



Missouri Milkvetch (*Astragalus missouriensis*) is an often overlooked wildflower in Griffith Prairie, which grows on some of the more inhospitable habitats of the bluffs. It is intolerant of crowding by other plants, but can survive extremely dry conditions - clinging to the eroded exposed soils on the edges of the bluffs. The deep taproot and rapid spring growth when moisture is abundant are also helpful survival traits. The delicate and attractive pea family flowers yield in a few weeks to near-inch-long pods containing small hard seeds, which spill out over the barren slopes as the pod dries. Photo by Chris Helzer.

### Approaching Events

#### Wildflower Week Walks:

Tuesday, June 2nd  
Marie Ratzlaff Prairie Preserve, 7:00 p.m.

Saturday, June 6th  
Griffith Prairie, 9:00 a.m.

Sunday, June 7th  
Olson Nature Preserve, 2:30 p.m.

For more Wildflower Week events:  
[arboretum.unl.edu/wildflower](http://arboretum.unl.edu/wildflower)

**Annual Sioux County Ranch Trek**  
June 12-14

**Bader Park hike, 9:00 a.m.**  
Saturday, June 20

#### Prairie Plains - Out & About

Prairie Plains Director Bill Whitney will be attending and presenting at the Loess Hills Prairie Seminar, Loess Hills Wildlife Area, Onawa, Iowa, May 29-31.

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Maintaining and restoring  
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### Spring Rituals

April is spring cleaning time - and that also applies to Prairie Plains preserves.

Above, Bill Whitney torches the Lincoln Creek Prairie that includes the loop trail - clearing off last year's growth; next, Amy Jones initiated the mowing season on the park-like entrance to the trail (while enjoying the fragrant plum blossoms); and (bottom left), Aurora 8th-graders spent a Service Learning Day piling up dead wood in the low area along the trail just south of the Highway 34 bridge.

monthly newsletter  
of



April, 2009



### Fire Science:

#### A Word from the Prairie Plains Pyronerd

It's been a very challenging spring for prescribed burning. Finding a day when the weather is just right - that is, with steady winds from a preferred direction relative to the control of the fire and smoke, moderate or even cool

continued...

#### April Thank-yous:

- to Steve Kinzy & Environmental Systems Research Institute (ESRI) for new GIS software (see "New Geographic Information System (GIS) Grant"); and
- to Aurora 8th-graders for spending their Service Learning Day on the Lincoln Creek Trail.

Another Griffith Prairie early bloomer, Blue-eyed Grass (*Sisyrinchium campestre*) - not a grass at all, being a member of the iris family.



### Earth Day at Olson Nature Preserve

Boone Central science teacher Mitch Osborn and his chemistry students gave a presentation at ONP about their ongoing Beaver Creek water quality project to the PrairieLand RC &D Council Board of directors on April 22. The class has been sampling water at three locations on Beaver Creek seven times each year since 1993, testing for dissolved oxygen, coliforms, biochemical oxygen demand, nitrates, phosphates, pH, total solids, turbidity and temperature.



Pictured: Boone Central chemistry student Shelby Travis demonstrates the use of a colorimeter for testing phosphates in Beaver Creek water samples. Photo by Ted Thieman.

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temperatures, and relative humidities higher than 30%. We worried about the pumpers freezing the first week. The winds were more often than not too strong and the humidities were fairly low, even with cool daytime temperatures. Despite the weather, having 700 acres of high diversity prairie to plant, equipment problems and too few people for burn crews, we have managed to burn at Lincoln Creek, the Aurora School Prairie 2000 outdoor classroom and Bader Park in April.

People often mistake a recent rain and absence of wind as being good conditions for prescribed burning. Recent rain has little to do with favorable conditions, other than soaking dead timber. No wind is almost as bad as too strong and/or shifting winds, since a prairie fire will make its own wind as it drafts oxygen, oftentimes causing it to travel in an unpredictable direction. Humidity, temperature and wind velocity (speed and direction) are the major determinants for fire behavior, and moderation of these factors is critical to safe burning. These include stable non-gusting 10-20 mph winds from one direction, humidities in the 30-50% range and temperatures ideally from 45-60 degrees F. Low humidities combined with higher temperatures means that dead timber lights more easily and is hard to put out (sometimes high up in a tree). Under such conditions blowing embers can easily create spot fires out of the intended burn area, leading to panic and confusion in any burn crew, experienced or not. This can also create unsafe conditions if winds rise after the burn is completed, but before burning timber can be extinguished. Of course, on the Great Plains such moderate conditions are fleeting. Burn bosses have to strive to hit the best conditions, but many times things change quickly. The failsafe in this case is having good equipment and experienced people working the fire - and a detailed burn plan so everyone on the crew knows what is going to happen, with contingency planning in case things do not go according to plan.

Prairie Plains has been burning small and large prairies without serious incident since 1981. We can tell many fire stories, mostly positive, a testament to caution and detailed fire management protocols. Despite our safety record, there have been times when we were challenged by a fire, an inevitability at some point because of the nature of the beast. To maintain our good record we need to train new people in fire management and recognize there is always room for improvement - and humility.



**Watch Larry Molczyk's video of our April 27 burn at Bader Park on YouTube! Just go to [youtube.com](https://www.youtube.com) and enter "controlled burn Prairie Plains Institute." Photo by Pat Carlson.**



**Prescribed burns at the Lincoln Creek oxbow restored prairie and the "Prairie 2000" outdoor classroom for Aurora Public Schools.**

## New Geographic Information System (GIS) Grant

Prairie Plains received its third Geographic Information System (GIS) grant in 11 years from Environmental Systems Research Institute (ESRI) in April. The new 3D Analyst extension will allow us to model preserves and restoration project sites in three dimensions and also to produce high quality 3D images.

Management of the Prairie Plains preserve system is a complex task made easier with the added ability to visualize and plan in 3 dimensions. For example, in designing the campus around the Charles L. Whitney Education Center, placement of features such as an orchard or on-campus housing and their associated viewsheds can be conceptualized and now visualized in 3D.

Modeling landscapes in 3D will increase efficiency when planning restoration projects. By analyzing soils and topographical data together in 3D, we can more precisely target the sowing of seed mixes to the most appropriate areas of a project site. This level of precision ensures the prudent use of one of our most precious resources - high-diversity seed mixes.

We will soon post an example of output from the new 3D Analyst extension on our website ([prairieplains.org](http://prairieplains.org)): a virtual flyover of Griffith Prairie & Farm. Be watching for it!

## High Diversity Prairie Restoration Plantings Completed in April:

- **Two small private properties near Beatrice** (totaling about 25 acres) – one belonging to Kathy Cohen, and the other to Sam Cowen. Ms. Cohen was able to visit from her home in Kentucky on the day Mike planted, enjoying the whole process and inspecting the seed variety.

- **A 120-acre upland near the north end of Lake Wanhoo**, a dam and reservoir project presently under construction north of Wahoo. Prairie Plains worked with the U.S. Army Corps of Engineers, Lower Platte North NRD, Nebraska Game and Parks Commission, Pheasants Forever, and TCW Construction, a private firm in Lincoln. This project includes wetland excavations that will be made this summer and planted next fall or winter. Mike Bullerman did extensive GIS work on the project to map the wetland soils and to plan his field work.

- **A 120-acre tract of land adjoining Homestead National Monument** near Beatrice, owned by the group Friends of Homestead Monument. Jarren Kuipers and Kent Pfeiffer, leaders in a joint Nebraska Game and Parks and Northern Prairies Land Trust initiative promoting preservation and management of southeast Nebraska tallgrass prairie, worked with the Natural Resources Conservation Service (NRCS) to enroll the land into the SAFE program, a form of CRP, and to plant it back to a high diversity plant community. The rolling upland will make a unique attraction for Homestead Monument as visitors will eventually be able to hike through fields of tall prairie grasses and wildflowers.



**A red-letter day for the apprentice: Cale Jones was granted a day off from school to take part in the Homestead planting. Top - the many barrels of high-diversity seed mix ready to plant; middle - Mike instructs Cale in the use of the GIS equipment; bottom, planting prairie in the henbit, cornstalks and mud.**