Director, Division of Water Resources, Kansas State Board of Agriculture. Pope was appointed to his present position in 1983. A native of Loyal, Okla., he has a B.S. and M.S. in Agricultural Engineering from Oklahoma State University where he specialized in water resources and irrigation engineering. His experience includes the position of assistant chief engineer, manager of Southwest Kansas Groundwater Management District No. 3 and extension irrigation engineer for Cooperative Extension Services in Kansas. He is a licensed professional engineer in Kansas. In his capacity as chief engineer-director, Pope represents the State of Kansas on all four of the state's interstate river compacts and is the state director to the Missouri River Basin Association.

SUSAN SEACREST, President, The Groundwater Foundation, Lincoln. Seacrest founded the Nebraska Groundwater Foundation in 1985. She has served as its president since then and has directed its growth and development into a nationally known organization. The Nebraska Groundwater Foundation became The Groundwater Foundation in 1993. The foundation's Children's Groundwater Festival, first of its kind in the United States, has become an international model of hands-on environmental education. The festival serves more than 3,000 children every year and countless more through its related educational outreach programs. Seacrest founded and chairs the National Groundwater Education Consortium, which sponsors an annual networking retreat. Seacrest was named as one of 100 "Real Heroes" by Maxwell House Coffee Co. and USA Today. She has a B.A. from Saint Olaf College, Minn., and an M.S. Ed. from the University of Rochester, N.Y.

RALPH SINDT, Farmer, Riverton. Sindt is a board member of the Republican (River) Water Users, an organization which was founded in 1990.

HAROLD SMOLIK, Vice President, Patterson Harbor Inc., and Member, Harlan County Resources Committee.

GRAHAM B. SPANIER, Chancellor, University of Nebraska-Lincoln. Now in his third year as UNL chancellor, Dr. Spanier holds academic appointments as professor of sociology and professor of human development and the family and professor of family practice at the University of Nebraska-Medical Center. He came to Nebraska after serving five years as provost and vice president for academic affairs at Oregon State University. Previous administrative and academic appointments were served at the State University of New York at Stony Brook and The Pennsylvania State University. An active researcher and scholar, Dr. Spanier has more than 100 scholarly publications, including 10 books. He earned his Ph.D. in sociology from Northwestern University, where he was a Woodrow Wilson Fellow. His bachelor's and master's degrees were earned from Iowa State University.
LAVON SUMPTION, Resource Development Specialist, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln. Dr. Sumption served as an animal geneticist on the UNL faculty and for the Canada Department of Agriculture in the 1950s and 1960s. He worked as a private consultant in the 1970s. From 1981 to 1992, Dr. Sumption was district director for the UNL West Central Research and Extension Center. In his current position, he is assisting with fundraising to benefit selected IANR priority programs and seeking a broad base of donor support for a major water conservation project.

EVERETT VOGEL, President, Stuart Fertilizer and Grain Inc., Stuart.

BOB G. VOLK, Director, Water Center/Environmental Programs, University of Nebraska-Lincoln. Dr. Volk received his B.S. and M.S. from Ohio State University, Agronomy Department, and his Ph.D. from Michigan State University, Soil and Crop Science Department. From 1970-73 he was an assistant professor at the Research and Education Center at Belle Glade, Fla., and from 1973-84 assistant and associate professor in the Soil Science Department at the University of Florida, Gainesville. He served as department chair of the Agronomy Department at the University of Missouri from 1984-89 and took a sabbatical from 1989-90 with Cooperative State Research Services/USDA focusing efforts on water quality programs, department reviews and water policy. He became director of the Water Center/Environmental Programs in 1990.

DAYLE E. WILLIAMSON, Director of Natural Resources, Nebraska Natural Resources Commission, Lincoln. Williamson has been associated with the Nebraska Natural Resources Commission since 1958. He has served as the agency director since 1970. Williamson is a founding member of the Nebraska Water Conference Council. He was asked to serve on the council as one of the 25 key representatives of water and irrigation interests by former University of Nebraska President D.B. "Woody" Varner. He has served as chair of the council and is currently serving as annual tour chair.

THOMAS A. WURTZ, General Counsel, Metropolitan Utilities District of Omaha. Wurtz also serves as director of governmental affairs for M.U.D and teaches real estate law at the University of Nebraska-Omaha. He has a bachelor’s degree and a law degree from the University of Nebraska-Lincoln. Wurtz is a member of the Nebraska Water Council, the Nebraska Energy Policy Council, the Douglas County-City of Omaha Merger Committee and the Nebraska and Oregon State Bar Associations.
tant manager of the Papio Watershed Board and conservationist for the Nebraska Soil and Water Conservation Committee.

DAVID L. POPE, Chief Engineer-Director, Division of Water Resources, Kansas State Board of Agriculture. Pope was appointed to his present position in 1983. A native of Loyal, Okla., he has a B.S. and M.S. in Agricultural Engineering from Oklahoma State University where he specialized in water resources and irrigation engineering. His experience includes the position of assistant chief engineer, manager of Southwest Kansas Groundwater Management District No. 3 and extension irrigation engineer for Cooperative Extension Services in Kansas. He is a licensed professional engineer in Kansas. In his capacity as chief engineer-director, Pope represents the State of Kansas on all four of the state's interstate river compacts and is the state director to the Missouri River Basin Association.

SUSAN SEACREST, President, The Groundwater Foundation, Lincoln. Seacrest founded the Nebraska Groundwater Foundation in 1985. She has served as its president since then and has directed its growth and development into a nationally known organization. The Nebraska Groundwater Foundation became The Groundwater Foundation in 1993. The foundation's Children's Groundwater Festival, first of its kind in the United States, has become an international model of hands-on environmental education. The festival serves more than 3,000 children every year and countless more through its related educational outreach programs. Seacrest founded and chairs the National Groundwater Education Consortium, which sponsors an annual networking retreat. Seacrest was named as one of 100 "Real Heroes" by Maxwell House Coffee Co. and USA Today. She has a B.A. from Saint Olaf College, Minn., and an M.S. Ed. from the University of Rochester, N.Y.

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