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Spring 2006

## Great Plains Research Journal, 16:1 (Spring 2006): Front and Back Matter

Robert F. Diffendal

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# GREAT PLAINS RESEARCH

A JOURNAL OF NATURAL AND SOCIAL SCIENCES

VOLUME 16, NUMBER 1  
SPRING 2006



CENTER FOR GREAT PLAINS STUDIES  
UNIVERSITY OF NEBRASKA-LINCOLN

## CENTER FOR GREAT PLAINS STUDIES

**Director: James Stubbendieck**  
Professor, Grassland Ecology  
University of Nebraska-Lincoln

**THE CENTER FOR GREAT PLAINS STUDIES** was established in 1976 by the University of Nebraska Board of Regents to promote a greater understanding of the people, culture, history, and environment of the Great Plains through a variety of teaching, research, and outreach programs. Under the administration of the College of Arts and Sciences at the University of Nebraska-Lincoln, the Center encompasses eight divisions: the Great Plains Art Museum, three academic journals (*Great Plains Quarterly*, *Great Plains Research*, and *Plains Song Review*), undergraduate and graduate programs, editing projects, research support, outreach programs, annual interdisciplinary symposia, and Fellows and Associate Fellows.

## GREAT PLAINS RESEARCH

**Editor: Robert F. Diffendal, Jr.**  
Professor Emeritus, Conservation and  
Survey Division, School of Natural  
Resources, University of Nebraska-  
Lincoln

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Associate Professor Emeritus, English,  
University of Nebraska-Lincoln

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Studies

**GREAT PLAINS RESEARCH** is a peer-reviewed, biannual, multidisciplinary  
science journal, which publishes original research and scholarly reviews  
of important advances in the natural and social sciences with relevance  
to the Great Plains region and special emphases on environmental,  
economic and social issues. It includes reviews of books. The journal is  
indexed and/or abstracted in *America: History and Life*, *BIOSIS Previews*,  
*Biological Abstracts*, *Cambridge Scientific Abstracts*, *C-CLARN*, *Environment  
Abstracts*, *Historical Abstracts*, *Geo Abstracts* and *GEOBASE*, *Journal of  
Planning Literature*, *Meteorological and Geostrophysical Abstracts*, and  
*Sociological Abstracts, Inc.*

The editor encourages those submissions in particular that report general  
findings in the sciences relevant to this vast region. Articles should include  
thoughtful reviews of critical scientific findings and issues relevant to the  
Great Plains, whether the research was done in the Great Plains or not. The  
key to acceptance will be how well the findings are related to the region,  
and how well the science is communicated to other scientists outside the  
specific discipline, in the style of *Scientific American*, for example. The Board  
of Governors' Publication Committee will select annually the best paper in  
natural sciences and the best paper in social sciences. The author/s of the  
winning papers will be presented cash prizes with the **Charles E. Bessey  
Award** (natural sciences) or the **Leslie Hewes Award** (social sciences).

The following types of articles are of particular interest:

- **Original research findings**, such as have been published in *GPR* since 1991;
- **Synopses** of the "state of the science" on topics with relevance to the Great Plains;
- **Overviews** of critical environmental, economic and social issues for the plains;
- **Reviews** of knowledge on important questions and their regional application;
- **Syntheses and cross-disciplinary analyses** with relevance to the plains.

Scientists doing interesting work with important implications for this region  
are invited to synthesize their significant research results and present them  
to our readers. The overall goals are to develop *Great Plains Research* as  
a centralized outlet for science of regional importance, to communicate  
important scientific findings to as wide an educated audience as possible,  
and to help keep scientists, interested citizens and leaders of this region up-

# TABLE OF CONTENTS

---

<b>EDITOR'S NOTE</b> .....	3
----------------------------	---

## **NATURAL SCIENCES**

<b>A Delicate Balance: Rainfall and Groundwater in Nebraska during the 2000-2005 Drought</b> Mark E. Burbach and R. Matthew Joeckel .....	5
--	---

<b>Hydrological Effects and Groundwater Fluctuations in Interdunal Environments in the Nebraska Sandhills</b> David C. Gosselin, Venkataramana Sridhar, F. Edwin Harvey, and James W. Goeke .....	17
--	----

<b>Ecophysiological Responses of <i>Schizachyrium scoparium</i> to Water and Nitrogen Manipulations</b> Amy Kochsiek, Veronica Ciganda, Neal Bryan, Lena Hite, and Tala Awada. . . .	29
---	----

<b>Precipitation and Fire Effects on Flowering of a Rare Prairie Orchid</b> Gary D. Willson, Manda J. Page, and F. Adnan Akyüz .....	37
---	----

<b>Reducing Smooth Sumac Dominance in Native Tallgrass Prairie</b> Susan J. Tunnell, James Stubbendieck, Sal Palazzolo, and Robert A. Masters . . . .	45
--	----

<b>Grazing and Military Vehicle Effects on Grassland Soils and Vegetation</b> John A. Guretzky, Alan B. Anderson, and Jeffrey S. Fehmi .....	51
---	----

## **SOCIAL SCIENCES**

<b>Underlying Causes and Implications of Nebraska Retail Trade Patterns</b> Rex Nelson, Bruce B. Johnson, and David L. Darling. ....	63
---	----

<b>Bison and the Food Distribution Program on Indian Reservations</b> David Lulka .....	73
--	----

<b>Demand Estimation for Agricultural Processing Coproducts</b> Cheryl J. Wachenheim, Patrick Novak, Eric A. DeVuyst, and David K. Lambert . . . .	85
---	----

<b><u>BOOK REVIEWS</u></b> .....	95
----------------------------------	----

<b><u>NEWS AND NOTES</u></b> .....	111
------------------------------------	-----

## BOOK REVIEWS

- Berg, Paul, and Maxine Singer.  
**George Beadle, An Uncommon Farmer:  
 The Emergence of Genetics in the 20th Century**  
 Reviewed by Donald P. Weeks .....95
- Lynch, Wayne.  
**Windswept: A Passionate View  
 of the Prairie Grasslands**  
 Reviewed by Jane E. Austin. ....96
- Gauthier, David A., Alberto Lafon, Theodore P. Toombs,  
 Jürgen Hoth, and Ed Wiken.  
**Grasslands: Toward a North American  
 Conservation Strategy**  
 Reviewed by David J. Gibson .....97
- Radenbaugh, Todd A., and Glenn C. Sutter, eds.  
**Managing Changing Prairie Landscapes**  
 Reviewed by Fred B. Samson .....98
- Coombs, Eric M., Janet K. Clark, Gary L. Piper,  
 and Alfred F. Cofrancesco, Jr., eds.  
**Biological Control of Invasive Plants  
 in the United States**  
 Reviewed by Andrew P. Norton .....98
- Haddock, Michael J.  
**Wildflowers and Grasses of Kansas:  
 A Field Guide**  
 Reviewed by Douglas Ladd. ....99
- Schiemann, Donald Anthony.  
**Wildflowers of Montana**  
 Reviewed by Clayton H. McCracken ..... 100
- Shogren, Jason F., ed.  
**Species at Risk:  
 Using Economic Incentives to Shelter  
 Endangered Species on Private Lands**  
 Reviewed by Mace Hack. .... 100
- Lanoo, Michael, ed.  
**Amphibian Declines: The Conservation Status  
 of United States Species**  
 Reviewed by William E. Duellman .....101
- Miller, Rudolf J., and Henry W. Robison.  
**Fishes of Oklahoma**  
 Reviewed by Keith B. Gido .....102
- Forsberg, Michael.  
**On Ancient Wings:  
 The Sandhill Cranes of North America**  
 Reviewed by Dale G. Hjertaas .....102
- Johnsgard, Paul A.  
**Prairie Dog Empire:  
 A Saga of the Shortgrass Prairie**  
 Reviewed by Richard P. Reading .....103
- Coward, Harold, and Andrew J. Weaver, eds.  
**Hard Choices: Climate Change in Canada**  
 Reviewed by Matthew Bramley .....103
- Parzybok, Tye W.  
**Weather Extremes of the West**  
 Reviewed by John W. Nielsen-Gammon ..... 104
- Barton, C. Michael, Geoffrey A. Clark, David R. Yesner,  
 and Georges A. Pearson, eds.  
**The Settlement of the American Continents:  
 A Multidisciplinary Approach to Human  
 Biogeography**  
 Reviewed by Steven R. Holen .....105
- Kooyman, Brian, and Jane Kelley, eds.  
**Archaeology on the Edge:  
 New Perspectives from the Northern Plains**  
 Reviewed by Raymond Le Blanc. ....105
- Keyser, James D.  
**The Art of the Warriors:  
 Rock Art of the American Plains**  
 Reviewed by Kelley Hays-Gilpin ..... 106
- Ramírez-Ferrero, Eric.  
**Troubled Fields: Men, Emotions,  
 and the Crisis in American Farming**  
 Reviewed by Charles W. Nuckolls .....107
- Proctor, David E.  
**Civic Communion:  
 The Rhetoric of Community Building**  
 Reviewed by Brett Zollinger ..... 108
- Berens, Charlyne.  
**One House: The Unicameral's  
 Progressive Vision for Nebraska**  
 Reviewed by James B. Johnson ..... 108
- Grande, Sandy.  
**Red Pedagogy: Native American  
 Social and Political Thought**  
 Reviewed by Steven Crum. .... 109
- Esau, Alvin J.  
**The Courts and the Colonies: The Litigation of  
 Hutterite Church Disputes**  
 Reviewed by Rod Janzen. ....110



## EDITOR'S NOTE

*Dear subscribers and readers:*

*Great Plains Research*, the natural and social sciences journal published by the University of Nebraska-Lincoln's Center for Great Plains Studies (CGPS), has a new look. After 15 years we have changed our format in the hope of giving our authors greater flexibility in producing manuscripts reporting the results of their research projects. What follows is a brief outline of the events that led to this change, an overview of the changes you may notice beginning with this issue, and some notes on the papers and reviews in this issue.

On May 24 and 25, 2005, Charles Braithwaite, editor of *Great Plains Quarterly*; Linda Ratcliffe, production designer; Gwen Bedient, editorial assistant; and I toured the facilities of Allen Press in Lawrence, Kansas. Allen Press is the company that has printed *Great Plains Research* since the journal was established in 1991. During our visit we met with representatives of the company and talked over several things including the possible terms of a new printing contract with Allen Press. In our discussions we learned that it would be possible to change the format of *Great Plains Research* with no increase in cost and no sacrifice in the quality of the printed material.

On returning to Lincoln I began to have discussions with the director of the Center for Greater Plains Studies, Dr. James Stubbendieck, and the *Great Plains Research* (GPR) production staff, Linda Ratcliffe, Gwen Bedient, George Wolf, and Gretchen Walker about the possibility of a format change. After our initial discussions we asked Allen Press to send us draft contracts with specifications and prices for both our old format and a new one. They did as we requested and we then evaluated the costs and the formats. Linda Ratcliffe produced several samples of different possible cover designs and all of us looked them over and chose the design we thought looked best. After we had agreed that a format change was desirable, I wrote a proposal for consideration and possible approval of the format change by the CGPS Publications Committee and submitted the proposal to the committee for review. The Publications Committee approved the change and then sent the proposal to the CGPS Board of Governors for final approval. The Board of Governors approved the format change at their October 2005 meeting.

Since approval, the GPR production staff has looked at several iterations of the designs for the outside and inside

covers and the layout of the articles, book reviews and other parts of the journal. We picked the designs and layout that we thought were best and have used them in this issue. All of the people on the production staff deserve great credit for their help with this major change in the look of the journal. Linda Ratcliffe, in particular, did what I feel was an outstanding job of drafting several beautiful designs.

Here are the changes. *Great Plains Research* now is 8.5" x 11" and has a four-color cover. We plan to solicit color photos or art from authors of articles to be published in an issue and to select one of these for the cover art for that issue. Articles and book reviews will be in a two-column format that we think is easier to read than our former one-column format. The larger size of the page will give authors more flexibility in designing figures and tables to include in their papers. This change, coupled with my earlier decision to allow authors to submit manuscripts with more tables and figures than GPR formerly permitted, should be even more helpful to authors. In addition, we have seen a reduction in the cost of printing color images in the text. This should allow authors to consider submitting color figures if they think color helps them to better express their ideas to our readers and are willing to pay the cost to publish figures in color. *Great Plains Research* currently continues its policy of having no page charges except for color figures.

What is in *Great Plains Research* 16 (Spring 2006)? On the front cover we have used a full color picture of the rare western prairie fringed orchids reported on in this issue by Gary B. Willson and his co-authors. We have used a white background on the cover and have reproduced official University of Nebraska-Lincoln logos so that the institutional sponsor of the journal is easily identified. The back cover design includes part of the prairie orchid picture, thus keeping a connection with the front cover and having a back page that is not simply white with black print. The text on the inside front and back cover pages is in a larger font than in our previous issues, thus making the information easier to read.

Six natural science and three social science articles appear in this issue. The first article from natural sciences by Mark Burbach and Matthew Joeckel is the first since GPR 9 (Fall 1999) with some or all figures in an article

reproduced in full color. This article on the 2000-2005 drought event in Nebraska and the effects of that drought on groundwater should be of particular interest to our readers residing in the Great Plains. David Gosselin and coauthors report on the results of nine years of groundwater level monitoring at a site in the Nebraska Sandhills. Impacts of climate variability on water levels are explored in this article. Amy Koschsiek and others examine how variations in inputs of nitrogen impacted a species of grass dominant on the Great Plains. Nitrogen inputs are known to effect terrestrial ecosystems. Experiments on ways to preserve rare western prairie fringed orchids are the focus of the article by Willson and others. Susan Tunnell and coauthors look at ways to control the density of smooth sumac, a native shrub that can take over parts of degraded tallgrass prairies. Anyone who has walked over pasturelands on the Great Plains will have observed the damage done by grazing animals and by vehicles. John Guretzky and others document this damage on military lands and discuss how military land managers can make better decisions on land use.

Reports from social science disciplines include one by Rex Nelson and coauthors on causes of retail trade patterns in Nebraska. David Lulka explores factors leading up to the bison and food distribution program on Indian

Reservations and the unresolved problems with that program. Cheryl Wachenheim and coauthors look at demand estimation of byproducts produced during processing of some agricultural crops.

George Wolf, *Great Plains Research* book review editor, has assembled another fine group of reviews of recently published books for this issue. As a reader of such reviews I always appreciate the views of the reviewers and may select books to read with the remarks of the reviewers in mind.

Now that the *Great Plains Research* production staff has completed the first issue in the new format, I want to thank Linda Ratcliffe, Gwen Bedient, George Wolf, Gretchen Walker, and copy editor, Lona Dearmont, for their outstanding efforts on getting this job done. Since becoming editor of GPR, I have grown to appreciate even more the work that all of these people have done and continue to do to put out a quality journal.

Now that you know what prompted our decision to change formats and the changes that we have made, please look over the issue and let me know what you like about the changes. I also welcome helpful and constructive comments on ways that we can improve future issues of *Great Plains Research*.

—Robert F. Diffendal, Jr., Ph.D.  
Editor, *Great Plains Research*

# NEWS AND NOTES

## CONFERENCES

May 17-19, 2006

**The Rocky Mountain Section Meeting of the Geological Society of America** will be held at Western State College, Gunnison, CO. Contact: Rob Fillmore <rfillmore@western.edu>; website: [www.geosociety.org](http://www.geosociety.org)

July 23-26, 2006

**The Twentieth North American Prairie Conference** will be held at the University of Nebraska at Kearney. The theme of this conference is "Invasive Species" as they affect the prairie ecosystem.

This will include but is not limited to: Plants such as Canada Thistle (*Cirsium arvense*), Downy Brome or Cheat Grass (*Bromus tectorum*), Invasive Cattails (*T. angustifolia* and *T. glauca*), Leafy Spurge (*Euphorbia esula*), Multiflora Rose (*Rosa multiflora*), Purple Loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*), Saltcedar (*Tamarix spp.*), and Sericea Lespedeza (*Lespedeza cuneata*); Animals such as European Starling (*Sturnus vulgaris*), House Mouse (*Mus musculus*), House Sparrow (*Passer domesticus*), Norway Rat (*Rattus norvegicus*), Red Imported Fire Ant (*Solenopsis invicta*), and Wild Boar (*Sus scrofa*).

Although prairies are biological, we welcome papers from other disciplines. Some of these topics include: Prairie fires and soils, Landscape Ecology, Management of Prairies, Plant Physiology and Botany, Prairie Anthropology, Prairie Climatology and Drought, Prairie Exhibits, Literature and History, Prairie Restoration, Prairie Education, Prairie Entomology, Prairie Wetlands, and Prairie Zoology (Herpetiles, Birds and Mammals).

Kearney, Nebraska, lies at the southern-most terminus of the Platte River's Big Bend Region. Historically, the hunting trails of the Pawnee and Sioux, the California, Oregon and Mormon Trails, and the Pony Express, passed through this area. The Union Pacific Railroad and Interstate 80 are prominent features of what remains the most traveled east-west corridor in the U.S. today.

The Platte River area is biologically significant as the major staging area for the spring migration of sandhill cranes. Five major types of prairie lie within a radius of 100 miles of Kearney. These include loess hills mixed-grass prairie, tallgrass prairie, the Nebraska Sandhills, southern or Kansas mixed-grass prairie, and sand-sage prairie.

Opportunities to experience this biological diversity will include a field trip day, with potential trips being

planned to upland prairie sites, sandhills, lowland tall-grass sites, wet prairie meadows, prairie restorations, and southern mixed-grass sites (such as Willa Cather Prairie near Red Cloud). Field trips will be sponsored by the Prairie Plains Resource Institute, The Nature Conservancy, The National Audubon Society, The Platte River Whooping Crane Trust, and the Biology Department at the University of Nebraska at Kearney.

For more information, contact: Dr. Paul Twigg or Dr. Joe Springer, Biology Department, University of Nebraska at Kearney, Kearney, Nebraska 68849-1140; <twiggp@unk.edu>; (308) 865-8315; or <springerj@unk.edu>; (308) 865-8920. Website: <http://www.napc2006.org/>

August 6-11, 2006

**The 91<sup>st</sup> Annual Meeting of the Ecological Society of America** will be in Memphis, TN. Website: [www.esa.org/memphis/](http://www.esa.org/memphis/)

August 10-13, 2006

**The 69<sup>th</sup> Annual Meeting of the Rural Sociological Society** (RSS) will be in Louisville, Kentucky, at The Seelbach Hilton. The theme is "Perils and Promises of Globalization: Difference, Resistance and Possibility." Deadline for early registration is July 10, 2006. Website: [www.ruralsociology.org](http://www.ruralsociology.org)

August 11-14, 2006

**The American Sociological Association Annual Meeting** will be held in Montreal, Quebec. Website: [www.asanet.org/index.wv](http://www.asanet.org/index.wv)

September 17-21, 2006

**The Geological Society of America** announces an international conference in Durham, United Kingdom. The theme is "Unlocking 3D Earth Systems: Harnessing New Digital Technologies to Revolutionize Multi-Scale Geologic Models." For more information, see the website: [www.geosociety.org/penrose/06-3Dsystems.htm](http://www.geosociety.org/penrose/06-3Dsystems.htm)

October 22-25, 2006

**The Geological Society of America's Annual Meeting** will be held in Philadelphia, Pennsylvania. The theme is "Building on a Foundation of Discovery." Website: [www.geosociety.org/meetings/](http://www.geosociety.org/meetings/)



### CHARLES E. BESSEY AWARD

*Great Plains Research* is pleased to announce that the article by Barbara J. Nicholson and James B. Swinehart, "Evidence of Holocene Climate Change in a Nebraska Sandhills Wetland," is the winner of the Charles E. Bessey Award for the best paper in natural sciences published during the volume year of 2005. This paper was featured in Volume 15 (Spring 2005):45-67. The annual award includes a cash stipend of \$250.

Nicholson is associate professor of biological sciences at Central Connecticut State University, New Britain, and Swinehart is a professor in the School of Natural Resources at the University of Nebraska–Lincoln.

### LESLIE HEWES AWARD

The winner of the Leslie Hewes Award for the best paper in social sciences published in *Great Plains Research* during the volume year 2005 is "Becoming Neighbors or Remaining Strangers? Latinos and Residential Segregation in the Heartland" by Ana-María Gonzalez Wahl, Steven E. Gunkel, and Bennie Shobe, Jr. The article was published in Volume 15 (Fall 2005):297-327. The annual award also includes a cash stipend of \$250.

Gonzalez Wahl is assistant professor of sociology at Wake Forest University, Gunkel is associate professor of sociology at Doane College, and Shobe is a graduate student in sociology at the University of Nebraska–Lincoln.

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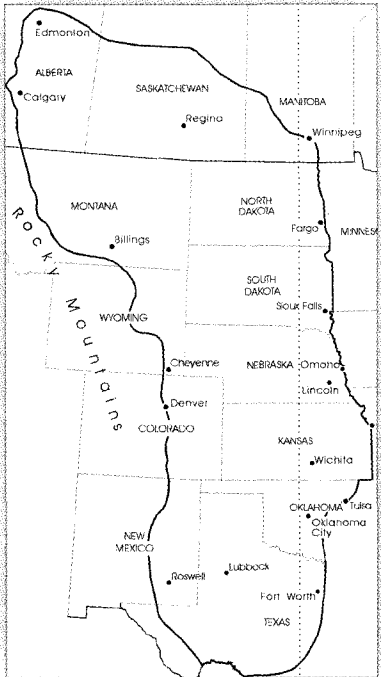
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# INSTRUCTIONS TO AUTHORS

## SUBMISSIONS

- All manuscripts must be concise:  
no more than 5,000 words excluding reference section.
- Tables and figures (including maps) must be carefully composed to achieve the author's goal of clarity of presentation.
- There is no limit for either figures or tables accompanying the manuscript.  
Authors must, however, be judicious in their uses of figures and tables.
- All submissions must be typed double-spaced, including abstract, text, quotations, and references, on 8.5 by 11-inch white bond paper with 1-inch margins.
- Informational footnotes are not accepted.
- Authors must submit three copies of their manuscripts.
- If the manuscript is accepted for publication, author/s will be asked to send the final document as an e-mail attachment or on a CD-R in a word processing or text file.

**REVIEW PROCESS.** ALL MANUSCRIPTS ARE GIVEN DOUBLE-BLIND REVIEW. Authors must prepare a separate title page with their name/s and affiliation, and any acknowledgments, which will not be sent to reviewers. The title of the paper must be repeated directly above the abstract. Authors should avoid self-identification in the text. When at least two external reviewers with expertise in the topic have submitted their evaluations, the manuscript is reviewed by the Editor who makes the final decision to publish.

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**Article Style.** The Editor would prefer authors to write simply and in the first person. Authors should aim to communicate with a broad interdisciplinary audience in jargon-free language and should avoid sexist, racist, or otherwise biased language or intent.

**Title.** Article titles should not exceed 10 words (or 82 characters) and should not have subtitles.

**Main Headings** are centered: Introduction, Methods, Results, Discussion, Conclusions, Acknowledgments, References. If you have subheadings that should be left-justified, please indicate those.

**Abstract.** A short abstract of less than 200 words should precede the main text. The abstract should identify the problem addressed in the paper, indicate the methodology, and summarize the results. Authors should prepare an abstract that will be interesting to and understood by nonspecialists in the field. Five to eight key words should accompany the abstract.

**Illustrations.** All illustrations including maps should be referenced parenthetically by arabic numbers in the text. For example, "Rainfall increases with elevation (Fig. 1)." Captions for figures should be sent as a separate file and not included or embedded into the figure itself. All illustrations should be sized for 1-column width (3.25") or 2-column width (6.625"), be no more than 9.0" in height, and be sent as separate files as "grayscale" **tiff** or **eps** graphic files at 350 dpi, and "line" illustrations should be 1200 dpi. PLEASE DO NOT embed graphic files into your article or send your figures as PowerPoint® graphics or Word docs. Send illustrations/figures as separate files on a CD-R.

**Maps.** A bar scale in kilometers and a north arrow should be included on all maps. Enlarged details of maps should be to scale. All geographic places mentioned in the text should be shown on a map.

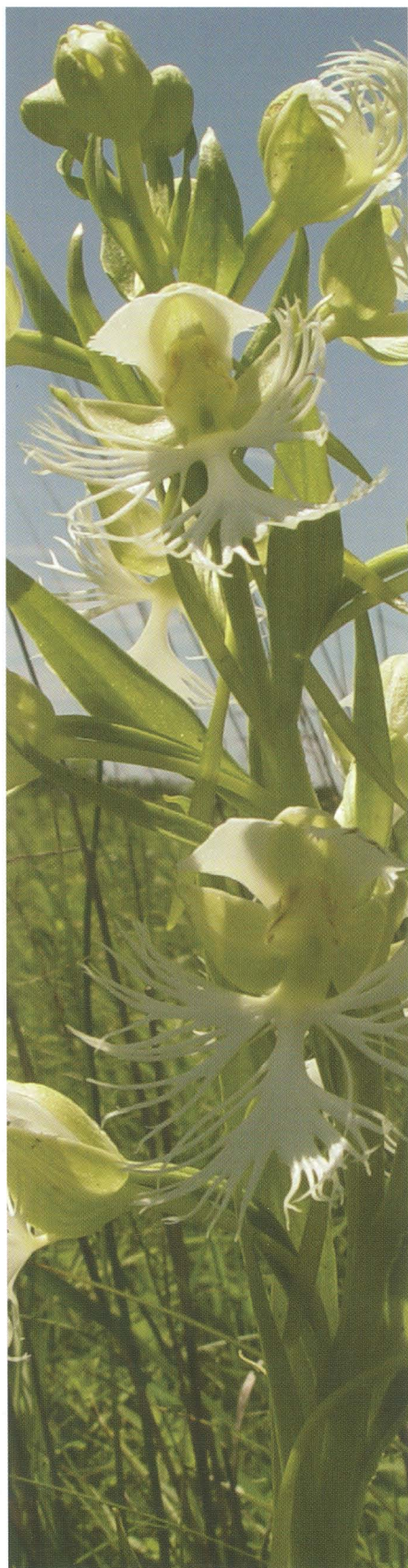
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**Tables.** Tables should be presented on separate sheets apart from the text and printed as quality images. They should be formatted to fit the standard text area of the journal [1-column width (3.25") or 2-column width (6.625") and no more than 9.0" in height], since they may be treated as camera-ready illustrations at the time of publication. Send tables as separate files with text file on CD-R.

**Reference Style.** *Great Plains Research* uses *The Chicago Manual of Style*, 15th edition, as its reference guide. The journal uses author-date citations in the text [for example, in chronological order: (Smith et al. 1990; Templer 1992; Jones in press)] and a complete reference section that gives author, year, title, source, and page references for journal or newspaper articles. **Include page numbers for quotations** [for example: (Templer 1992: 45)].

- For a journal article:  
Murkin, H.R. 1998. Freshwater functions and values of prairie wetlands. *Great Plains Research* 8:3-15.
- For a book:  
Blouet, B.W., and F.C. Luebke, eds. 1979. *The Great Plains: Environment and Culture*. University of Nebraska Press, Lincoln.
- For an article in a book or conference volume:  
Wedel, W.R. 1994. Coronado and Quivira. In *Spain and the Plains*, ed. R.H. Vigil, F.W. Kaye, and J.R. Wunder, 45-66. University Press of Colorado, Niwot.
- For a government document:  
U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1977. *Soil Survey of Arthur and Grant Counties, Nebraska*. U.S. Government Printing Office, Washington, DC.

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inside this issue

# GREAT PLAINS RESEARCH

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## NATURAL SCIENCES

### **A Delicate Balance: Rainfall and Groundwater in Nebraska during the 2000-2005 Drought**

Mark E. Burbach and R. Matthew Joeckel

### **Hydrological Effects and Groundwater Fluctuations in Interdunal Environments in the Nebraska Sandhills**

David C. Gosselin, Venkataramana Sridhar, F. Edwin Harvey, and James W. Goeke

### **Ecophysiological Responses of *Schizachyrium scoparium* to Water and Nitrogen Manipulations**

Amy Kochsiek, Veronica Ciganda, Neal Bryan, Lena Hite, and Tala Awada

### **Precipitation and Fire Effects on Flowering of a Rare Prairie Orchid**

Gary D. Willson, Manda J. Page, and F. Adnan Akyüz

### **Reducing Smooth Sumac Dominance in Native Tallgrass Prairie**

Susan J. Tunnell, James Stubbendieck, Sal Palazzolo, and Robert A. Masters

### **Grazing and Military Vehicle Effects on Grassland Soils and Vegetation**

John A. Guretzky, Alan B. Anderson, and Jeffrey S. Fehmi

## SOCIAL SCIENCES

### **Underlying Causes and Implications of Nebraska Retail Trade Patterns**

Rex Nelson, Bruce B. Johnson, and David L. Darling

### **Bison and the Food Distribution Program on Indian Reservations**

David Lulka

### **Demand Estimation for Agricultural Processing Coproducts**

Cheryl J. Wachenheim, Patrick Novak, Eric A. DeVuyst, and David K. Lambert

## BOOK REVIEWS

## NEWS AND NOTES