

# Spirit Mound Trust News

P.O. Box 603, Vermillion, SD 57069 • info@spiritmound.org • www.spiritmound.org • Norma C. Wilson, Editor • December 2008

## My Trail through Time

By Jim Heininger

My high tech recumbent bicycle appeared to have a mind of its own as it turned into the asphalt parking lot and headed for the bicycle rack at Spirit Mound Historic Prairie. From the parking lot the mound presented a colorful vegetative patchwork that August evening, each patch representing a previous agricultural field of corn, soybeans or grazing cattle. As the restored prairie matures, its grasses and forbs will eventually blur these boundaries.

As I passed the kiosk I was reminded that while Spirit Mound Trust was incorporated twenty-two years ago, in 1986, prairie restoration began only seven years ago, in 2001, and the prairie was already beautiful. At the trailhead the tall Indian grass and big bluestem screened the patchwork, and I was delighted by the showy flowers of wild bergamot, blue verbena, rough ox-eye and rigid goldenrod.

As I walked, I could easily understand why the Sioux loved their horses. The horses pushed effortlessly through the tall prairie vegetation, and the rider, elevated above the native grasses, had an even greater view. On August 25, 1804 Lewis and Clark waded through a similar prairie without the benefit of horses. They came to search for the *Caotina*, the little spirits the Sioux and other nearby tribes said inhabited the mound. I came with a digital camera hoping to capture the image of a little winged spirit, the white-lined sphinx moth said to visit the flowering ten-petaled mentzelia found near the top of the mound.

The Sioux moved to reservations in 1859, and the first homestead at the mound was in 1868. At the footbridge I saw numerous fieldstones that must have been tossed into the water by farmers during the past hundred and fifty years. I have walked Spirit Mound Creek from east to west and found huge numbers of fieldstones in the creek testifying to attempts to spare the plow blades of early European settlers and their descendents.

Archeologists from the University of South Dakota once found another type of stone near the creek, an arrow point fashioned by Native Americans some six thousand years ago. No signs of more recent Native American occupancy were uncovered. However, not far away along the Vermillion River a Clovis point was found. It was probably lost sometime between ten and thirteen thousand years ago as hunters prowled along the boundary of the last retreating Pleistocene glacier.

Along the trail a National Park Service sign explains the origin of Spirit Mound. At its core is Niobrara chalk, shaped



Photo of *Mentzelia* and white-lined sphinx moth

Photo by Mark Werhane

but not leveled by the last glacier. As the glacier retreated it deposited large quantities of glacial till on top of the core.

As I proceed up the trail I come to a special place. Two large glacial erratics lay encrusted with beautiful lichen. A sign proclaims one is granite transported from what is now North Dakota; the other is Sioux quartzite from somewhere around present day Spenser, South Dakota.

These very stones might have played a role in one of the intellectual guesses of the Corps of Discovery team. Lewis and Clark determined the mound was of natural origin— not man made. This deduction was probably based on the large stones they found on the mound and upon chalk outcroppings. The two erratics along the trail are very large and would have been easily viewed by members of the expedition.

A little farther up the trail I reached my objective. A man-made bench for the weary traveler is perched close to a chalk outcropping. Growing out of the crevices are some ten-petaled mentzelia, sometimes called chalk lilies. It is a coarse, erect biennial covered with spiny, sticky hairs. The appearance of its leaves does not win friends. In late afternoon, however, white to cream-colored flowers open a spectacular display.

As I sat on the bench to await the white-lined sphinx moth, I began thinking about the Niobrara chalk at my feet. It was formed over 65 million years ago from the calcium carbonate skeletons of microscopic organisms that lived in a great inland sea. This sea covered central North America and divided it

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into eastern and western landmasses. About 65 million years ago a death-dealing asteroid crashed into the earth and obliterated the mega fauna. On the western boundary of the sea, movement of tectonic plates caused the formation of the Rocky Mountains which eroded as they formed, filling in the sea with sediment which covered the Niobrara chalk.

I was pleased to have traveled through 65 million years in

one afternoon on the Spirit Mound Trail. Suddenly I realized it was growing dark. I did not have a light on my bicycle, and the moths had not yet arrived. Like Lewis and Clark I failed to see the little spirits. I needed to leave, but I knew they would be there. Perhaps next summer you will come on a late August afternoon, sit on the bench, and observe the speedy winged spirits feeding on the spectacular flowers of the ten-petaled mentzelia.

## INSECT SURVEY

By Mark Wetmore

This year the Trust hired a consultant, Dennis Skadsen, from Grenville, SD to do a two-year survey of insect species on the site, with an emphasis on prairie species. He has done similar projects for the South Dakota Game, Fish and Parks Department and Minnesota Department of Natural Resources, and is currently overseeing a project to restore native tallgrass prairie at Hartford Beach State Park and Pickerei Lake State Recreation Area where populations of the rare Dakota skipper butterfly are found.

The work helps pursue a long-term goal of increasing species diversity by partially managing the site for native prairie insects. It will tell us what is present and what could be expected to be there, and explain what this implies for future site management.

We also hope to prepare a seasonal chronology of Spirit Mound so visitors can know what to watch for at any time of the year, whether it's blooming, flying, biting, nesting, migrating or going to seed. A better understanding of prominent insect species will help us in this effort.

Unfortunately this was a poor year for the survey. A cold, very wet spring delayed or reduced insect populations, and the weather interfered with Mr. Skadsen's work schedule. He was only able to visit the mound once, and that day was cold and rainy. He will write a 2008 interim report based



Dennis Skadsen and Jim Heisinger

on his initial impressions of the site and return for more survey work in 2009.

Mr. Skadsen has been employed by the Day Conservation District for fifteen years. He is project coordinator for the Northeast Glacial Lakes Watershed Improvement and Protection Project located in Day, Marshall, and Roberts Counties.

## Nature Programs at the Mound

By Jody Moats, Adams Homestead and Nature Preserve Park Naturalist

I led many successful hikes and programs this spring and summer at Spirit Mound. Nature hikes involved looking for birds, insects and plant life along the trails to the summit of the mound, as well as contemplating the area's history.

Our most successful program was the monarch tagging program. Participants practiced their netting skills by carefully catching monarch butterflies as they migrated to Mexico. Once the monarch was caught, it was determined if it was a male or a female and a small sticky tag was placed on its hind wing. The butterfly was then let go to freely fly south. Spirit Mound has become an excellent feeding spot and resting area for these migrating monarchs. This program has brought out all ages to the mound. Visitors are in awe of its beauty and the abundance of wildlife.

Interpretive programs will continue to thrive in 2009.

## Restoring Diversity

By Dianne Blankenship

I have been enthusiastic about prairies and native plants for decades, so when I visit Spirit Mound, my focus is on the plants. I enjoy the original prairie area with its native plants that struggled to hold on while all those nearby were extirpated. I notice those that have been re-established at the mound. Imagine how beautiful the mound was when Lewis and Clark visited it over two centuries ago!

Restoration of prairie is a challenge. While the mound was planted with a variety of species, some were more successful than others and some seem to have produced no plants at all. It is now time to evaluate the site with the intention of increasing the diversity.

In 2007 Bill Whitney of Prairie Plains Resource Institute, made recommendations regarding management. For his report I put together the species list of plants at the mound, and I created a list of species—that could appropriately be reintroduced. Brian Hazlett and I rated the plants.

This year I am paying special attention to "Lewis and Clark plants" that were either collected or written about in their journals. Some were *local plants* that were found near Vermillion, in either South Dakota or nearby Nebraska, and many plants were found anywhere from Missouri to Montana but are native to the Vermillion area.

Plants followed by two asterisks means they are the highest priority species to increase or add at the mound. One asterisk means these are worth increasing or adding but of a lower rank.

*Existing mound species noted locally* by Lewis and Clark: Canada milkvetch\*, Rocky Mountain beeplant\*\*, purple prairie clover\*\*, rough blazing-star\*\*, ten-petaled mentzelia\*\*, white sage, and wild four-o'clock.

*Candidate mound species noted locally* by Lewis and Clark: clammyweed\*\*, buffaloberry\*\*, curly-cup gumweed\*\*, cut-leaf ironweed\*\*, lemon scurf-pea\*\*, meadow anemone\*, prairie wild rose\*\*, and wild plum\*.

However, it is important to include additional Lewis and Clark species that were most likely part of the prairie at the mound.

*Existing mound species noted elsewhere* by Lewis and Clark: big bluestem, Canada wild rye, common yarrow, foxtail barley, Junegrass\*\*, narrow-leaved purple coneflower\*\*, rigid goldenrod\*, showy partridge pea, snow-on-the-mountain\*, Virginia wild rye\*, and white prairie clover\*\*.

*Candidate species also noted elsewhere* by Lewis and Clark: aromatic aster\*\*, buffalo bean\*\*, choke cherry\*,



Photo by Mark Westmore

death camas\*\*, dwarf sagebrush\*, dwarf wild indigo\*, false indigo\*, fringed sage\*, Illinois bundleflower\*, lance-leaved sage\*, Missouri milkvetch\*\*, needle-and-thread grass\*, plains coreopsis\*, prairie blazing-star\*\*, prairie turnip\*\*, silky wormwood\*, scarlet globe-mallow\*\*, skunkbush sumac\*\*, western snowberry\*, wild alfalfa\*\*, wild licorice\*, white milkwort\*\*, and yucca\*\*.

Lewis and Clark species each tell a story of their own and fit in well with this historic site, but there is also an abundance of other plants that belong at the mound.

Increasing the diversity at the mound can be accomplished by using a variety of management options at differing times and to a differing extent, in a variety of locations at the mound. Applying fire, mowing or haying, and grazing are options, and some chemical treatments are needed for weed management.

Adding species requires obtaining seed through collection or purchase, finding or creating openings, sowing the seeds in suitable locations, and in most cases, mowing at intervals to keep any seedlings from getting shaded. Seeds for some strategic locations along the trail could be grown and transplanted.

We hope that over-seeding the existing vegetation will increase the diversity of the plants at the mound. This will enhance the experience of visitors, and it will also increase the diversity of the insects and other wildlife at the mound, resulting in a healthier ecosystem.

On your next visit, you might notice some new wildflowers and new signs that will help tell their story! And don't be afraid to wander off the main trail to make further investigations!

## Not the Highest Point

By Mark Wetmore

Publications often report the error that Spirit Mound is the highest point in Clay County. The mound's summit has an elevation of about 1,305 feet. U.S. Geological Survey topographic maps show that elevations gradually increase to the northwest of the mound along a land form called Turkey Ridge. The Basin Electric peaking station in the hills two miles away is 1,380 feet high and the highest point in Clay County is located one and a half miles southwest of Irene at 1,500 feet above sea level.

Irrespective of its absolute height, the mound has always been notable for being a lone prairie prominence separated from other hills. It may have eroded some due to grazing since Lewis and Clark, and now the wear and tear of visitors' feet may be accelerating the effect.



## Request for Stories & Photos

Every now and then we receive an email with a wonderful personal story relating to Spirit Mound. Some are about family outings, animals or plants seen or an unexpected interaction with another person. We've even heard of little spirit sightings and a night ride of the Ku Klux Klan. We would like to assemble a collection of true tales of the mound to run in future newsletters and add to a collection made available on our web site. Please send us your story. We would love to share it with others who treasure the mound and our local history.

Likewise, we are trying to collect old photos of the mound to help document changes since the land was homesteaded. If you have old photos that we could copy, or have an idea about who may, please let us know.

No stories or photos would be used without appropriate acknowledgements and the permission of their donors. The trust can be contacted at P.O. Box 603, Vermillion, SD 57069 or [email address](mailto:email address).



## Support the Mound

Please use the enclosed envelope and green form to renew your membership in the Spirit Mound Trust. Membership is \$10 per year; additional donations are welcome and all 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.

Also, a few of the 1" x 2" enamel Spirit Mound pins are still available for \$5 and the Ron Backer print *Lewis & Clark on Spirit Mound* for \$100, both post paid.

*to preserve the mound and make it*

## OUR WEBSITE AND MANAGEMENT BY GLOBAL INSTRUMENT SYSTEMS (GIS)

By Jim Heisinger

Tim Cowman, our newest board member, is our new webmaster ([www.spiritmound.org](http://www.spiritmound.org)). Please visit the site and tell us what you would like to see that is not currently displayed. Rochelle Pfeiffer established the site, but has moved, married and started a family. We thank Rochelle for her great volunteer work.

In addition to being the webmaster Tim is also using GIS to establish an ongoing record of prairie management practices. Using GIS overlays we are able to see what has been burned, grazed or replanted during any year since we began prairie recovery.

The Spirit Mound Trust Board of Directors wishes you a Happy Holiday and New Year

James Heisinger, President,  
Mark Wetmore, VP/Treasurer,  
Dierne Blankenship, Tim Cowman,  
Wayne Evans, Brian Hazlett,  
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