

In the West, interest in water has focused almost exclusively on out-of-channel use. Until recently, instream uses of water have been given little attention. Some western states, including California, Colorado, Idaho, Montana, Oregon and Washington have taken legislative action to protect their instream flows. Nebraska, however, has no statutes specifically aimed at protecting instream use of water.

There are, in various Nebraska laws and regulations, however, references to the instream flows for the public's interest. For example, LB252 lists Power Production, Fish and Wildlife, Water Quality Maintenance, Sub-irrigation, Groundwater Recharge and Recreation as beneficial uses of water.

Under the terms of LB252, as well as other acts and statutes, state officials are charged with protecting the public's interest concerning water use. Lawyers have a term "Res Communs" which describes the public's interest as those values that are common to all of us but cannot be solely owned or possessed by any one of us. Perhaps the purest form of Res Communes is sunlight and air, but certainly instream use of water fits this description of public values.

It should be noted at this point that water is a public resource; it is owned by the people of the state and its use is granted to private parties insofar as it serves the public interest. State ownership of water has been confirmed by many court decisions. In theory, present state law allows diversion of water if it does not significantly jeopardize the public interest.

If this is true, why has there been no significant affirmative action taken to protect instream values in Nebraska? Is it because the instream values are, in fact, not threatened, or because the public doesn't care about these values? Is it because westerners have focused for so long on the diversion of water that we have simply lost sight of the instream values?

All of the above may be contributing factors, but I believe our failure to understand the dynamics of stream systems and the quantities of water required to maintain particular uses is the primary reason we have not acted.

This lack of quantification of water needs associated with fisheries, recreation, groundwater recharge and all the other uses creates problems for everyone involved. Those who wish to maintain instream uses are forced to fight for all of the present flow because they know what that provides and they don't know what the impact associated with even a minor depletion might be. Those whose needs and interests are served by diversion respond to this assumption by fighting any effort, legislative or otherwise, to protect instream values because they assume all the remaining water in the stream will be kept there if such efforts are successful.

State officials who for decades have routinely approved applications for diversion are in a weak position to deny an application because they have not developed the scientific and engineering data needed to defend such a radical change from the norm.

Until we quantify the water needs associated with instream values in specific areas, the positions discussed above are not likely to change.

Let's examine these conditions. Does the maintenance of instream values require that all the water in a stream or river remain there? This perception of reality is held by both the antagonists and protagonists of instream flows. It is, nevertheless, a myth. Except for the goal of maintain-

ing a "natural condition," all of the individual instream uses of water can be improved by changing either the timing or the quantity of instream flows. In the case of rivers like the Platte, a "natural" condition hasn't existed for decades so this is not a reasonable goal. It is a managed river and it needs to be better managed for instream as well as out-of-stream uses. Another myth is the concept of minimum streamflow, that magic flow, with the emphasis on minimum, that will maintain fish, wildlife, recreation, conveyance, etc. This is a non-existent figure; all instream uses have an extinction point, a minimum flow below which the use no longer exists. Most uses also have a flood point -- a maximum flow which extinguishes the use when it is exceeded. Somewhere between these two extremes is the optimum point. As will be seen later, this optimum point for a particular use may vary depending on the time of day or time of year. It should be clear that the maximum, minimum and optimum flows for various instream uses are different. Therefore, when we are managing streamflows, we necessarily make trade-offs, not only between out-of-stream and instream uses but also between the various instream uses.

Figure 1 illustrates some of the points made above. Hypothetical flow requirements for several instream uses are shown. Most of these flow regimes are based on actual data but the differences in such things as stream gradient, sediment sizes and regional ecology makes it impossible to consider these curves as practical flows for any system.

The recreation curve was based on the flows required to support canoe travel for spring, summer and early fall. Waste assimilation or water quality maintenance was based on the level of biological activity during the year and the increased loads expected in spring and summer. Fisheries' flows were based on the need for high spring flows to flood backwater spawning areas, moderate flows in summer to maintain a covered riverbed for maximum food production for young fish and minimum streamflows in the winter for adult maintenance during the period of minimum activity.

The sediment transport curve was based on a high spring flushing flow and a lower year-round flow to maintain an unvegetated active channel. The wildlife curve was based on the needs for migratory birds to use the river for roosting in the fall and early spring and moderate flows in early summer to sub-irrigate the wet meadow ecosystem which provides the food base for the birds.

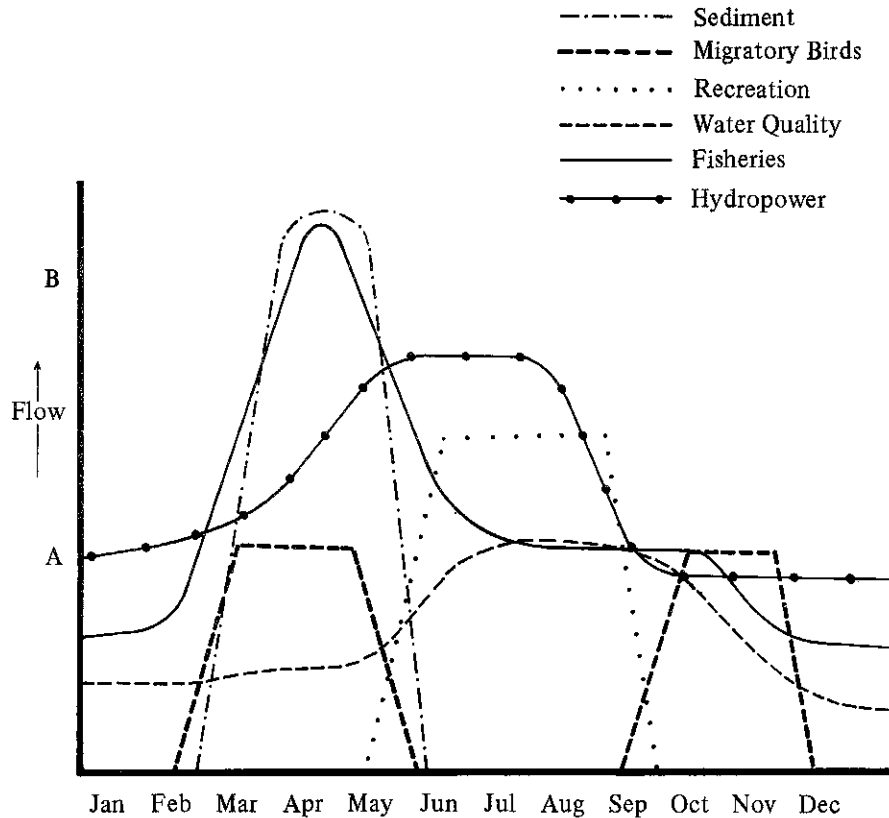
The hydroelectric curve was based on a year-round demand for peaking power six hours each day and a general increase in demand during the summer irrigation and air conditioning season. The conveyance curve was based on the need for diversions downstream from the reach of the river being considered. The groundwater recharge curve was based on the amount of flow required to keep a significant portion of the channel width covered with water.

It should be emphasized at this point that the above criteria are hypothetical criteria and not based on any particular stream reach. For purposes of this discussion, these curves are considered optimum curves for each use.

Theoretically, we can plot an extinction curve and a flood curve for each of these uses. The recreation curve provides a simple example of this concept. If the flow falls to A, the general depth of water falls below two feet, making paddling difficult and 25 percent of the channel is less than 3

Figure 1

Hypothetical Flows for Six Instream Uses of Water



inches making passage impossible. At this point, canoeing is not recreation. At point B water velocity exceeds 10 feet per second and rips and rapids become impassable for a canoe, thus eliminating this form of recreation. In between these points, canoeing provides varying degrees of recreation.

It is important to recognize that although there are optimum flows for each of these uses, significant benefits accrue from flows that deviate from these optimum figures. Lower flows for recreation may lower the quality

of the experience but recreation is still possible. Lower flows may reduce the quantity of power produced but not affect the more important potential for producing peak load power.

There are also ways to maintain various uses by substituting money and energy for water.

Good examples of these are waste assimilation and fisheries maintenance. There are many point sources of pollution such as feed lots and domestic sewage systems that dump wastes into rivers and streams. Streams can assimilate a given amount of such wastes. Reducing the flow reduces the assimilative capacity of the stream. This reduction in capacity can be offset by waste treatment before delivering the effluent to the stream.

In the case of fishery flows, the high spring flows are required for spawning and hatching the eggs. Once the eggs are hatched, lower flows can support the juvenile and adult fish. If these high flows are to be eliminated, the fishery can be maintained by producing fish up to the juvenile stage in a fish hatchery and then planting them in the river.

There are techniques to mitigate the adverse impacts of reduced stream flows on practically all instream uses. There are, however, physical, biological and economic limits to the application of these techniques.

Webster defines a river as a stream of water of considerable volume. If the public's interest in fish, wildlife, recreation, waste assimilation, groundwater recharge, hydroelectric and other instream uses is to be protected, water must continue to flow in our rivers and streams. How much that is needed to protect these interests must be established. Since these uses are the public's interest, it seems logical that state agencies should be responsible for defining the various instream values for each stream reach and quantifying the flows required to maintain them. With this information available to them, the people of Nebraska will be able to weigh the values of instream versus out-of-stream uses and choose how much of each they wish to have. Without such information the public's interest in instream flows cannot be effectively protected.

John VanDerwalker is Executive Director of the Platte River Whooping Crane Habitat Maintenance Trust in Grand Island, Nebraska. See also his "Water Allocation: Why are we Failing?" in *Prairie/Plains Journal* No. 3 (Winter-Spring, 1982), pp. 18-20.

Prairie White Fringed Orchid

by Paul Currier

A "fabulous find!" That's what the *Ohio Prairie Gazette* called it. The 400 prairie fringed orchids (*Habenaria leucophaea*) that suddenly appeared at the Killbuck Creek Wildlife Area in Ohio in July, 1982 was a fabulous find. Reports from elsewhere in the midwest echoed this sentiment and indicated an abundance of prairie fringed orchids during the past summer in isolated pockets of Minnesota, Iowa, Illinois, Kansas, and Nebraska. Although the orchids have been described as "suddenly appearing," they most likely have always been present in a dormant or vegetative state. Their showy flowers have simply made them noticeable.

Charles Sheviak, author of *An Introduction To The Ecology Of The Illinois Orchidaceae*, indicates that such fluctuations in the apparent abundance of prairie fringed orchids are quite common. Individuals of this species are long-lived. Some are thought to be 100 or more years old. In many, and perhaps even most growing seasons, the plants remain as dormant seeds or in a green, leafy vegetative state. Then suddenly, unpredictably, the plants produce flowering spikes for one or more seasons. Flowering in orchids often coincides with a change or disturbance in the environment. In the case of the prairie fringed orchid, fire, reduction in grazing intensity, and reduction in haying frequency, appear to trigger a flowering response. The exact mechanism responsible for the change in growth-form, however, is unknown.

Because of its infrequent flowering, the prairie fringed orchid would appear to lead a fragile and precarious existence. In fact, this species is probably very well adapted to its environment. Its basic habitat requirements are rather precise: wet, highly organic, alkaline soils and full sunlight. Within the bounds of these basic requirements, the prairie fringed orchid tends to be most abundant under conditions of localized disturbance such as grazing, mowing, and fire. Of course it can not survive total destruction of its habitat by drainage and tillage; however, it does survive very well under local disturbance, and may in fact be perpetuated because of it.

The discovery of prairie fringed orchids at Mormon Island Crane Meadows by Bill Whitney in late June has been especially exciting to all of us at The Platte River Whooping Crane Habitat Maintenance Trust. The more than 50 flowering orchids found at MICM represent the first recording of this species in Hall County, Nebraska. The site is typical of those in which prairie fringed orchids are usually found. It is a wet lowland prairie along the Platte River, dominated by sedges, rushes, cordgrass, and a variety of forbs including ironweed, asters, and mints. The area is poorly drained, is very wet in spring and during periods of heavy precipitation, and has been used for season-long grazing since the turn of the century.

The Trust has recently implemented a pasture rotation and prescribed burning management plan at the 1900-acre Mormon Island tract. Manage-



Bill Whitney

Prairie White Fringed Orchid

ment is designed to enhance Sandhill and Whooping crane feeding habitat and to maximize cattle forage by promoting production of earthworms, snails, and native grasses. Under the management plan, the pasture where the orchids are located was burned in early April, but not grazed until mid-summer (2 months later than usual). Under these conditions, and an exceptionally wet summer, the prairie fringed orchids reached their full blooming splendor. Thousands of minute seeds were produced by the 50 or more plants, so we're hopeful that the population will live on. Only time will tell when the next flowering cycle will occur, but we look forward to another glorious spectacle in the future.

Paul Currier is the plant ecologist at the Platte River Whooping Crane Habitat Maintenance Trust, Grand Island, Nebraska.

Consider

by Ed Dadey

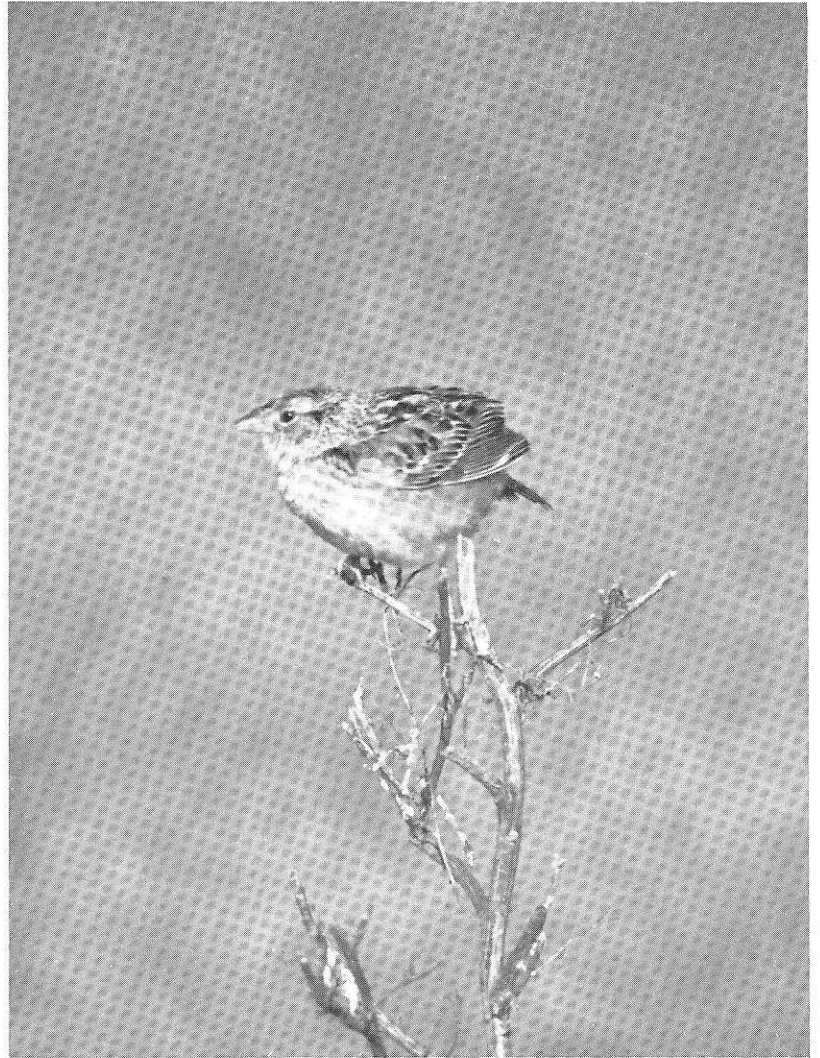
When the problem looks complex
and no solution is in sight,
immediately
I understand
there are many things to take into consideration.
My policy shall be:
explore all options,
because
I think
there are many things to take into consideration.
Beginning from this position,
when I form a plan
with details
I explain
there are many things to take into consideration.
Then, when an obstruction appears
and the difficult is involved,
prepared,
I know
there are many things to take into consideration.
Suddenly, the participants' disposition
injects expressions of opposition.
Surprised,
I learn
there are many things to take into consideration.
The problem is complete
when the emotions that oppose me
show me
I forgot
there are many things to take into consideration.
The problem remains
after the problem is solved.
I thought,
I know
there are many things to take into consideration.
Beginning again,
the problem looks complex.
I place my bet asking,
if once,
I know
there are many things to take into consideration,
Have you considered
the facts of you,
indifferently,
today?

Prairie Birds

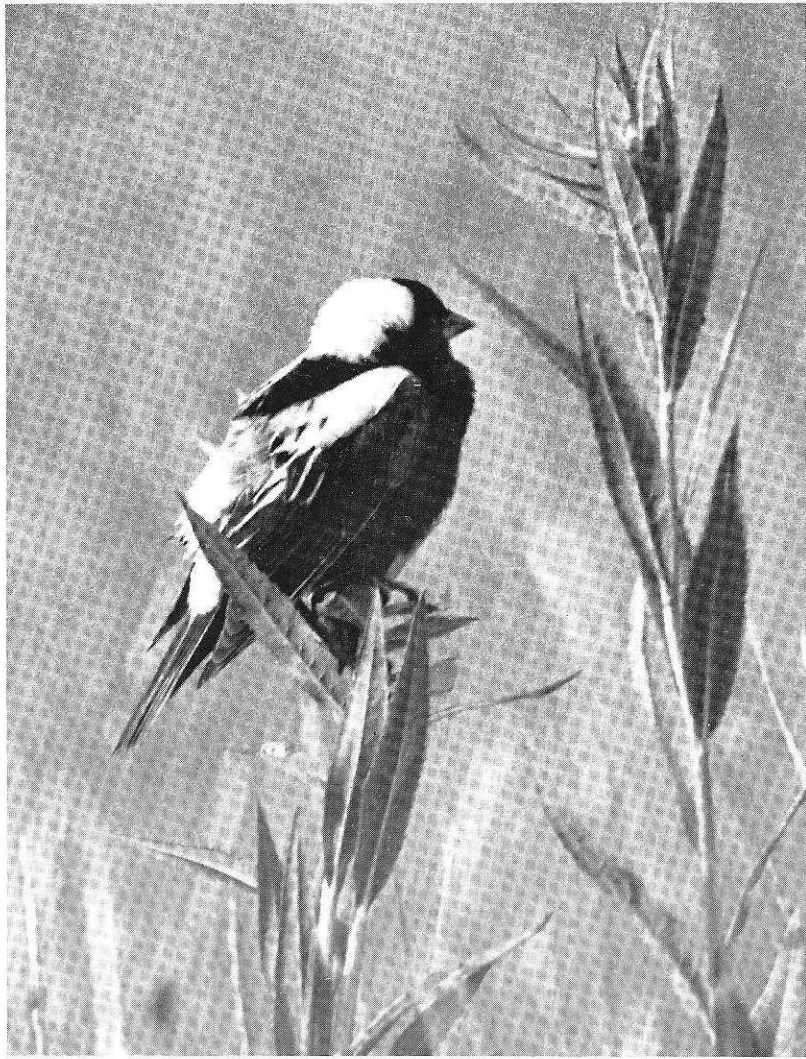
Photos by Bill Whitney



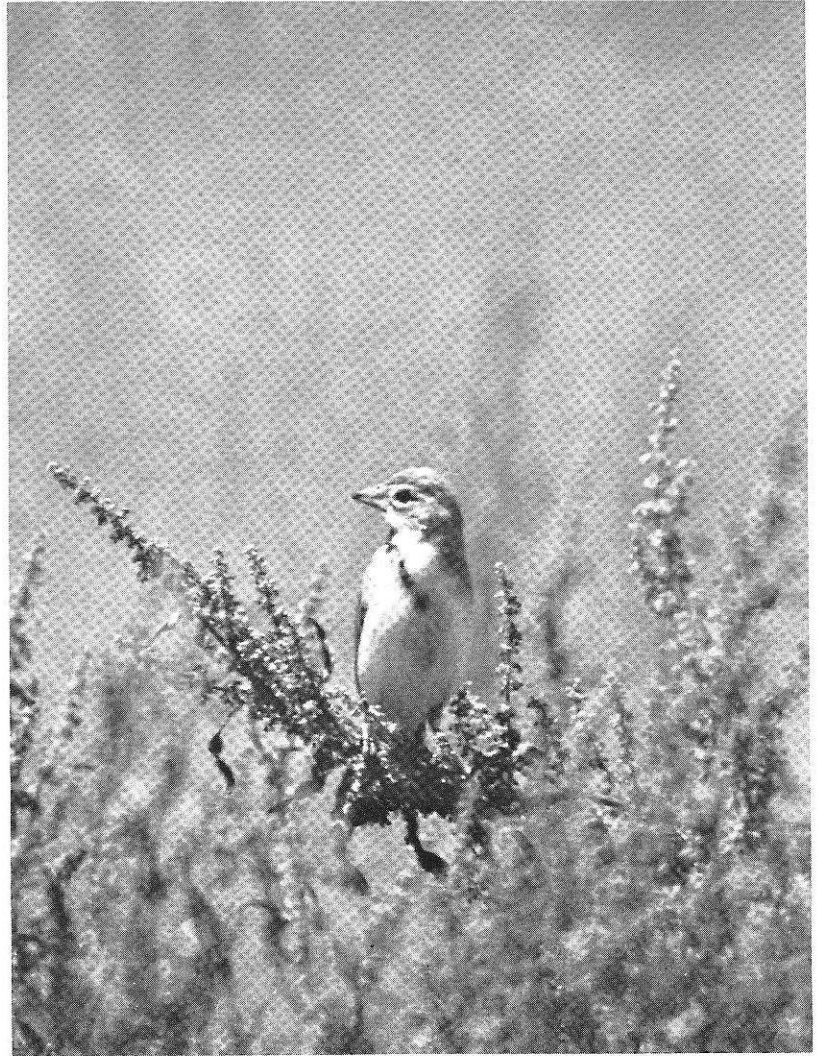
Meadowlark



Grasshopper Sparrow



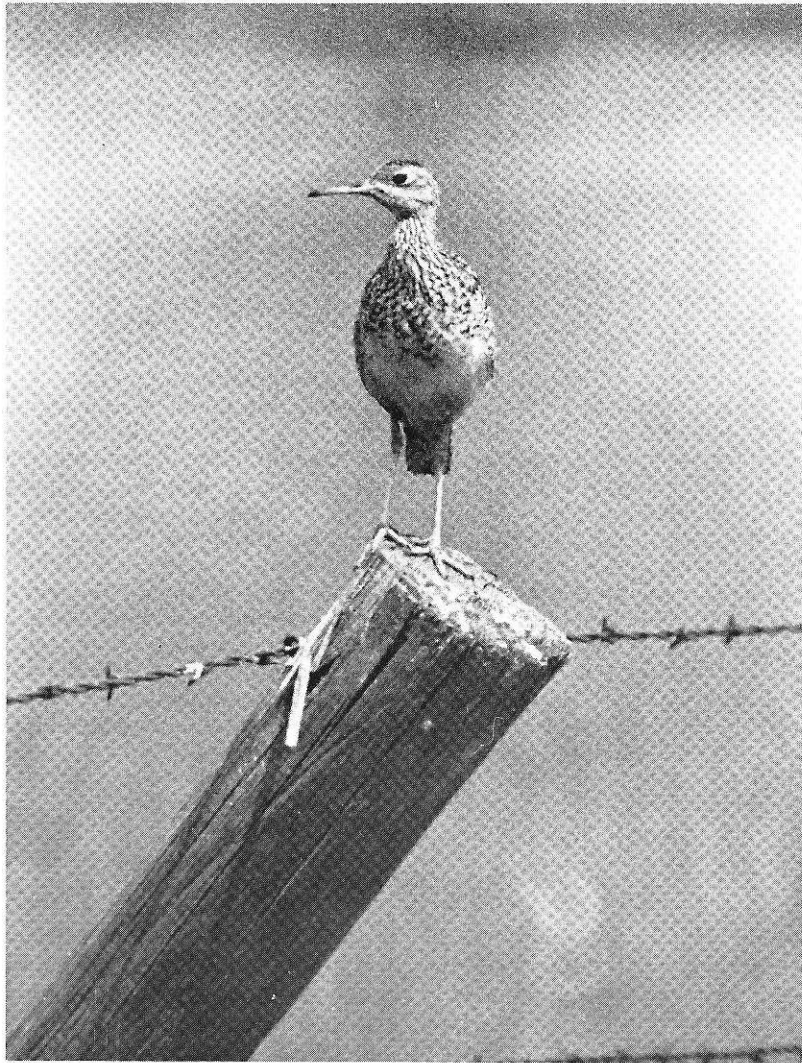
Bobolink



Dickcissel

Description, Distribution, and Ecology of *Helianthus rota-plasticus*, a New Species

by Charles C. King, Joyce Powers, and Michele Powers



Upland Sandpiper

Helianthus rota-plasticus, n. sp. has been observed, collected, and photographically recorded since 1977 from many locations throughout North America. The type specimen was collected 6 June 1981 at Mt. Horeb, Wisconsin. The typical form of this erect perennial has a sansfoliar, ferruginous stem with a terminal plasticized inflorescence consisting of a manyflowered head, 30 cm in diameter, having brown fused corollas and phyllaries on a 11.5 cm disc with an argental inverted receptacle 2.0 cm in diameter. The eight yellow ovate rays, each 9 cm in length and 5.5 cm in width are attached at an angle of 45 degrees equilaterally upon the circumference of the disc. An occasional tetraploid form has 16 rays.

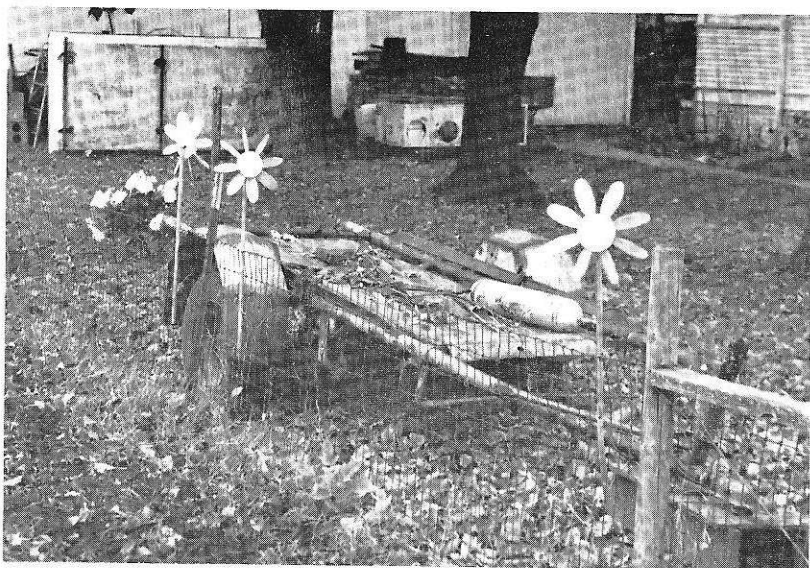
Anthesis occurs primarily during summer and autumn but occasionally throughout the year, even through the snow, at many northern stations. The inflorescence frequently orients directly into the wind and rotates counterclockwise at variable speeds correlated directly with local wind conditions. This unique botanical energy transfer process is referred to as "floralaeoliansynthesis" and provides selective advantage over competitive species unable to utilize wind energy as efficiently.

The species is undergoing rapid evolution in several portions of its range. Numerous color forms have developed: *rubra*, *alba*, *caerulea*, *purpurea*, *nigra*, and *viridens*. Color variations are common in hybrid swarms. Various growth forms, each of which may have ecotypic significance, include *altissima*, *ultra-altissima*, and *triplicata*. A liana form and an epiphytic form with possible parasitic characteristics have also been recorded.

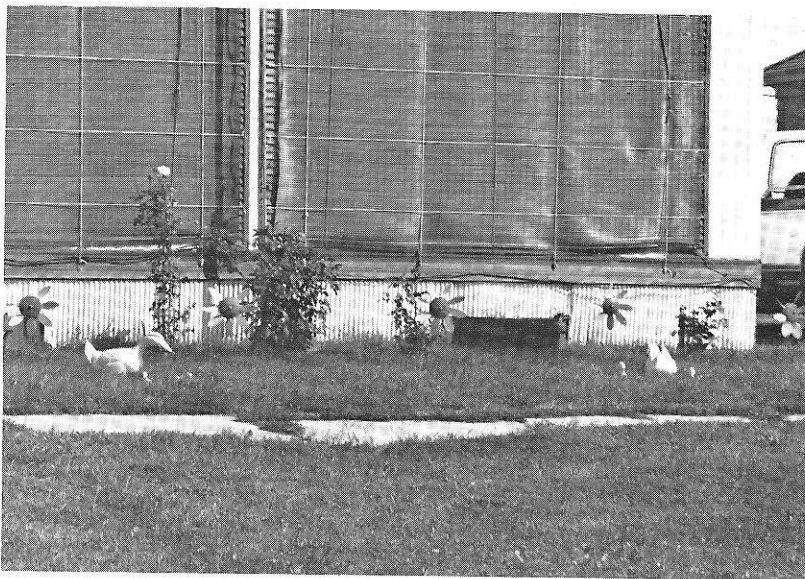
This rapidly invading, aggressive, and early successional species has attained transcontinental distribution with substantial populations at many locations especially within the Prairie Peninsula. Identified sites of endemism include such widely separated prairie locations as Minneapolis, MN; Chicago, IL; and Mountain Grove, MO. Local centers of recent distribution include garden centers. This apparently indicates that commercial propagation has been achieved, and if this be so, then *Helianthus rota-plasticus* could be the forerunner of the horticultural use of native species in landscape design.

Strong prairie affinities are indicated by those populations associated with *Sorghastrum nutans* (Indian grass) and *Andropogon gerardi* (big bluestem). The species also occurs along roadsides, fencerows, and cemeteries. Commonly the species is found in highly disturbed residential and com-

Originally presented at the Eighth North American Prairie Conference (1982, Western Michigan University, Kalamazoo); published with permission.



H. rota-plasticus has been observed in numerous locations in Aurora, Nebraska. Above, an especially colorful epiphytic form; below, found in association with *Anas lawniensis*, the lawn duck. Unofficial reports claim that floralaeoliansynthesis sends vibrations through the surrounding topsoil and repels moles in *H. rota-plasticus* habitat. We would be most interested to receive any scientific confirmation of such claims.



mercial urban, suburban, and rural sites. Prime habitat is sunny and shaded lawns and gardens. It occurs in the open or along edges and borders proximal to human habitations, frequently in door yards. The *triplicata* form frequents commercial sites.

Additional associated floristic and faunistic assemblages involve such species as *Agaricus maculatum* (the spotted mushroom) and *Rana lawniensis* (the lawn frog). Strong affinities exist with *Globus speculescens* (the gazing globe) and with several species of birds, e.g. *Anas lawniensis-alba* (the white lawn duck), *Anas rotaptera* (the rotating winged duck), and especially *Phoenicopterus subrubra* (the pink flamingo). Negative correlations between the occurrence of *Helianthus rota-plasticus* and members of the *Talpidae* (moles), *Sylvilagus* (rabbits), *Procyon* (raccoons), and *Corvus* (crows), as suggested by folk lore, have not been substantiated. However, allelopathy is suspected in regards to some ornamental species. Some distributional records suggest a possible relationship between *Helianthus rota-plasticus* and certain religious and patriotic environments. Interestingly, *Helianthus rota-plasticus* has low fidelity as an indicator of economic status of proximal human populations since little or no correlation exists between distribution of *Helianthus rota-plasticus* and human-assessed property evaluation.

Additional observers are solicited to assist in documenting the spread and development of this species. Prairie People with prurient pursuits and obscene obsessions are best qualified for this task. You are encouraged to become involved.

Charles C. King is from the Ohio Biological Survey, Columbus, Ohio, and Joyce and Michele Powers are from the Prairie Ridge Nursery, Mt. Horeb, Wisconsin.

Reviews

Madson, John. 1982. *Where the Sky Began: land of the tallgrass prairie*. Houghton Mifflin Company; Boston. 321 pp.; line drawings; bibliography; index; appendix listing of representative prairie tracts with public access. \$13.95. (Reviewed by Curt Tvedt)

John Madson has written a lot of fine pieces about the mid-continent grasslands over the years — articles in *Audubon* dealing with the Missouri River, tallgrass prairie, sandhill cranes on the Platte River, and prairie blizzards while in *National Geographic* there have been portraits of the Nebraska Sandhills and the Big Badlands of South Dakota. So it seems only natural that a book about the tallgrass prairie, its resources and people should come from one who feels a close bond to the open country. Madson's works have also appeared in two anthologies: *Stories from Under the Sky* (Iowa State University Press, 1961) and *Out Home* (Winchester Press, 1979).

Some of the "whys" and "maybes" of how prairie got to be that way comprise the opening chapter of *Where the Sky Began*. Influences of the great inland sea of the Cretaceous period and the honing of the landscape by Pleistocene ice sheets provide part of the geological basis. Other natural forces such as the continental climate characterized by drastic daily and seasonal fluctuations, where extremes are more important than averages, and recurring fires are also discussed. The incredibly rich prairie soils and some of the interactions of geological, chemical and biological processes which built those soils come under the author's scrutiny as well.

Madson makes good use of first-person narratives in presenting the impressions which early explorers experienced when they emerged from the wooded East and penetrated the great grasslands. The differing perceptions of the new country were evident from the beginning — some saw a "desert" while others envisioned the "garden of the world". From the time of earliest settlement of the eastern fringes of the tallgrass prairie in the 1820s, newcomers had their ingenuity and stamina tested repeatedly. Instead of clearing trees, the tough prairie sod had to be broken before crops could be planted. The great leap forward in farming the prairie country came with John Deere's famous steel plow. As settlement proceeded, tree planting became standard practice; windbreaks, ornamental plantings and orchards were perhaps visible expressions of the fact that folks had come to stay.

A chapter on "The Great Weathers" portrays the feelings of elation and despair that people felt under the influence of the erratic mid-continent climate. So ingrained in prairie history, literature and folklore is the weather that it is almost a necessary ingredient of a coherent picture of the region. The catalog of prairie weather phenomena — blizzards, heat waves, tornadoes, droughts, and floods — seems to place a decided negative cast upon the region. Definitely not Chamber of Commerce selling points! But fortunately there is another side to the weather coin, as anyone can testify who has experienced a steady spring rainfall or reveled in a particularly

brilliant prairie sunset during any season of the year. Even thunderstorms seem to take on special meaning, perhaps because the lightning has plenty of room to dance and thunder can roll at will over the great stage of the horizon. Madson draws a number of examples from literature to emphasize the importance of prairie weather — Cather, Rolvaag, Sandoz, Neihardt, Manfred and others all used descriptions of storm, sun and wind and their effects on fictional characters.

Prairie animals and plants are described in considerable detail in *Where the Sky Began*. Both the familiar and less than well-known living things are of obvious interest to the author. Microscopic soil organisms, insects, rodents, birds, the large herbivores and predators of all shapes and sizes are placed in their roles played in the prairie that was and in the existing remnants. The native grasses, forbs, and shrubs show great variety both in species and in phenology. Plant life is especially well represented in line drawings by Dycie Madson, the author's wife, who also portrays a few prairie landscapes very effectively.

The chapter "Grandfather Country", like the section on exploration, makes good use of first-person narrative excerpts and quotes from prairie literature. This chapter was also published in May 1982 *Audubon*, enhanced with several color reproductions of pioneer life in eastern Dakota Territory by artist Harvey Dunn.

"People Pastures", the concluding chapter, is dedicated to a Nebraskan in these words: "This chapter belongs to Jim Wilson, a seed grower out in Polk, Nebraska, who specialized in native grasses and preached a gospel of grasslands for livestock and people, extolling tallgrass prairie as prime pasturage for the human spirit." Wilson and others were indeed latter-day pioneers, only they were putting adapted prairie species back into their rightful places instead of removing them. The past two decades have brought about increased recognition of the value of native grasses and forbs for many purposes including forage production, erosion control and landscape plantings. Preservation of prairie remnants for living laboratories and as esthetic resources has likewise become more prevalent. The contributions of the Nature Conservancy, universities, conservation departments and other organizations are subjects for well-deserved praise by Madson. The Nature Conservancy's system of prairie preserves made possible by contributions of the Ordway family foundation is a particularly valuable resource, the real value of which may well be much greater than its considerable cost of acquisition. The states of Wisconsin, Illinois and Missouri are among the leaders in identifying and preserving small prairie remnants by acquisition or long-term conservation easements. Perhaps a friendly competition among states should be started to encourage preservation of small reminders of our prairie past.

Whether you are "Prairie born and stayed" or a "naturalized resident" there is much to be gained by careful reading of *Where the Sky Began*. You will derive an understanding of the region's past and perhaps a glimpse into its future.

Diekelmann, John, and Robert Schuster, 1982. *Natural Landscaping: Design with Native Plant Communities*. McGraw-Hill; New York. 276 pp; illus; \$24.95. (Reviewed by Richard K. Sutton, ASLA, UN-L Dept. of Horticulture)

Unlike so many books which deal with naturalistic landscaping, John Diekelmann and Robert Schuster have put together a book which does exactly what the subtitle says - use the ecological wisdom of the preexisting plant community to guide landscape development. They provide no easy "formulae" or cut and dried rules except for the designer to have an understanding of plant communities. While *Natural Landscaping* does not purport to be a basic ecology text, the authors have included an excellent bibliography; the casual reader cannot get the most out of the rest of the book without some understanding of ecology.

A good portion of the book reviews the four basic communities found in the northeast United States and their permutations based on dominant plants, soils, climate and longitude. Of particular interest to the Great Plains is the chapter on The Midwestern Prairie-Oak region.

The authors then carefully synthesize the natural community as a design concept within the needs for a home landscape. They then show how to integrate and organize human needs with the special needs of native plants, finally leading to an actual implementation document, the planting plan. Besides the plant community, five special types of landscapes are discussed which transcend almost all ecological communities: 1) open landscapes; 2) semishaded landscapes; 3) shaded landscapes; 4) freshwater wet landscapes; and 5) edges: transitional landscapes. Photos and sketches of examples in these special landscape types help reinforce or restate the environmental, regional, design, circulation, planting, and maintenance considerations.

Six case studies are presented as a conclusion and tool to help the reader envision what sort of situation might merit the use of native communities. They are very realistic and range from a private residence to an urban park to a corporate headquarters.

Plant lists and places to visit are listed unobtrusively in an appendix. This is appropriate for a book which does a good job of stressing design principles and processes synthesized with ecological ones. Color plates are included in the book and help illustrate several key design issues. The line drawings are excellent, though somewhat overdone in chapters 7 and 8. Overall, this is a well organized, informative and useful book stressing design with a community of native plants.

... notes ... misc ... odds & ends ... bits & pieces ... etc ...

Kansan produces food for thought for all agricultural states: A recent study of the Kansas food system revealed that current agricultural practices are not sustainable. The state is being urbanized, family farms are in decline, and the environment is deteriorating. Sixteen million acres of land in Kansas are eroding at rates that are higher than the acceptable level, and due to intensive irrigation, areas of western Kansas have depleted the Ogallala Aquifer, the underground water supply, by 25-50 percent.

Those are some of the conclusions of "The Kansas Food System: Analysis and Action Toward Sustainability", a major study released today by Cornucopia Project of Rodale Press. The study also concludes that although agriculture is considered the largest and most important industry in Kansas, most of the foods stocked in supermarket shelves - with the exception of beef, pork, dairy and wheat flour products - are not from Kansas.

In 1980, Kansas imported \$772 million worth of basic foodstuffs, or 41 percent of the food they consumed. Although less than the amount of food exported, food imports represent a large drain on the Kansas economy. According to the report, \$1.7 billion would enter the state's economy if agricultural production were diversified to meet basic food needs of residents.

Food imports include a large quantity of high value fruits and vegetables that could be grown and processed within the state. History proves this is possible. In 1930 there were 56,732 acres of commercially grown vegetables in Kansas; by 1980 the figure dropped 87 percent to only 7,265 acres. A similar trend was seen with fruit culture which reached its peak of importance around the turn of the century and thereafter. Apples have remained the most important fruit produced in Kansas, but only at a fraction of their previous importance.

"Kansas is a bountiful grainary, feeding grains to ourselves, to livestock, and to others across the country and around the world," says Kelly Kind-scher, a Kansas native and author/researcher of the report. In 1979, Kansas farmers' cash receipts totaled \$5.9 billion, \$3.5 billion from livestock and \$2.4 billion from crops. The report goes on to explain that, in addition to leading the nation in the production of wheat, Kansas ranked first in 1980 wheat exports, sorghum silage production, and commercial grain storage capacity; second in cropland sorghum grain production, flour milled, and dehydrated alfalfa production; fourth in cattle and calves produced, and fifth in the value of farm crops.

Given the economic realities of farming in the 1980s, Kansans need to re-evaluate their food system and build on the strengths of Kansas agriculture. "Without changes, current trends will threaten future productivity in Kansas," explains Cornucopia Project Director Medard Gabel. "But with careful planning and timely action by farmers, government, industry, agriculture researchers and consumers, Kansas could achieve a more self-reliant and sustainable food supply."

The Kansas study points to a variety of recommendations that could help change the future of the state's food system to one of sustainability. Farmers could consider alternative agricultural practices and cropping

systems. The marketing division of the Kansas State Board of Agriculture is encouraging producers to use the indentifying label and registered trademark "From the Land of Kansas" to support local marketers. This effort should be expanded.

Another opportunity cited by the report for changing and strengthening Kansas's food system includes earmarking state funds to support the longer term research needed to give Kansas a more sustainable food system. For example, Kansas State University, a land-grant institution, should explore alternative agricultural practices that reduce soil erosion and restore soil health.

The Kansas food system report was completed by Kelly Kindscher of the Kansas Rural Center in cooperation with the Cornucopia Project Staff. The Cornucopia Project is a research project of Rodale Press.

For further information, or a copy of the complete Kansas report (\$3.00 each plus \$1 postage and handling), please contact The Cornucopia Project Information Services, Rodale Press, Emmaus, PA 18049, (215) 967-5171.

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Bad news for organic farming: Garth Youngberg, the USDA's organic farming coordinator, was fired Sept. 17. The action culminates several months of efforts by Secretary of Agriculture John Block to downgrade the government's small organic farming program.

"It's ludicrous that the USDA, which is supposed to represent all farmers, can't find the funds in its vast budget to support the important efforts of one man," a spokesman for California Representative George Brown told the *Des Moines Register*. Brown and Iowa Congressman Berkeley Bedell unsuccessfully fought to keep Youngberg's job in the USDA.

"It's not a question of whether one thinks we should be doing organic farming right now," Bedell said. "But with the importance of agriculture to our country, it's imperative that we look at all possible future alternatives."

(From the *Prairie Sentinel*, Oct.-Nov. 1982.)

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A cooperative project of the Center for Great Plains Studies at Emporia State University and the Canadian Plains Research Center in Regina, Saskatchewan, enables scholars throughout the region to exchange research information. Services of the CANPLAINS DATA BASE, an information system of current research on the Great Plains is available to researchers. Forms for those who would like to submit information on their work for entry into the data base and requests for a search of the base may be obtained from the Center for Great Plains Studies, Emporia State University, Emporia, KS 66801, or the Canadian Plains Research Center, University of Regina, Regina, Saskatchewan S4S OA 2.

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The Land Trust Exchange was created in 1982 by the land trust community to serve as a vehicle of communication, assistance and technical interchange among organizations and individuals involved in private land conservation at the local, regional and state levels. Primary support for the Land Trust Exchange comes from its Sponsors—a growing number of land trusts formally committed to the ongoing support of the Exchange. Sponsorship is open to all qualified public and private local land conservation organizations who financially support and actively participate in this cooperative, mutual-assistance network.

The Land Trust Exchange is a non-profit, charitable organization qualified under Sections 501 (c)(3) and 509 (a)(1) of the Internal Revenue Code.

Exchange is the quarterly journal of the Land Trust Exchange, and is available to all Sponsors (trusts) and Associates (individuals and other organizations) participating in the Land Trust Exchange Network.

For more information, write to The Land Trust Exchange, 3 Joy Street, Boston, MA 02108.

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Attention all crane admirers: Don't forget to make reservations for the dawn & dusk tours to the crane-viewing blind on Mormon Island south of Grand Island next spring (see calendar section for details.)

Also: You should know about the International Crane Foundation near Baraboo, Wisconsin, where fourteen of the world's fifteen species of cranes (seven species endangered) are on exhibit. The ICF's intensive program of research, habitat protection, captive propagation, restocking, and public education has won an international reputation among scientists, bird lovers, and conservationists from all over the world.

The 15-year-old whooping crane, "Tex," brought the ICF a lot of publicity last June when, after seven years of effort (including courtship dancing with ICF founder George Archibald, her "mate," as she was imprinted on humans rather than cranes) a whooper chick named "Gee Whiz" was successfully hatched. Then, tragically, Tex was killed by raccoons, as were several other cranes at ICF. Gee Whiz, however, lives on, and the predator problem has been eliminated by some specially designed electric fencing.

Founded in 1973, ICF is supported by friends and wildlife enthusiasts worldwide. Members receive a quarterly newsletter. For more information, write to the Foundation at City View Road, Baraboo, Wisconsin 63913.

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The Center for Rural Affairs, Walthill, Nebraska, is considering offering a Rural Institute for students of all kinds interested in contemporary agricultural issues. The Institute would be held once or twice a year in Walthill for about three weeks, and would be designed to help participants (students and faculty) understand some of the underlying economic and environmental dilemmas in American agriculture, and to analyze those

issues from a social justice perspective. Special seminars will also be arranged for those interested in acquiring advocacy skills, especially in tax and credit issues. Board and staff members as well as guest faculty will lead the institute. The program is expected to appeal to farm activists, students in conventional agricultural student programs, and rural clergy and seminarians preparing for rural ministry. The Institute will be self-supporting and will offer college credit by arrangement, if the student desires. People interested in knowing more about the prospective Rural Institute should write or call the Center.

The Center for Rural Affairs in a private, nonprofit Nebraska organization established in the Fall of 1973 to focus public attention on issues dealing with people, land and food through publications, speeches, demonstrations, and policy research. The Center is supported by donations and by public and private grants. CRF publishes the bimonthly *Prairie Sentinel*, a newspaper of "practical farming and rural affairs" (\$10 per year.) Other publications include the *Small Farm Advocate*, a quarterly which reports on government bias against family farms and how to deal with it through legal and administrative means (\$10 per year), and *Small Farm Energy*, a bimonthly providing technical information on alternative energy and methods of lowering farming costs (\$8 per year.) For more information, write to CRA - P.O. Box 405, Walthill, Nebraska 68067.

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Wayne R. Pauly, naturalist, Dane County Highway Department, Madison, Wisconsin, has written a very useful guide, "How to Manage Small Prairie Fires." The paper is divided into six topics. The first is theoretical explanation of what, when and how often to burn. The second section lists hand tools for conducting a burn, explains how to use and maintain them, and identifies proper clothing to wear when burning. The third discusses how wind, rain, and humidity affect a burn, and how to arrange for permits, contacting neighbors, and having a plan in case the fire gets out of control. The fourth and fifth sections explain how to make firebreaks, how to conduct a simple burn, and what to do if the fire gets out of control. The sixth describes hazards that complicate a simple prairie fire. A summary of the effects of a prairie fire and how prairie plants respond to the fire appears in the appendix.

"How to Manage Small Prairie Fires" is available from the Dane County Highway Department, 2302 Fish Hatchery Road, Madison WI 53713. Single copies are \$1.00 plus 40c postage.

Calendar

November 21-23, 1982

Second Annual Farming Systems Research Symposium, entitled "Farming Systems in the Field." The International Agricultural Programs Department at Kansas State University has sponsored Farming Systems Research (FSR) activities during recent years. Although the research effort has been emphasized in development strategies for third world countries, numerous small farm-oriented organizations believe the program may also have potential benefits for small farms in the U.S. FSR takes into consideration an integrated approach to the utilization of diversified farm resources in an effort to improve the small family farm. "FSR implies a two-way flow of knowledge between farm family and researchers. The research is interdisciplinary." For more information, contact Wendy Sheppard, International Agricultural Programs, Waters Hall, Kansas State University, Manhattan, KS 66506 (913) 532-5714.

1982-83 Outdoor Education Workshops

These Wednesday evening workshops are held at Schramm Park State Recreation Area near Gretna at 7:30 p.m. Reservations are required; call (402) 332-3901 no more than one week in advance, or contact Carl Wolfe, Nebraska Game and Parks Commission, 2200 N. 33rd, Lincoln, NE 68503; (402) 464-0641. The following is a partial listing of the workshops to be held. For a complete schedule, get in touch with Carl Wolfe.

- Dec. 8: Nature Photography
- Jan. 26: Home-made Outdoor Equipment
- Feb. 9: Watching Nebraska Wildlife
- Mar. 2: Family Camping
- Mar. 30: Hunting Mushrooms and Other Edibles

1982-83 Audubon Wildlife Films

These films are all shown at 7:30 p.m. at the Nebraska Center for Continuing Education, 33rd & Holdrege, Lincoln. Season tickets and further information are available from Chuck Havlicek, UN-L Division of Continuing Studies, No. 271 Nebr. Center for Continuing Education, Lincoln, NE 68583-0900 (402) 472-1392.

Sunday Nov. 14: "Wild Canada: Coast AND Coast" - Explore the jagged cliffs, gentle farmland, and ragged shoreline that constitute Canada's Atlantic and Pacific coasts.
John Wilson, photographer

Thursday, Feb. 3: "Gifts of an Eagle" -One of the most remarkable and comprehensive film studies of a golden eagle ever made.
Ken Durden, photographer

Wednesday, Mar. 2: "Wild and Wonderful Alaska" - The raw beauty of the Alaskan wilderness is brought into sharp focus. Dall sheep, moose, bear and salmon star in this series.
Ken Creed, photographer

Tuesday, Apr. 12: "African Adventures" and "Adventures in the American West" - This action packed double feature explores regions different in appearance, yet similar in their natural cycles.

November 29, 1982 - January 20, 1983:

"Crying for a Vision: A Rosebud Sioux Trilogy 1886-1976" is the title of a photographic exhibit which will be on display in King Hall on the campus of Emporia State University. This exhibit documents almost 100 years in the lives of the Brule Sioux on the Rosebud Reservation in South Dakota, examining the transition of the Sioux from old tribal ways to 20th century American customs.

Saturday, December 18, 1982

CHRISTMAS BIRD COUNT

Bader Memorial Park Natural Area - Beginning at 9:00 a.m.
Bader Memorial Park is 3 miles south of Chapman, Nebraska, along the Platte River. The Natural Area is at the far west end of the park.

Saturday, January 8, 1983

P/PRI Board of Directors meeting in Seward, beginning at 10:00 a.m. Details to be announced.

March 4 - 5, 1983:

The Sixth Annual Trees for Nebraska Conference will be held at the Nebraska Center for Continuing Education, Lincoln. This conference is designed to educate participants about the growth and use of trees and native plants in the Nebraska landscape. For more information: Nebraska Statewide Arboretum, 112 Forestry Science Laboratory, UN-L, Lincoln 68583.

Friday, March 11, 1983

UN-L Range Management Club Annual Symposium - 9 a.m. - 12 noon, East Campus Union. For details: Dr. Steve Waller, Dept. of Agronomy, Keim Hall, UN-L - East Campus, Lincoln, NE 68583; (402) 472-1541.

March-April, 1983

Sandhill Crane observation tours at the Mormon Island Crane Meadows south of Grand Island: Guided tours to the observation blind by the Platte are offered at dawn & dusk every day of the week beginning in early March. For further information and to make reservations, write or call the Platte River Crane Habitat Trust, 2550 N. Diers Ave., Suite H, Grand Island, NE 68801; (308) 384-4633.

Saturday, April 9, 1983

UN-L Wildlife Club Annual Banquet and Awards Night - 6:30 p.m., East Campus Union. For details: Dr. Ron Case, Dept. Forestry, Fisheries, & Wildlife, Natural Resources Hall, UN-L - East Campus, Lincoln, NE 68583; (402) 472-2188.