

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Water Current Newsletter

Water Center, The

12-1998

Water Current, Volume 30, No. 6, December 1998

Follow this and additional works at: https://digitalcommons.unl.edu/water_currentnews



Part of the [Water Resource Management Commons](#)

"Water Current, Volume 30, No. 6, December 1998" (1998). *Water Current Newsletter*. 218.
https://digitalcommons.unl.edu/water_currentnews/218

This Article is brought to you for free and open access by the Water Center, The at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Water Current Newsletter by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

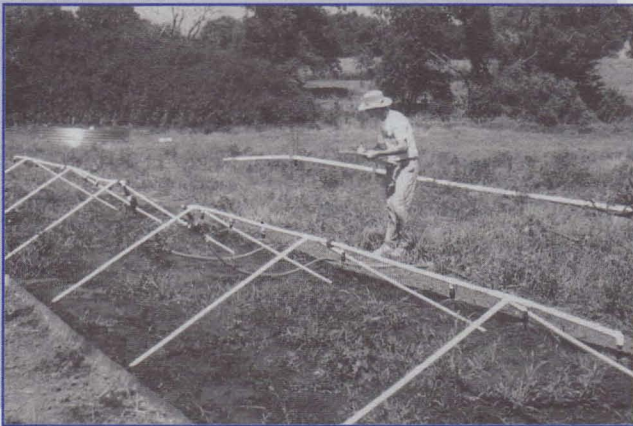
Water Current

Additional Research Shows Promise for Buffer Strips

by Steve Ress

Narrow strips of vegetation on the edges of farm fields can do a lot to help keep sediments and pesticides from draining into adjacent streams, a recent comparative study by NU School of Natural Resource Sciences researchers indicates.

"Most early research on vegetative buffer strips was done in the east and southeast (United States) and what they found there doesn't necessarily hold with what we're seeing here," said NU aquatic ecologist Kyle Hoagland.



Soil scientist Mike Dosskey checks a riparian buffer strip at NUs Agricultural Research and Development Center, near Mead. Recent research indicates that relatively narrow buffer strips can be effective in helping keep sediments and pesticides from reaching adjacent streams (photo: Kyle Hoagland).

Buffer strips can be planted to a variety of vegetative cover types and widths. They are typically placed between farm fields and the streams they drain to. Most guidelines have called for forest buffers to be planted to widths of 95 feet or more to control runoff. Recent NU research indicates that much narrower widths may be efficient in reducing non-point source runoff pollution in Nebraska buffers.

The NU study by soil scientist Mike Dosskey, graduate student Tim Schmitt, and Hoagland compared strips just

25 and 50 feet wide. Four different vegetative cover types were compared for each of the two widths: 25-year-old native grasses; two-year-old grass; two-year-old grass with trees and shrubs; and cultivated grain sorghum. Studies and demonstrations were conducted at NUs Agricultural Research and Development Center, near Mead.

The plots were tested under conditions that simulated runoff that might occur from a typical spring thunder storm, passing known amounts of water and contaminants through the strips. The runoff water was collected after having flowed through the strips and later analyzed for sediments and contaminants.

Grass strips, with and without trees and shrubs, were very effective at reducing amounts of sediment in runoff (76 to 93%), but less effective at reducing dissolved contaminants such as atrazine, nitrate and dissolved phosphorous. Doubling the width of the strips from 25 to 50 feet didn't substantially improve sediment settling.

Compared to the grain sorghum strips, "The newly planted (grass) buffer strips reduced sediment and attached contaminants in runoff, but had no clear effect on runoff volume or concentration of dissolved contaminants," Hoagland said. Older buffers were more effective at reducing dissolved contaminants.

"The level of water quality improvement that we can expect from filter strips is highly dependent on the cropping practices that they replace near the stream," Hoagland said.

The Nebraska Department of Environmental Quality and U.S. Environmental Protection Agency, Region VII helped sponsor the research.

INSIDE

3 NEBRASKA WATER 2000 CONFERENCE

3 SEMINARS SPOTLIGHT RESEARCH

4 TONS OF PLASTIC RECYCLED

6 FACULTY EARN AWARDS

7 MONITORING CONFINEMENT FACILITIES

Testing Your Drinking Water; Drinking Water Tabloid Suggestions; USGS RFPs

from the **DIRECTOR**



Bob G. Volk

In the last issue of the *Water Current*, we mentioned that people could contact the Nebraska Department of Health and Human Services System or their Natural Resources District office for guidance on where to take their drinking water samples for testing. We inadvertently forgot to mention that in many counties, the local University of Nebraska Cooperative Extension offices are some of the best places to go for assistance in

having drinking water tested. Extension educators frequently do follow-ups with people in regard to their test results, potential risks and the options available to them. In addition, extension offices may have sample bottles available. University of Nebraska Cooperative Extension NebGuide G89-907, *Water Testing Laboratories*, lists laboratories in Nebraska and is available in each Extension office. A newly revised edition of this popular NebGuide will soon be available under the title *Testing for Drinking Water Quality* and will include a listing of laboratories that will test domestic water supplies.

The Water Center/Environmental Programs will be publishing a newsprint tabloid on drinking water and source water protection issues next year and we want your ideas. What questions do you have about your drinking water? What don't you understand about it or would like to know more about? What are the state and regional issues affecting your drinking water? If you have suggestions for articles, please let us know by phoning (402)472-3305, e-mailing sress@unl.edu or FAX (402)472-3574. The planned 16-

page publication will be distributed statewide, as well as being made available regionally. It is being paid for, in part, through a grant from the U.S. Environmental Protection Agency, Region 7 along with help from the Nebraska Department of Environmental Quality and other sponsoring entities. This will be the fourth newspaper tabloid focusing on water issues that the Water Center/Environmental Programs has published since 1994.

We have received notification from USGS that the Water Institutes grant program will largely revert to the way it was administered three years ago. Each Institute will receive approximately \$68,000 for research/education on water issues for state priorities. We will be issuing a Request For Proposals (RFP) for these funds very soon. USGS will also have a National competition for one million dollars for water research. These proposals will mainly involve water research challenges that have a more regional or national focus. Details have not been disclosed for that grant program. We will make the information available as soon as we have the details.

Water Current

Water Center/
Environmental Programs
School of Natural Resource Sciences
103 Natural Resources Hall
Lincoln, NE 68583-0844
Phone: (402) 472-3305
Fax: (402) 472-3574
E-mail: sress@unlinfo.unl.edu
World Wide Web
<http://ianrwww.unl.edu/ianr/waterctr/wchome.html>

Bob G. Volk — Director
Roy F. Spalding — Associate Director,
Water Sciences Laboratory Director
Edward F. Vitzthum — Coordinator of
Environmental Programs
Robert D. Kuzelka — Assistant to the
Director
Steven W. Ress — Editor

This newsletter is published with partial financial support from the Department of the Interior; U.S. Geological Survey. The content does not necessarily reflect the views and policies of the Department of the Interior, nor does mention of trade names or commercial products constitute endorsement by the U.S. Government.

Planning Nebraska's Water Future

by Steve Ress

Those attending the 28th annual Nebraska Water Conference this spring will be invited to propose ways we might plan Nebraska's water future.

The conference continues the three-year theme of "Nebraska Water 2000" with this year's emphasis on planning for future. The conference will be at Kearney's Regency Inn, March 8-10, 1999.

"Using an interactive setting, conference attendees will explore visions for the future and how these visions in Nebraska might be impacted with or without planning for the state's water resources," said conference organizer Bob Kuzelka, assistant to the director of the NU Water Center/Environmental Programs.

Last year's conference, also held in Kearney, opened the three-year "Nebraska Water 2000" series focusing on "Information for the Future." The series concludes with a look at "Management for the Future" in 2000.

Opening the conference on Tuesday, March 9 will be NU Institute of Agriculture and Natural Resources vice chancellor Edna McBreen. State Hydrologist Ann Bleed will then present an overview for the two-day conference.

Envisioning the future of water to 2050 will be the address at the opening plenary session, by U. Gale Hutton of the U.S. Environmental Protection Agency, Region VII, Kansas City, MO. This futurist talk will be followed by random breakout sessions for all attendees to develop a vision of Nebraska's water future.

A second morning plenary session looks at past successes and failures of state water planning, by director Dayle Williamson and Steve Gaul of the Nebraska Natural Resources Commission.

Tuesday afternoon plenary sessions delve into such broad topic areas as who plans for Nebraska's water, by Glenn Johnson, general manager of the Lower Platte South Natural Resources District; and how to plan for water and why, by Curt Brown, U.S. Bureau of Reclamation.

A panel reporting on the morning breakout sessions completes the day's events.

Opening the second day of the conference will be a buffet breakfast where governor-elect Mike Johanns has been invited to speak.

Panel discussions on factors affecting the state's water future follow. Presenters and topics are: Don Blankenau, assistant director of the Nebraska Department of Water Resources (legal); Dave Mazour, Tri-State Generation and Transmission (power); Fairmont producer Bob Bettger (irrigation); and Audubon Nebraska state director Dave Sands (habitat).

"Attendees then move back into the same breakout groups as on Tuesday, revising their visions of Nebraska's water future and developing two scenarios addressing that vision, both with a plan and without one," said Kuzelka.

An optional pre-conference workshop on the basics of planning will be offered Monday evening, conducted by Kuzelka and Rachael Herpel of The Groundwater Foundation. It should be useful to anyone not having extensive background in community or governmental planning. An optional post-conference workshop Wednesday will discuss a proposed International Center for Groundwater Research at UNL.

For conference information, contact Tricia Liedle, Water Center/Environmental Programs, P.O. Box 830844, University of Nebraska, Lincoln, NE 68583-0844, phone (402)472-3305 or e-mail stress@unlinfo.unl.edu

The conference is sponsored by the Nebraska Water Conference Council, Nebraska Department of Water Resources, The Groundwater Foundation, NU's Conservation and Survey Division, Water Center/Environmental Programs, School of Natural Resource Sciences, Institute of Agriculture and Natural Resources, UNL and the Nebraska Chapter American Planning Association.

Where Do You Get Your Water From?

About 84 percent of the nation's population are served by public water-supply systems. The remaining 16 percent are served by their own water-supply systems. Ground water was the source for 99 percent of self-supplied domestic use.

Domestic water use includes water for normal household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Public supply

refers to water withdrawn by public and private water suppliers and delivered to multiple users for domestic, commercial, industrial and thermoelectric power uses.

Public supply (as defined in the USGS report) includes public and private water systems that furnish water to at least 25 people, or that have a minimum of 15 connections. Of public water-supply withdrawals, 56 percent was for domestic use. Surface water is the source for 63 percent of public-supply withdrawals and ground water accounts for 37 percent.

Recycling Program Collects 49 Tons of Plastic

More than 134,000 plastic pesticide containers will be recycled into useful products through a record-setting NU Cooperative Extension program.

Weighing just under three quarters of a pound per 2.5 gallon container, the 134,083 empty and rinsed pesticide containers collected this year represent nearly 49 tons of recyclable plastic that will be turned into fence posts, parking lot bumpers, new pesticide containers and other products.

"Fantastic local cooperation and steadily increasing knowledge of this program help make it better and

better every year," said Larry Schulze, NU Institute of Agriculture and Natural Resources pesticide coordinator. Schulze has coordinated the program through NU's Water Center/Environmental Programs since it began in 1992. Since then, the number of collected containers has multiplied nearly seven times and the number of collection sites has grown from two to 58 (in 34 counties).

At collection sites containers are checked for proper rinsing and removal of caps and labels. They are then ground into tiny chips on a truck-mounted unit operated by

Tri-Rinse Inc. of St. Louis, MO. Tri-Rinse also second inspects all containers before grinding them up. "The rinsing and inspections ensure that no pesticide residues remain in the container before it is recycled.

"The U.S. Environmental Protection Agency has touted Nebraska's program as one of very high quality. Few containers are rejected for recycling because of the emphasis we place on proper rinsing by pesticide applicators," Schulze said.

Last year the NU program collected 117,416 containers representing approximately 43 tons of recyclable plastic.

Lingle Earns Extension Wildlife Award

Gary Lingle received the 1998 Extension Wildlife Award during the annual meeting of the Nebraska Cooperative Extension Association Nov. 17-19.

Lingle is Platte Watershed Program coordinator at the Buffalo County Extension office in Kearney. He also is an NU extension educator.

Among his many accomplishments, are publication of more than 55 scientific and popular articles, including two books. He was a founding member of the Wings Over the Platte task force and was honored as Crane

Conservationist of the Year by that organization in 1997.

Since 1989, he has organized and/or participated in youth camps, including Summer Orientation About Rivers, Crane Meadows Nature Center campus and Nature Discovery Classroom. He also organized and published the proceedings of the Platte River Basin Ecosystem Symposium in 1997 and is organizing the 10th symposium scheduled for February 1999 in Kearney.

The award is sponsored by the Nebraska Division, Izaak Walton League of America.

Laundry Disk Claims Don't Hold Water

Clean laundry without detergent? Companies manufacturing ceramic disks and other laundry devices claim these disks clean clothes without detergent. Research from Kansas State University says quite the opposite.

Environmental concerns have led some enterprising companies to look for reduced phosphate and more environmentally friendly products. Some of these products to replace conventional detergent are called laundry disks. They include ceramic beads and magnets. Other names for them are globes, balls, spheres and doughnuts. These non-detergent products claim to clean clothing with no or only a small amount of detergent or fabric cleaner.

Americans have spent up to \$15 million on these products, believing they were helping save the environment. But were their clothes any cleaner?

KSU determined to find out. They used nine different laundry techniques using six sets of laundry devices. These included various magnetic and ceramic cleaning devices without detergent, Tide detergent and water alone. Fabrics were stained with ketchup, mustard, coffee, red wine and sheep blood.

The bottom line in each of the different conditions was that a full scoop of Tide performed best and a half-scoop of Tide was second best. None of the laundry disks were statistically different than water.

Seminars Spotlight Latest in Water Research

Three distinct perspectives on water research will be the emphasis of the 1999 Water Resources Seminars that begin Jan. 13, 1999 and run through April 28, 1999 at the University of Nebraska-Lincoln East Campus.

The 14 public lectures comprise the annual NU Water Resources Seminars which are presented each Wednesday at 3 p.m. from Jan. 13 to April 28 (except March 10 and 17) in Room 116, L.W. Chase Hall, UNL East Campus.

"The three perspectives offered in this year's seminars are: creating a significant water research program; using the findings from water research; and exploring current water research by faculty and graduate students in the new School of Natural Resource Sciences," said organizer Bob Kuzelka, assistant to the director of the Water Center/Environmental Programs.

In the first perspective, directors of three internationally prominent water research programs will dis-

cuss their programs. They include Ronald Linsky, executive director of the National Water Research Institute in Mountain Valley, CA.; James Manwaring, executive director of the American Water Works Association Research Foundation in Denver, CO.; and Michael Thurman, director of the U.S. Geological Survey's Organic Geochemistry Research Laboratory in Lawrence, KS.

The seminars' second perspective will be offered by representatives of three water research user groups, including Ron Bishop, general manager of the Central Platte Natural Resources District in Grand Island; Susan Seacrest, president and founder of The Groundwater Foundation in Lincoln; and a prominent state senator.

The third perspective in the seminars will be presented by seven SNRS faculty researchers and their graduate students who will present findings and progress on a variety of current water-related research.

"These topics will range from stream buffers, lake restoration and fish habitat to impacts on water from stream-aquifer interactions, movement of water in soils and confined animal waste lagoon monitoring," Kuzelka said.

Seminars can be viewed as a free lecture series, or taken for one hour of undergraduate or graduate student credit. A distance learning option via weekly videotapes of the lectures will also be available.

For a complete schedule of topics, speakers and dates, contact Tricia Liedle at (402)472-3305, e-mail stress@unlinfo.unl.edu or write Water Resources Seminars, P.O. Box 830844, University of Nebraska, Lincoln, NE 68583-0844.

The seminars are sponsored by NU's Water Center/Environmental Programs, School of Natural Resource Sciences and Institute of Agriculture and Natural Resources with partial funding support from the Nebraska Research Initiative and the Williams Fund.

Nation's Water Use Down, USGS Says

Newly released statistics on water use by the U.S. Geological Survey (USGS) show that the nation is using less water — 402 billion gallons per day (bgd) for all uses, which is 2 percent less than in 1990 and nearly 10 percent less than in 1980, despite a continuous increase in population over that same time period.

Freshwater per-capita use also decreased for 1995. Total per-capita use was 1,280 gallons per day (gal/d), compared to 1,340 gal/d in 1990. The USGS has compiled and reported national water-use statistics once every 5 years since 1950.

After continual increases in the nation's total use of surface and ground water for the years reported from 1950 to 1980, water use declined and has remained fairly constant since the mid-1980s, according to the USGS report.

"If you were to ask people if the nation was using more or less water now than say 15 or 20 years ago, the vast majority probably would say

that we are using more water now," said Robert Hirsch, USGS chief hydrologist. "The overall decline in water use is an encouraging signal."

"The nation is clearly using surface- and groundwater resources more efficiently," Hirsch said. "Enhanced citizen awareness of the value of water and conservation programs in many communities across the country have helped to cut water use in spite of continued population growth. Improved irrigation techniques and more efficient use of water by industry have contributed to reduced water use as well."

Long-term concerns remain about the quality of available water, however. "With increased demands for water for instream uses such as river-based recreation, esthetic enjoyment and fish and wildlife habitat, the overall competition for good quality water will continue to increase," Hirsch said.

Irrigation is the top freshwater use category—134 bgd in 1995. When fresh and saline water are

combined, more water continues to be withdrawn for thermoelectric power generation (190 bgd, of which 58 bgd is saline) than for any other category.

In a state-by-state comparison, California accounts for the largest total water use (46 bgd), followed by Texas, Illinois and Florida. Two dozen states and Puerto Rico had less water withdrawn during 1995 than during 1990.

The USGS water-use report, searchable by county and watershed, along with an expanded section on trends, is available on the World Wide Web at: <http://water.usgs.gov/public/watuse/>

Single copies of the 71-page report, published as Estimated Use of Water in the United States in 1995, (USGS Circular 1200) are available free from USGS Information Services, Box 25286, Denver Federal Center, Denver, CO, 80225; or FAX (303)202-4693. Specify USGS Circular 1200.



Water News Briefs

Agronomy Society Lauds Website

The Pesticide Education Resources—internet website, which is a part of the UNL Water Center/Environmental Programs, increased a long list of honors with a certificate of excellence from the American Society of Agronomy's Educational Materials competition.

The certificate was presented at the ASA's 90th annual meetings in Baltimore, MD on Oct. 19.

The award-winning site is designed and maintained by UNL pesticide education specialist Clyde Ogg and extension pesticide coordinator Larry Schulze. You can find it at <http://www.ianr.unl.edu/ianr/pat/ephome.htm>.

Free Wetlands Tabloid

"Wetlands - Understanding A Resource," a 16-page tabloid on Nebraska wetlands are available free from the UNL Water Center/Environmental Programs.

The tabloid has information on a wide variety of wetland issues. It includes a pull-out map of Nebraska's wetland complexes, wetland policy issues, a youth page and a listing of agencies dealing with wetlands.

To get your copy, contact Water Center/Environmental Programs, School of Natural Resource Sciences, University of Nebraska, P.O. Box 830844, Lincoln, NE 68583-0844. Phone (402)472-3305 or e-mail sress@unlinfo.unl.edu. Quantities for distribution or education use are also available.

Franti Earns Research Award

A biological systems engineer was one of two recipients of this year's University of Nebraska's Agricultural Research Division's (ARD) Junior

Faculty for Excellence in Research Awards.

Surface Water Management Engineer Tom Franti and Nutrition Scientist Timothy Carr earned the awards recognizing research excellence by junior faculty in NU's Institute of Agriculture and Natural Resources, said Darrell Nelson, ARD dean and director.

Each received a certificate and plaque and a \$3,000 ARD grant to support their research or professional development.

Franti has researched soil erosion and best management practices to reduce pesticide runoff. His research has been instrumental in the U.S. Environmental Protection Agency's decision to modify atrazine and cyanazine label requirements in areas where the chemicals shouldn't be used. He earned his doctorate from Purdue University in 1987 and joined NU five years ago.

Looking for Ideas

The UNL Water Center/Environmental Programs will be publishing a popular tabloid on drinking water issues next year and we want your ideas.

What questions do you have about your drinking water? What don't you understand about it or would like to know more about? What are the state and regional issues effecting your drinking water? If you have suggestions for articles, please let us know by phoning (402) 472-3305, e-mailing sress@unl.edu or FAX (402)472-3574.

The planned 16-page publication will be distributed statewide, as well as being made available regionally. It is being paid for, in part, through a grant from the U.S. Environmental Protection Agency, Region 7 along with help from the Nebraska Department of Environmental Quality and other sponsoring entities. This will be the fourth newspaper tabloid focusing on water issues that the Water Center/Environmental Programs has published since 1994.

Great Plains Research Articles

Great Plains Research, a University of Nebraska journal of natural and social sciences, is looking for original articles and creative syntheses on scientific advances.

The journal is published by UNLs Center for Great Plains Studies and features original scholarly papers and academic reviews in the natural and social sciences dealing with important issues of the Plains environment.

Relevant areas include agriculture, biology, ecology, economics, environmental biology, environmental history, environmental sociology, geography, geology, natural resources, physical anthropology, psychology, range ecology, rural sociology and vegetation science. The journal also publishes reports on symposia and conferences and reviews of books addressing natural and social science topics pertaining to the Great Plains.

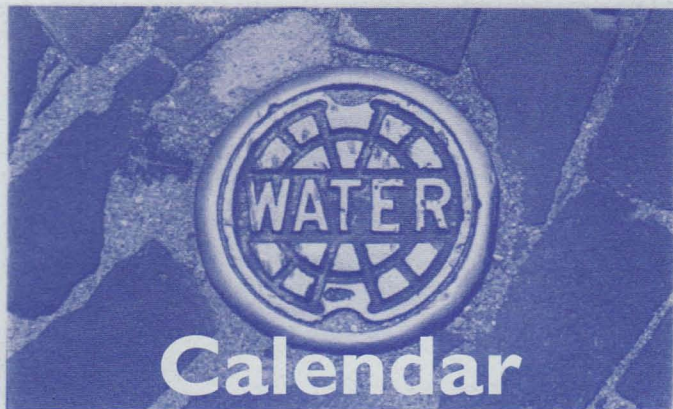
Manuscripts should be submitted to Svata Louda, Editor, Great Plains Research, University of Nebraska, 1215 Oldfather Hall, P.O. Box 880317, Lincoln, NE 68588-0317. For information, phone (402)472-6970, FAX (402)472-0463 or e-mail gpr@unlinfo.unl.edu.

Ben Nelson Service Award

The Groundwater Foundation is looking for nominees for their newly established E. Benjamin Nelson Government Service Award.

The award will "Recognize and honor an elected or appointed public official who has significantly advanced environmental and groundwater stewardship." Criteria includes substantive accomplishments resulting in public policy or programs benefiting groundwater; inspiring other leaders in environmental issues; and regular communication with constituents about environmental issues.

To receive a nomination or for more information, call the Groundwater Foundation at (800)858-4844, FAX (402)434-2742 or e-mail info@groundwater.org. The award winner will be announced prior to June 1, 1999.



JANUARY

13: Water Resources Seminar, "Kremer Lecture," J. Michael Jess, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

20: Water Resources Seminar, "Hydrologic Impact of Water Conservation Practices," Dean Eisenhauer, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

27: Water Resources Seminar, "Williams Lecture," Michael Thurman, director, USGS Organic Geochemistry Research Laboratory, Lawrence, KS, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

FEBRUARY

3: Water Resources Seminar, "Williams Lecture," James Manwaring, executive director, American Water Works Association Research Foundation, Denver, CO., 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

10: Water Resources Seminar, "Riparian Buffers: Water Quality and More," Mike Dosskey, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

17: Water Resources Seminar, Susan Seacrest, founder and president, The Groundwater Foundation, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

24: Water Resources Seminar, Ron Bishop, manager, Central Platte Natural Resources District, Grand Island, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

24-25: North Central Aquaculture Conference, Columbia, MO. Contact Chuck Hicks at (573)526-6666.

24-27: 1999 North Central Region Aquaculture Conference, "Aquaculture at the Crossroads" Linking the Past to the Future. Holiday Inn Select Executive Center, Columbia, MO. For information, contact Jewel Coffman, MU Conference Office, 344 Hearnes Center, Columbia, MO 65211, phone (573)882-2301 or e-mail coffmanj@missouri.edu

MARCH

3: Water Resources Seminar, "Development of Habitat Suitability Criteria for Platte River Fish Species," Edward Peters, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

8-10: 1999 Nebraska Water Conference Council annual conference, "Nebraska Water 2000: Planning for the Future." Regency Inn,

Kearney. For information or a registration brochure, contact Steve Ress, University of Nebraska Water Center/Environmental Programs, P.O. Box 830844, Lincoln, NE 68583-0844, phone (402)472-3305 or e-mail sress@unlinfo.unl.edu

9: Nebraska Learn and Serve Youth Conference, Holiday Inn Centre, 72nd and Grover Sts., Omaha. Call (402)471-4812 for information.

24: Water Resources Seminar, "Williams Lecture," Ronald Linsky, executive director, National Water Research Institute, Mountain Valley, CA., 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

31: Water Resources Seminar, "Unsaturated Hydraulic Properties for Movement of Water or Nonaqueous Phase Liquids in Soil," Joseph Skopp, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

APRIL

7: Water Resources Seminar, "Lake Restoration: From Predictive Ecology to Field Application," John Holz, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

14: Water Resources Seminar, "Modeling of Stream-Aquifer Interactions Along the Republican River Valley in Nebraska," Xon-Hong Chen, 3 p.m., Room 116 L.W. Chase Hall, UNL East Campus, Lincoln. Open to the public. For information, phone (402)472-3305 or e-mail rkuzelka@unlinfo.unl.edu

You Are Invited To....

The 1999 UNL Water Resources Seminars Spotlighting Water Research

Public lectures each Wednesday at 3 p.m.
from Jan. 13 through April 28

(except March 10 and 17)

All lectures are in Room 116,
L.W. Chase Hall, UNL
East Campus, Lincoln

For a schedule phone
(402)472-3305

Assessing the Impact of Waste Lagoons on Groundwater

Growing concern over possible adverse health and environmental impacts of livestock waste lagoons on groundwater and soil quality has prompted the Nebraska Department of Environmental Quality (NDEQ) to request assessments from several Nebraska livestock operations.

The operations to be assessed are participating on a voluntary basis where producers have approved participation in the project, which is being conducted by the Water Sciences Laboratory (WSL) at the University of Nebraska-Lincoln. The WSL will provide an impartial evaluation of the possible environmental impacts of livestock waste lagoons, said WSL director and hydrochemist Roy Spalding.

Nine producers have volunteered to participate in the monitoring study. Since some sites have more than one lagoon, a total of 14 lagoons will be monitored, Spalding said. The size of the monitored lagoons range from a capacity of approximately 100,000 gallons to one of approximately nine million gallons.

"The sites involve a spectrum of vulnerabilities to contami-

nation such as soil types and depths to water. The lagoons also cover a range of ages from new construction to one that is 26 years old," Spalding said.

Each site will have both up-gradient and down-gradient monitoring wells installed by WSL staff. Samples from each of the monitoring wells will be collected twice per year for two years and will then be analyzed for nitrate-nitrogen, ammonia-nitrogen, chloride and dissolved organic carbon. Researchers and staff at the WSL are also developing a procedure to analyze these groundwater samples for traces of the antibiotics used in animal vaccines, as well.

"There has been some concern that land applications (such as fertilizing crops) of water containing antibiotics may be promoting resistant bacterial strains. This ability to trace waste is particularly important in areas where contamination of groundwater may already exist from other agricultural operations," said Spalding.

The WSL will provide the NDEQ with an evaluation of the monitoring results. The two entities will also work to develop a variety of education materials from the project as a means of making results available and useable to producers, researchers, agencies, producer groups and the public.



Data manager Pat Larsen and research technician Jeff Toavs install a groundwater monitoring well near a livestock operation in south central Nebraska. Monitoring for groundwater contamination around livestock confinement facilities is a project of NUs Water Sciences Laboratory (photo: Mark Burbach)

WATER CENTER/ENVIRONMENTAL PROGRAMS

103 Natural Resources Hall
University of Nebraska
P.O. Box 830844
Lincoln, NE 68583-0844

ADDRESS SERVICE REQUESTED



Printed with soy ink on
15% post-consumer recycled paper

Non Profit
U.S. Postage
PAID
Permit 46
Lincoln NE



It is the policy of the University of Nebraska-Lincoln not to discriminate based on gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin, or sexual orientation.

