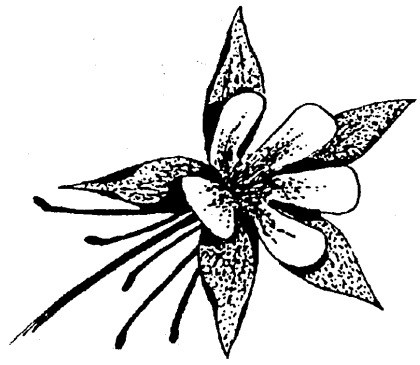
Aquilegia



Newsletter of the Colorado Native Plant Society

". . . dedicated to the appreciation and conservation of the Colorado native flora"

Volume 14, Number 3 **May/June 1990**

Pawnee Land Transfer Derailed – Temporarily?

Rick Brune

The US Forest Service's desire to increase public land on the Pawnee National Grassland as described in the last issue (*Aquilegia* Vol. 14, No. 2, on page 9) is stalled. Written comments received by the Forest Service concerning the transfer were about equally divided pro and con. Most of the 'pro-transfer' comments were from the environmental community; most of the 'con' were from the ranching community.

After documenting many reasons why these lands should be transferred to the Forest Service (marginal agricultural value, adjacent to Naitonal Grassland, native rangeland, riparian areas with free water), Regional Forester Gary Cargill asked the FmHA to re-offer the land for sale (letter of 4/2/90). The main reason is a fear that adamant opposition from local citizens, mostly ranchers, will result in the undermining of support for existing programs on the National Grassland. A good working relationship with local ranchers is viewed by the Forest Service as a necessity for effectively managing the grasslands.

If the land is not purchased when re-offered for sale, the Forest Service is willing to accept ownership. Most of a private tract of about 7000 acres recently offered south of Pawnee Buttes went unsold. If offered at fair market value, the Forest Service may still end up with the FmHA land.

FmHA asked the Forest Service to consider imposing conservation easements on the land to protect the attributes in which the Forest Service is interested. The Forest Service responded that violation of the easements is difficult to anticipate and prevent, and that violations such as plowing would frustrate the purpose of the easement. In other words, don't pass laws if someone might break them!

If you would like to contact the Forest Service to express your support for the use of easements to protect the FmHA Weld County rangeland which was proposed for transfer to the Pawnee National Grassland, please write to:

Gary Cargill, Regional Forester
US Forest Service
11177 W. 8th Ave.
Box 25127
Lakewood, CO 80225-0127 ♦

In this Issue . . .

Books	**2**	**1990 Field Trips**	**4,5**
Pawnee Forum	**3**	**Prairie Garden**	**6,7**

100% recycled

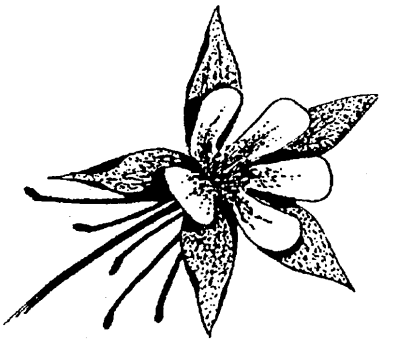
Society Book Bargains

The CONPS Board has decided to provide a limited book service from time to time. The Society will purchase a quantity of books and make them available to members at a price somewhat less than the regular retail price. The percentage of discount will be determined by the arrangement made with each mass purchase.

Our first purchase was the latest of the series *Intermountain Flora: Vascular Plants of the Intermountain West, USA*. This book, Volume 3 Part B, includes the three families of the Fabales, more often known as the legumes (Leguminosae). It was published in late 1989 by the New York Botanical Garden.

The cost is $50 if ordered from CONPS ($61.63 ordered directly from NYBG). Checks payable to the Colorado Native Plant Society may be sent to Velma Richards, 3125 W. Monmouth Ave., Englewood, CO 80110. You may wish to call Velma (at 794-5432) to reserve a copy, as only a few are left.

Look for our offering of Dr. Weber's *Colorado Flora: Eastern Slope* as soon as it is available (tentatively July?).



100% Recycled Paper

Aquilegia

Aquilegia is published six times per year by the Colorado Native Plant Society. This newsletter is available to members of the Society, and others with an interest in native plants. Contact the Society for subscription information.

Articles from *Aquilegia* may be used by other native plant societies if fully cited to author and attributed to *Aquilegia*.

The Colorado Native Plant Society is a non-profit organization dedicated to the appreciation and conservation of the Colorado native flora. Membership is open to all with an interest in our native plants, and is comprised of plant enthusiasts, both professional and non-professional.

Please join us in helping to encourage interest in enjoying and protecting the variety of native plants in Colorado. The Society sponsors field trips, workshops and other activities through local chapters and statewide. Contact the Society or a chapter representative or committee chair for more information.

Schedule of Membership Fees

Life	$250.00
Family or Dual	$ 12.00
Supporting	$ 50.00
Individual	$ 8.00
Organization	$ 25.00
Student or Senior	$ 4.00

Membership Renewals/Information

Please direct all membership applications, renewals and address changes to the Membership chairperson, in care of the Society's mailing address.

Please direct all other inquiries regarding the Society to the Secretary in care of the Society's mailing address.

Newsletter Contributions

Please direct all contributions to the newsletter to:

Peter Root
4915 West 31st Avenue
Denver, CO 80212

Deadlines for newsletter materials are February 15, April 15, June 15, August 15, October 15 and December 15.

Officers

President	Jim Borland	329-9198
Vice-President	Will Moir	482-4872
Secretary	Rob Udall	482-9826
Treasurer	Myrna P. Steinkamp	226-3371

Board of Directors

Betsy Neely (90)	Boulder	443-8094
Jim Borland (90)	Denver	329-9198
Beth Painter (91)	Ft Collins	482-2283
Brian W. Geils (90)	Ft Collins	482-8607
Tina Jones (91)	Denver	759-9701
Tamara Naumann (91)	Boulder	440-8933
Elizabeth Otto (90)	Idaho Spg	567-2384
Velma Richards (90)	Englewood	794-5432
Robert Udall (91)	Ft Collins	482-9826
Gayle Weinstein (91)	Denver	333-3024

Chapter Presidents

Boulder	Margie Wortzman	494-1640
Denver Metro	Carol Dawson	722-6758
Ft. Collins	Jennifer Crane	493-2142
Yamparika	Reed Kelley	878-4666
San Juan	Peggy Lyon	626-5526

Committees

Conservation	Sue Martin	226-3371
Editorial	Peter Root	433-9340
Education	Miriam Denham	442-1020
Field Trips	Jeff Dawson	722-6758
Florissant	Mary Edwards	233-8133
Horticulture/ Rehabilitation	Dorothy Udall	482-9826
Membership	Myrna Steinkamp	226-3371
Publicity	Tina Jones	759-9701
Workshops	Bill Jennings	666-8348

Pawnee National Grassland Forum

Rick Brune

Thirteen members of various interest groups met with the Forest Service in Greeley on April 26th to discuss management concerns about the Pawnee National Grassland. I attended the meeting on behalf of the Society. Comments from this meeting will be used in the Forest Plan revision process and for problem solving by Forest Service staff. Interest groups represented included the Audubon Society, Colorado Environmental Coalition, Colorado Division of Wildlife, Colorado State University, Crow Valley Livestock, dirt bikers, New Raymer Fire Dept., Pawnee Grazing Assoc., and oil and gas interests.

Topics of discussion were wildlife and plant concerns, range programs, recreation, oil and gas, and land ownership. A complete copy of the comments by all persons at the meeting has been sent to the Conservation Chairperson and the President (Jim, not George). The following is a brief summary of some of the suggestions made that are of interest to CONPS.

Wildlife and Plants

CONPS recommended that the Forest Service take early action to protect sensitive species **before** they reach threatened or endangered status. We recommended that they study impacts of all proposed activities on all vegetation communities including "non-productive" types such as clay barrens. Clay barrens have been recommended for off-road vehicle (ORV) use because they appear 'bare', although they support a relatively unstudied plant community.

John Wagner, Division of Wildlife, recommended a complete wildlife inventory for the Grassland, and noted management difficulties which arise when Forest Service management stops at boundaries wildlife don't recognize. Dave Leahy, dirt biker, indicated ORV users would be willing to move to protect plant and animal species or communities.

Range Programs

CONPS recommended the Grassland be managed for a late seral (nearer climax) stage instead of the mid-seral toward which the Forest Service is now managing. This would increase the amount of mid-grasses and forbs and produce a more vigorous grassland.

We also recommended resting plants from grazing during part of the growing season by using rotation systems. Most participants supported this idea but opposition could arise later as this would mean significant management changes.

Recreation

CONPS position is that because the Forest Service is charged with protecting resources, ORV use is not compatible with the Grassland. Potential trail erosion problems and plant damage from increased mountain bike use also need to be addressed before problems arise.

Forest Service road development on the Grassland needs thorough review with the idea of eliminating some roads and not overbuilding others.

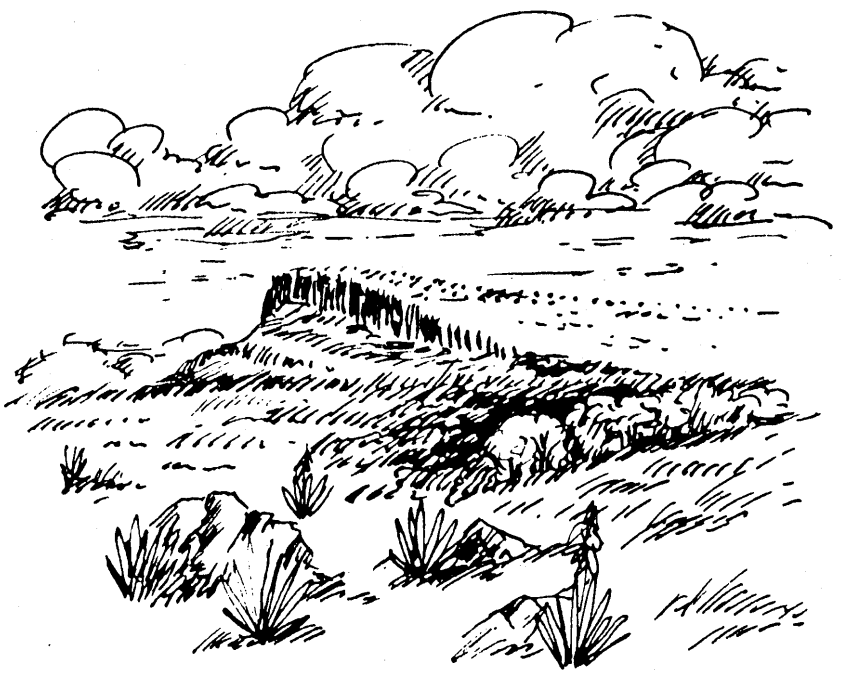
John Wagner noted that sensitive areas such as some of the escarpments may need to be closed to public access for protection. Nesting golden eagles and prairie falcons have been driven from their traditional nesting sites in the Pawnee Buttes areas by human intrusion.

Oil and Gas

Concern was expressed that appropriate methods and standards be set for rehabilitation of both federal and private surface lands.

Land Ownership

All participants acknowledged the difficulties associated with checkerboard land ownership patterns on the Grassland. Although there is disagreement about the appropriateness of large land acquisitions by the Forest Service, everyone agrees that small scale acquisitions for habitat enhancement or to consolidate fragmented holdings is desirable. ♣



Field Trips for 1990

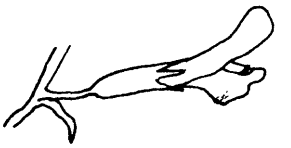
Rio Blanco County Rare Plants and Natural Areas

Memorial Day Weekend, May 26-28

Leaders: Rusty Roberts, BLM; Reed Kelley, Yamparika Chapter

This field trip will begin at 10:00 AM, Saturday, May 26th in Rangely, CO (292 miles from Denver), at the Rangely Museum located on the west end of town. The first site visited will be the Raven Ridge Natural Area/BLM Area of Critical Concern. In the late afternoon we will visit the Greasewood Creek Natural Areas to look at Uinta gilia (*G. stenothyrsa* and pinyon-juniper, Great Basin grassland, and lowland sage communities. The group will return to the Rangely Museum for an evening barbeque. Motel accomodations and camping facilities are available in Rangely for Saturday night.

Sunday, May 27, will begin with a drive over Calamity Ridge (through wild horse country with stud piles!) to the South Cathedral Bluffs Natural Area. After lunch on Sunday, the group will drop down onto Piceance Creek to visit the Dudley Bluffs Natural Area, and see the federally threatened Dudley Bluffs bladderpod (*Lesquerella congesta*) and Piceance twinpod (*Physaria obcordata*). From Dudley Bluffs, we will drive up Piceance Creek to the Deer Gulch Natural Area.



Monday, Memorial Day, is open for now. Depending on the interests of the participants we could visit such Meeker phenomena as the White River Museum, Sleepy Cat Resort, or even Trappers Lake in the Flattops Wilderness Area.

Bring lunches and water each day. Regular cars will be appropriate. For more information and to register, call Reed Kelley at (303) 878-4666, Rusty Roberts at (303) 878-3601, or Jeff Dawson (field trip chairman in Denver) at (303) 722-6758. This trip will be limited to about 20 participants. ♣

Southeastern Colorado Canyonlands

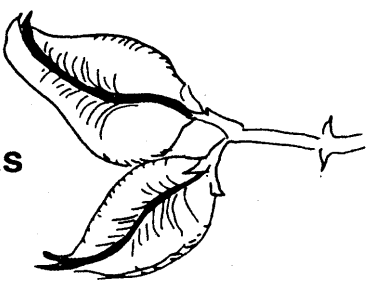
Saturday, June 9, 1990

Leader: Rich Rhoades, District Conservationist, SCS

Southeastern Colorado sandstone canyonlands will be the subject of a one-day tour to be held Saturday, June 9. The canyonlands, particularly where the Huerfano and Cucharas Rivers meet, are very scenic and should have some interesting plant species to identify. Along the way we will stop to view and discuss Conservation Reserve Program grass seedings that were established two years ago.

To get there, travel on I-25 thirty minutes south of Pueblo to the Graneros Exist (No. 71). We will meet on the east side of the exit at 9:00 AM and return to the starting point. Bring a lunch and water with you. Two wheel drive pick-ups (especially if full size) will be sufficient. We plan to return to Pueblo by 6:00 PM. There will be moderate hiking involved.

You can register by contacting Rich Rhoades at home (719-545-4352) or at work (719-543-8384). ♣



Poudre and Laramie River Meadows and Fens

Saturday, June 30, 1990

Leaders: Dieter Wilkin and Jan McKee

This trip will visit several wet meadows and fens along the upper Poudre and Laramie River drainages. We anticipate visiting populations of *Lilium philadelphicum* (wood lily), *Lomatogonium rotatum* (marsh felwort), *Utricularia* (bladderwort), and *Populus balsamifera* (balsam poplar). This trip will also include a visit to Boston Peak fen, a 10,000 year old glacial kettle remnant, which supports *Salix candida*, *Carex livida*, *C. limosa*, and *C. diandra*, taxa that are relatively rare in Colorado.

Participants will meet at 9:00 AM at the **Narrows Picnic Site** along Highway 14, about 20-21 miles west of the junction with US Highway 287 northwest of Fort Collins, approximately one mile past the north end of the Big Narrows Gorge.

Reservations are required: Call Dieter Wilken to sign up, at 303-491-6036 (days) or 303-482-2283 (nights). We **strongly** recommend a change of footware or waders for several of the site excursions. In accordance with CONPS policy at most sites to be visited, no plant collecting will be permitted. ♣

Rollins Pass Saturday, July 21, 1990

Leader: Paul F. Gilbert

Rollins Pass, or Corona as it is sometimes called, is the route of the first railroad (Moffat Railroad) over the Continental Divide into Middle Park. The old railroad grade winds through typical mountain and subalpine zones to wide open tundra. This is an excellent area to get reacquainted and review Colorado alpine species. We will also review the history and hard times of pioneers using the route, as well as evidence of prehistoric people here 5,000 years ago.

The meeting time and place will be 9:00 AM sharp at the flagpole in the Safeway parking lot in Fraser. This is a good place to pool cars since there is plenty of free parking. From here to the top of the pass is 18.5 miles. Many people take modern cars to the top; however, high clearance vehicles such as vans and trucks are best. Weather permitting, you can expect a 1/4 to 1 mile hike (11,600 feet elevation). It is also possible for the brave at heart who have a high clearance vehicle to go over the top and down to Rollinsville and Boulder.

Ruth Ashton Nelson's "Plants of Rocky Mountain National Park" fits this area and has easy keys. Bring your hand lens, a warm jacket and rain gear. Do not forget water and a sack lunch.

Contact Paul Gilbert (303-725-3906) or Jeff Dawson (303-722-6758) for reservations.



Illustration by Ann Cooper

South Park Saturday, September 1, 1990

Leader: David Cooper

This field trip will explore the flora of peatlands in South Park. We will visit a variety of sites ranging from Jefferson on the north side of South Park, to High Creek Fen in the middle of the Park. We will focus on late-blooming plants, including sedges, grasses, rushes, mosses and flowering plants. We will talk about the biogeography of the flora, the characteristics of the region and its plant communities, and the effects of peat mining on flora and communities.

A number of rare plants will be observed, including *Ptilagrostis porteri, Scirpus pumilus (Baeothryon pumilum), Eriophorum gracile, Primula egaliksensis, Sisyrinchium pallidum, Carex microglochin*, and many others.

Meet in Fairplay in the parking lot of the Fairplay Hotel at 9:00 AM Saturday, Sept. 1. Those arriving Friday night can stay at the historic Fairplay Hotel (reasonable rates). Alternatively, David Cooper will be camping near Fairplay, and participants who wish can arrange to join him for primitive camping (no facilities).

Bring rubber boots (knee-high) or be prepared to get wet. Bring a variety of clothes for varied conditions. Regular passenger cars will be suitable for access to all sites. The total walking will be a mile or less, at elevations of 9000 to 11000 ft.

Trip limit 25. For reservations, contact Jeff Dawson, (303)722- 6758 (Denver).



The Prairie Garden, Part II: Getting Started

Rick Brune

Introduction

Nearly all seed companies now offer some sort of enticing "wildflower" mix in a can, bag, etc. The implication is that you simply sow the mixture and your weed problem magically becomes a beautiful wildflower meadow. If you are lucky and sow your seeds in weed-free soil, you will get a flower display containing everything from petunias and sweetclover to blue flax and California poppies. You won't get a prairie.

In a natural world, prairies revegetate disturbed sites such as abandoned roads, fields, and prairie dog towns in a fairly well prescribed succession. The earliest successional stage is characterized by the dominance of annual species such as six- weeks fescue (*Vulpia octoflora*), white-stemmed evening primrose (*Oenothera albicaulis*), common pigweed (*Chenopodium album*), and now exotic weeds such as Russian thistle (*Salsola kali*).

This stage is followed by stages with longer-lived species such as sand dropseed (*Sporobolus cryptandrus*), Indian ricegrass (*Oryzopsis hymenoides*), bahia (*Bahia oppositifolia*), and evening star (*Mentzelia nuda*). Later stages have long-lived plants including blue grama (*Bouteloua gracilis*), big bluestem (*Andropogon gerardii*), leadplant (*Amorpha canescens*), prairie coneflower (*Ratibida columnifera*), white penstemon (*Penstemon albidus*) and copper mallow (*Sphaeralcea coccinea*). The longer-lived plants can appear at any successional stage but become prominent in later stages.

The rate at which succession proceeds depends on many factors. The length of time a site is disturbed by activities such as plowing influences the rate of succession. Prairie species can survive as seeds and plants in plowed fields for several years. A field plowed for only a year will revert to prairie more quickly than one plowed for ten years. Sites where all vegetation is effectively destroyed will move toward a late succession stage at a rate highly influenced by the proximity of a native seed source upwind and by the amount of rainfall. A potential prairie site downwind from an area like Denver where essentially all native prairie vegetation has been destroyed may require decades if not centuries to advance beyond all but the earliest successional stages. With average rainfall, succession may proceed quite slowly because periods of drought will kill many seedling perennial plants. Above average rainfall will greatly speed succession and enhance plant establishment.

Although members of the Colorado Native Plant Society may find growing plants of the different successional stages interesting, most of our neighbors will not. The goal with our prairie garden is to end up with a planting resembling a climax prairie, not a weed field. Note, however, that planting large amounts of early successional species with a light seeding of the climax species is used successfully in the midwest. This is a viable, and probably necessary, approach to successful large scale restorations.

Weed Control

The thrill of growing thousands of wildflowers in your own prairie is increased many-fold by one thing – CONTROLLING THE WEEDS FIRST! Nothing else you do will increase your chance of success as much. If you have weeds in your yard and you rototill them under and plant a prairie, you will grow a superior weed crop and, very likely, no prairie. Remember, you will never again be able to use any broadcast herbicides on your yard without disastrous consequences for your wildflowers. Controlling the weeds first is the most important advice I can give to ensure success. (Sometimes I regret not following my own best advice.)

If you really do have a weed-free turf except for a few dandelions, consider renting a sod cutter and removing the sod. Be sure you remove all bluegrass rhizomes and be especially sure you are not leaving any quackgrass (*Agropyron repens*) rhizomes. The latter will cause havoc in your prairie. The resulting surface can be immediately rototilled and planted with generally weed-free results. If you are less than positive about remaining rhizomes, water and wait two weeks to see if any grasses sprout, then dig them out.

Starting with bare soil of unknown weed seed content, a few sessions of watering to germinate seeds, followed by hoeing or tilling, will provide some control. It will also give an indication of the severity of your weed problem. Pay particular attention to the presence of bindweed (*Convolvulus arvensis*), thistle (*Cirsium arvense* and *C. vulgare*), and perennial grasses. Control them before planting.

If, like me, you are working with less than a golf-green quality setting, with the usual contingent of weeds and a little bindweed and thistle here and there, the following procedure works well but requires the use of a glyphosate herbicide, such as the commercially available Roundup™. Spray the area to be planted with herbicide following the label directions. This will kill bluegrass, quackgrass, and other common turf grasses and damage, but probably not kill, bindweed and thistle. Weekly during the rest of the growing season, religiously chase down and spray every sprout of anything green that appears. It is **especially important** that every growing weed be sprayed about two weeks before the first frost. At this time the weeds are most actively transporting nutrients (and herbicides) to all underground parts. The result is effective control. At the end of the summer, if it hardly seems worth the effort to mix an ounce of Roundup to spray a few weeds, you are on your way to success. However, if you are still lugging around a two-gallon sprayer, plan on another year of weed control before you plant.

Do not be tempted to use soil sterilants to kill your crop of weed seeds. It is difficult to predict the persistence of sterilants in the soil, and they can cause trouble for years afterward. They also kill or damage distant plants whose

continued next page

roots extend into the treated area – far beyond the drip-line of the tree. Don't use pre-emergent weed killers either.

It is not necessary to use herbicides to kill pernicious weeds such as bindweed. They can be controlled by constant tilling. However, the time needed to exhaust the root system may be as long as three years.

Prairie Placement

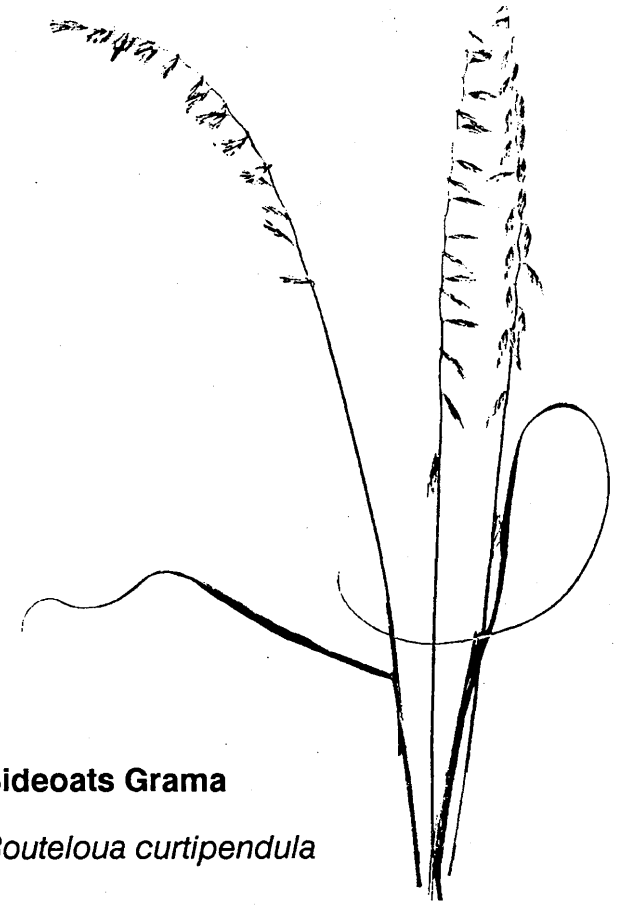
While pondering your weed problem, think about the size and placement of your prairie. Shade is not part of the native prairie. A prairie garden will not succeed if sun is not available nearly all day. In my experience, two or three hours of shade at mid-day will prevent the development of stolons by buffalograss.

Native prairies are spacious ecosystems which flow away from the observer to the distant horizons. For visual effect and the enjoyment of wandering around your home-grown prairie, plan it as big as your yard, enthusiasm, energy, and spouse allow. **Any size** you plant will be rewarding and educational.

Watering required to establish a prairie is initially no different than that required for any lawn grass. Therefore, carefully consider how large an area you can water before starting your prairie project. An installlment-type planting is probably best if planting a large area. You will also have time to learn what works best for your situation, and you can apply your hard-earned knowledge to future plantings. Annually planting a plot which can be watered by two oscillating sprinklers (about 1000 to 1200 sq ft) provides ample challenge if your site is at all weedy.

With your prairie in the planning stage and while you are CONTROLLING THE WEEDS, look carefully at a natural shortgrass prairie to see how it is put together botanically. A good prairie to study is one that lacks exotic species such as cheatgrasses (*Bromus* spp.), Russian thistle, Russian knapweed (*Centaurea repens*), or crested wheatgrass (*Agropyron cristatum*). Most species should be long-lived perennials such as milkvetch (*Astragalus* spp.), shrubby buckwheat (*Eriogonum effusum*), prairie coneflower and copper mallow. There should be few early successional natives such as six-weeks fescue, Indian ricegrass, or snakeweed (*Gutierrezia sarothrae*). In a healthy prairie, plants will not be growing on small soil pedestals above ground level, a situation which indicates active soil erosion.

For designing your own prairie, observe characteristics such as which plants form colonies and which grow seemingly at random; which plants associate with certain other plants; preferred slopes (upper, middle, lower); preferred aspect, or exposure (N,S,E,W); and soil types (sandy, clay, rocky).



Sideoats Grama

Bouteloua curtipendula

Wildflower Sources

Visiting a wildflower-laden prairie will result in a long 'wish- list' of species you want to plant. Because many of these will not be available commercially, you will need to grow many of your own. **It is not the purpose of a prairie garden to create one prairie by digging up and destroying another.** Besides, except for a few rhizomatous species, few prairie plants can be successfully transplanted. Anyone wanting to attempt transplanting will find plenty of 'FOR SALE' signs indicating areas of future development where all remaining prairie species will soon be bulldozed. Conducting salvage in such areas, with permission, can provide appropriate opportunities for spending your energies on transplanting experiments.

Many prairie wildflowers have a notorious tendency to become all but invisible when not in bloom. You will be hard-pressed, for example, to find one plant of Nuttall's violet (*Viola nuttalllii*) in seed on a site where you saw hundreds of them in bloom a few weeks earlier. Other species, such as gayfeather (*Liatris punctata*), are rather conspicuous in seed.

Labeling potential seed plants with stakes tall enough that you can relocate them (but vandals can't) is another possibility. I once used 12-inch tall labels on dozens of potential seed plants, but I couldn't relocate **any** of them after the grasses grew up. The stakes showed up later after the grasses were flattened by rain or snow, but the seeds were long since dispersed. Visiting your potential seed plants at least weekly is the best way to keep track of them, and ensures your presence when the seeds are ready. An added bonus is that you can observe the plant throughout its season and learn to identify it when it is not in flower, which is very rewarding. Few of us need even that much incentive to take a hike!

Next Issue: *Planting your Prairie*

Calendar Overview

Additional information about calendar items will be found throughout this issue.

1990 Field Trips

May 26–28 **Rio Blanco Rarities**

Leaders: Rusty Roberts, Reed Kelley

June 9 **Southeastern Canyons**

Leader: Rich Rhoades

June 30 **Poudre/Laramie Fens**

Leaders: Dieter Wilkin, Jan McKee

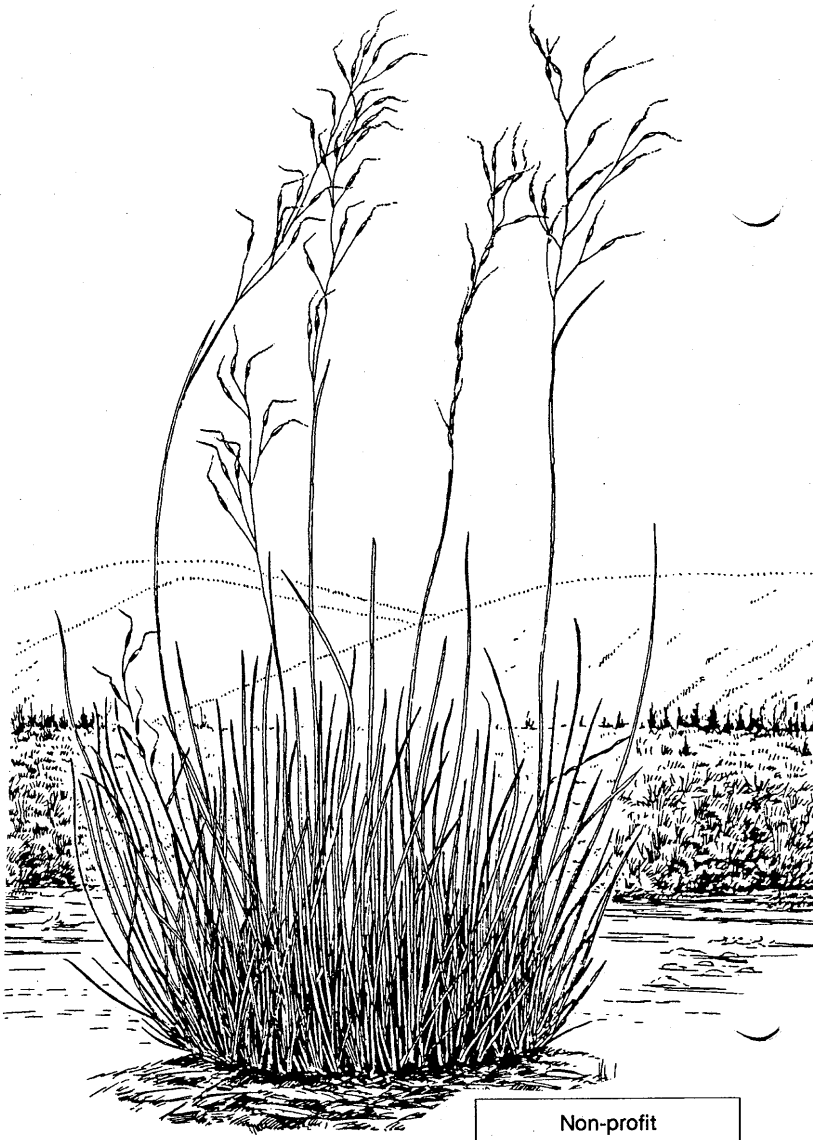
July 21 **Rollins Pass**

Leader: Paul F. Gilbert

September 1 **South Park**

Leader: David Cooper

Coming in September – Society Annual Meeting



RETURN AND MAILING ADDRESS
Colorado Native Plant Society
P.O. Box 200
Fort Collins, Colorado 80522

Non-profit
Organization
U.S. Postage
PAID
Permit #1475
Denver, Colorado

Time Value Material - Mailed on or about May 21