

Spirit Mound Trust News

P. O. Box 603 | Vermillion, SD 57069 | info@spiritmound.org | www.spiritmound.org | December 2015

Viewing the Year from the Top of the Mound

By Jim Heisinger

In my mind's eye I see the struggling figure of Alice Alexandrescu being pulled along the gravel road by her large self-propelled mower, string trimmer over her shoulder, on the way to do battle with a rogue's gallery of heavily armored invasive thistles. Her mechanized warfare equipment is stored in a trailer some distance south and west of the mound, necessitating a dusty walk along the gravel road every workday. When chemical warfare was required, the caretaker loaded the chemicals and sprayer in the trunk of her car and drove to Spirit Mound. Thanks to the generous contributions of our members the Trust was able to purchase an appropriate shed and place it near the parking lot. By the end of summer it became known as the "Alice Palace".



The new storage shed blends well in its surroundings.

The new Regional Park Supervisor, Jason Baumann, is planning to eliminate the thirty-acre cornfield on the east side of the Mound. Corn was planted in a three-year attempt at removing the excess soil nutrients deposited over many decades by cattle confined in a large feedlot on the side of the historic site. In addition to the excess nutrients, the cattle produced salts and compacted soil which promoted the growth of annuals and non-native plants. Next spring soybeans will be planted, and follow-



Feedlot on Spirit Mound, prior to 1990.

ing their harvest a diversified selection of native prairie plant seeds will be drilled into the soil. To read more about the enduring feedlot see our 2014 newsletter.

Spirit Mound's diversified flora provides an outstanding habitat for butterflies and other pollinators. In a 2010 newsletter Mark Wetmore described the return of regal fritillary butterflies to the restored prairie at the Mound. The existence of that species and many others require prairie habitat. Jody Moats, park naturalist at the Adams Homestead and Nature Preserve, has conducted public tagging events at Spirit Mound where monarch butterflies gather for nectar nutrition on asters and other late blooming flowers prior to their long September migration.



*Regal fritillary butterfly on the Mound.
(Photo by Mark Wetmore)*

Monarch Meadows Project

By Jim Heisinger



Monarch butterflies visiting New England asters at Spirit Mound.

Increased habitat destruction and insecticide use threaten the world's pollinators which are keystone species in most terrestrial ecosystems. Nearly 85% of the world's flowering plants are dependent on pollinators for reproduction. This year the Trust decided to make a special effort to promote pollinator habitat and educate visitors with a visual feast of flowers and butterflies. We will call it "Monarch Meadows" or, perhaps, Pollinator Prairie.



Pheasant nest this year at the Mound.
(Photo by Mark Wetmore)

The Trust has partnered with Pheasants Forever in an effort to restore ten acres of nearly pure smooth brome (*Bromus inermis*) to a beautiful flower-rich ecosystem. Although hunting is not allowed at the Mound, it provides great reproductive habitat for numerous bird species; and the fledglings spread throughout the region. Great pollinator habitat is great pheasant habitat. The seed

mix we acquired from Millborn Seeds in Brookings, S.D. includes forty flowering forbs and six prairie grasses. The species selection involved input from the Xerces Society, Millborn Seeds, Pheasants Forever and prairie enthusiasts on the Spirit Mound Trust Board. The highly diversified forbs selected will provide flowering plants from April through October.

The brome area is along both the north and south sides of Spirit Mound Creek in the southwest part of the park. It was not seeded in 2002 when prairie restoration at the Mound began. The area contains dry terraces and is interlaced with wet oxbow meanders. An unknown landowner once straightened the creek leaving the meanders without running water. The oxbows will provide habitat for sedges, rushes and other plants requiring mesic habitats. The resulting diverse habitats will serve as ideal reproduction areas for amphibians, pollinators and prairie birds like the red-winged blackbird and the bobolink.

In the fall of 2015 the brome in this area was mowed by a local farmer, and the cuttings were bailed and removed. The area was sprayed with glyphosate by Parks Division staff. It will be planted early next spring. When the restoration work is complete, we anticipate constructing a primitive spur off of the main trail leading to the area. Signs will be placed strategically along the spur to identify plant species and ecological relationships. Unfortunately, prairie restoration does not yield instant gratification, and both those of us involved in the effort, as well as visitors will need to be patient.

An "Important Hike"

The *South Dakota Magazine* is a great publication for anyone fond of our state. The January/February 2016 issue has an extensive list of knowledge and experiences that every young person growing up in South Dakota should have. Among them are "Four Important Hikes." They include Harney Peak, Bear Butte, the Nicollet Tower near Sisseton, and Spirit Mound.

Bobolinks at Spirit Mound

By David Swanson

The Bobolink is an iconic bird of North America's moist grasslands, usually preferring substantial native grass and forb elements, such as those at Spirit Mound. Bobolinks can be found at the Mound in the moist grasslands along Spirit Mound Creek. They belong to the New World Blackbird family, which also includes the Red-winged Blackbird, Brown-headed Cowbird, Common Grackle, Western Meadowlark and Baltimore Oriole, among other birds. Bobolinks have a highly dimorphic plumage pattern, which means that males and females look different. The striking males are mostly black with large white patches on the wings, back and rump, and a butter-colored patch at the back of the head. Females do all the incubating of eggs, so they need to be camouflaged from predators and are yellowish-brown overall with darker streaks on their back sides. The males are wonderful songsters, and their pinball machine-like song is one of the familiar sounds of native Dakota prairies, and one of my favorite bird songs.

The Bobolink nest is a cup made of grasses and forbs and placed on the ground, usually in a dense clump of forbs and grasses. Females usually lay a clutch of 5-6 eggs, which are pale gray to brown with some darker blotches. Incubation lasts about 10-13 days. Nestlings are fed while in the nest by both parents, and they leave



Bobolinks are making a comeback at the Mound.
(Photo by Joel Jorgensen, Nebraska Game and Parks Commission)

the nest about 10-14 days after hatching. The diet of adults includes both seeds and insects, but the young are fed mostly insects to meet the high protein needs of their rapid growth. When they leave the nest, the young have reached adult size, and look a lot like adult females.

Bobolinks range from eastern Oregon, Washington and British Columbia all the way to the East Coast of North America where ever appropriate grasslands occur. They show up at Spirit Mound around mid-to-late May and nest in June and July, with most departing by mid-September. They are long-distance migrants, spending the North American winter in grasslands of South America, from Brazil to Argentina. According to Breeding Bird Survey data, Bobolink populations are declining throughout their North American breeding range, probably due primarily to the loss of grassland habitats on both breeding and wintering grounds, but the population in the central U.S., including the Dakotas, appears stable. Given that Spirit Mound provides great nesting habitat in the heart of the Bobolinks' range, I hope that you will be able to get out and enjoy seeing and hearing these prairie beauties when they return next spring!

Thank You Eric



In 2015, Eric VanderStouwe, the District Park Supervisor responsible for Spirit Mound, left his job with the Parks Division to operate the family farm. Eric was wonderful to work with and did a great deal to support the Mound and improve it. In appreciation, the Trust gave him a framed Spirit Mound print at the mound August 3rd. The photo taken then shows Eric and Trust president Jim Heisinger.

Spirit Mound Trust's Board of Directors:

Dianne Blankenship, Brian Hazlett, Nancy Carlsen,
Meghann Jarchow, Jim Peterson,
James Heisinger (President),
Mark Wetmore (Vice President and Treasurer),
Norma Wilson (Newsletter Editor),
Paulette Wipf (Newsletter Format Editor),
and Tim Cowman (Web Editor).

Sometimes Mowing Works

By Mark Wetmore

We fenced the outside boundaries of the Spirit Mound Cemetery in 2012. The area had been heavily grazed by horses for several years and appeared to be mostly brome, with hints of native grasses and a few native forbs showing up late in the summer. I mowed the eastern part of the site in June, 2014 and 2015. The mowing suppressed the brome and resulted in a gratifying explosion of at least six species of native grasses. The photo gives some sense of the contrast between mowed and un-mowed areas; it was taken August 25, looking south along the new fence on the eastern boundary.

During the late fall of 2014 we purchased and broadcast a mix of 14 different prairie forbs in the same area. A very few showed themselves this past summer, and we hope to see more of them become established in the future.

So it seems that if there are latent native prairie species still alive in a prairie remnant, no matter how suppressed by brome sod, at least under the right conditions simply mowing the brome during its most robust growing phase in June, will release them to flourish again.

Only Spirit Mound Trust membership fees or donations that are specifically directed towards the cemetery effort are used there. All undesignated funds are reserved for the Mound itself.



Eastern fenceline at the Spirit Mound Cemetery.
(Photo by Mark Wetmore)

Viewing the Stars from Spirit Mound

By Paulette Mehrer-Wipf

We had watched the report on the news about Perseid Meteor shower; and had heard that Spirit Mound was a really cool place to view stars, so we drove out after sunset on that cloudless August evening. The stories were true, what a spectacular place to take in the awe of the stars.

Some of the visitors climbed the hill to take in the view from the top. We sat in our lawn chairs, by our vehicle in the parking lot. Turns out that other people had the same idea. Vehicles streamed in, families with small children, students, as well as older folks all came out to Spirit Mound to watch the meteor shower. We did not stay all night, only for an hour or so but the Mound was certainly a hub of activity. Check it out next time you hear about a meteor shower, you just might meet your friends there.

New Collectible Pin



About twenty years ago, several years before South Dakota acquired the Mound and began the restoration, the Trust ordered a quantity of 1" x 2" enamel pins to raise funds, awareness, and support for the project. The supply of those pins is exhausted. Now we are starting a new series of annual limited-edition collector pins, beginning with *Spirit Mound Birds*. The same size as the original pins, the 2016 edition honors the bobolink, a quintessential prairie species now nesting on the mound. The edition is limited to 200 pins. If these are popular, we will issue a new pin next year, with a different mound bird.

Each pin is \$10 plus \$4 packaging and mailing for one pin and \$5 for two pins. For those near Vermillion, email - info@spiritmound.org and we will try to arrange a pickup or delivery.

Spirit Mound as a Learning Laboratory

By Meghann Jarchow, Assistant Professor in Biology and Sustainability Program Coordinator

I attended a small, liberal arts college in Wisconsin that had a large, reconstructed prairie on campus. In two of my classes, we assisted with prairie restorations, and those experiences helped inspire my passion for prairies – and ecology in general. I am grateful that we have Spirit Mound as a resource to help do the same thing for students in Vermillion, and grateful that South Dakota Game, Fish and Parks and the Spirit Mound Trust have been so supportive of using Spirit Mound for education. In my three and a half years at USD, two of my graduate students and one of my undergraduate students have conducted research at Spirit Mound. I have also worked with three sustainability majors to plant a milkweed garden at Spirit Mound.

I am excited to work with even more students at Spirit Mound's Monarch Meadows in the spring. The senior-level capstone course for sustainability majors will use Monarch Meadows as a case study through which they will learn about prairie restoration and public education. Sustainability students will grow prairie plants to transplant at the site and will aid in the seeding of Monarch Meadows. In collaboration with Pheasants Forever, we are also hoping to work with the Vermillion public schools to engage with primary-school children. Pheasants Forever has a great deal of experience in public education, and has developed curricula for teaching children about prairie restoration, especially related to prairie vegetation and pollinator and wildlife habitat. We are planning for the sustainability students to teach primary-school children about prairie restoration in addition to helping the children seed a section of Monarch

Meadows. I am excited that the Monarch Meadows restoration will provide so many opportunities: to increase prairie plant diversity in the area, to increase monarch and wildlife habitat, to provide experiential learning for college and primary-school students, and to provide long-term educational opportunities at Spirit Mound.



A monarch butterfly drinking nectar from a swamp milkweed. (Asclepias incarnata) in the milkweed garden at Spirit Mound. (Photo by Alice Alexandrescu)

Notes from the frontline:

Thistle Management Techniques at Spirit Mound

By Alice Alexandrescu

The southeast corner of the Spirit Mound has been a proving ground for a series of tactical strikes on heavy thistle infiltration. My strategy included early and late season spot chemical treatments against young thistles with the herbicide Mile Stone. In the middle of the growing season, I mapped the locations of adult thistles with GPS and attacked them by mechanical means prior to seed formation by weed whacking, flower head removal or pulling thistles up by the roots.

I've learned to ally myself with native plants, getting them to occupy the areas once occupied by the invasive plants. This holistic approach is powered by the attitude

“focus on what we want” as opposed to “focus on what we don't want.” The main point is to limit co-lateral damage to the native plants while managing thistles. Among the rogue's gallery of weedy exotics at the Mound are the Canada thistle (*Cirsium arvense*) and the bull thistle (*C. vulgare*).

Next season I will use my GPS location maps for more efficient pinpoint chemical warfare on any newly sprouted invaders. This is good because it will decrease pesticide use and decrease the negative impact on desirable plants. In some cases, I will distribute seeds of desirable plants in the small areas where invaders have been eliminated.

Spirit Mound Trust
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Support the Mound

Spirit Mound Trust membership is \$10 per year.
Additional donations are welcome, as well as the purchase of
Bobolink pins and the Ron Backer prints. All donations are tax deductible.
Your support helps to develop a better, more diverse historic prairie and fund other
programs to make the Mound a more interesting place to visit.

Our address is P.O. Box 603, Vermillion, SD 57069.

If you live in the Vermillion area and would like to avoid shipping charges
on the pins, send an email to info@spiritmound.org to make arrangements.*

Spirit Mound Historic Prairie Membership Renewal and Order Form

Please add my name to the 2016 membership rolls of the Lewis and Clark Spirit
Mound Trust. I enclosed my check for \$10.00 (tax deductible*).
Members receive our newsletter. Additional contributions are welcome.

Name _____

Address _____

City _____

State _____ Zip _____

Telephone (Optional) _____

Email (Optional) _____

*Tax exempt 501 (c) (3) organization (No 93-0921345)

Please send me the following:
Ron Backer Prints (\$100)
(post paid)
Number of prints _____

Bobolink Pins (\$10 each)
*+ \$4 shipping for one pin
* or \$5 shipping on two pins

Number of pins _____

Total Enclosed: _____

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Thank You!