

Spirit Mound Trust News

Norma C. Wilson, editor

November 2005

Role of the Trust

Jim Heisinger & Mark Wetmore

The membership of the Spirit Mound Trust should view the developments at the Mound with considerable satisfaction. Once the Mound was purchased in 2001 the role of the Trust changed from preservation of the site to a profound role in its future management. It serves as an advisory group to the park managers. The membership fees are used to develop a diverse prairie ecosystem, to promote research and education, and to promote community involvement in the rich biological and historical significance of the area.

One of the Trust's primary responsibilities now is to work with the South Dakota Parks & Recreation Division to help guide the on-going care and improvement of the Spirit Mound Historic Prairie. Although the original seeding on the site included 10 grass species and 53 species of forbs, a good prairie reproduction should have a great deal more diversity. Many of the forb species chosen for the initial planting were large, showy varieties that successfully gave the site a prairie aspect for the Lewis & Clark bicentennial. Now the hope is that over time a more balanced and broader mix of species can be established on the mound.

There are many challenges. We must encourage the remnants of the original prairie to proliferate and halt the growth of invasive species. We must introduce additional

native species, often small forbs, into the mix of large grasses and wildflowers that are thriving in most of the seeded areas. We must deal with special problem areas such as the former feedlot, which has excessive nutrients that must be removed before native plants can flourish. We must analyze and perhaps improve water quality in the nearby creek, which is now officially designated "Spirit Mound Creek," thanks to the efforts of board member Tom Gasque.

Members of the Board have recently been talking to prairie experts in South Dakota, Iowa and Nebraska, with the aim of preparing a written plan that will inform prairie management decisions and future enhancement efforts. As the Trust's sign panel on the kiosk at the mound reads: a "*prairie primeval may be impossible, but that will always be the project partnership's goal.*"

Please send in the enclosed membership form and join us.

Spirit Mound Trust Board:

Jim Heisinger, President

Mark Wetmore, Vice President, Treasurer

Norma Wilson, Secretary

Wayne Evans

Margaret Cash

Bill Farber

Amond Hanson

Jim Peterson

Tom Gasque

Ron Thaden

Brian Hazlett

A MYSTERY SOLVED

Mark Wetmore

In 1999 when Kent Scribner of Vermillion wrote his paper on the history of Spirit Mound Township, *Spirit Mound After Lewis and Clark*, he created a botanical mystery. Born in the farmhouse on the north slope of the mound, Laura Lou McDonald Marsh's childhood reminiscences included the detailed description of "a cactus-type plant with dull gray leaves and large white or ivory flowers that opened only at night..." This August several specimens of *Mentzelia decapetala*, or tenpetal blazingstar, were found on the north side of the hill, near the Niobrara chalk outcrops. Mrs. Marsh's memory was exactly correct. The *Mentzelia's* spectacular flower is over three inches in diameter, opens in the evening and is pollinated by night-flying moths. It grows primarily on dry, chalky outcrops and is near the eastern-most limit of its range here. It was not part of the state's prairie seeding, but is a member of the diverse prairie population growing in the remnant areas on the site. Prairie botanists are pleased by its discovery on the mound.



Photo by Mark Wetmore

Alfalfa on Spirit Mound?

Even before the site was acquired, prairie experts were warning that the feedlot area on the eastern slope of the mound would be very difficult to restore. High levels of nitrogen, phosphate and potassium in the soil suppress native species and encourage many invasive annuals. As foretold, the seeding failed on this area. Soil tests showed extremely high nutrient levels. This summer Ron Thaden planted alfalfa on the affected area. Alfalfa does not fix additional nitrogen in the soil when there are high levels already present, and it does a good job of drawing phosphorus and other nutrients from the soil. The plan is to harvest alfalfa on this small parcel for three years and then try another seeding.

Grass Dance Special for Spirit Mound

Norma C. Wilson

At a March 30, 2005 meeting of the Spirit Mound Trust Board of directors, board member, Dr. Wayne Evans explained that dancers would welcome native grasses back to Spirit Mound at the University of South Dakota Tiospaye Wacipi, April 2, 2005. The Board voted unanimously to sponsor the event.

The evening Grass Dance Special, which was part of the Wacipi held at the Vermillion High School, was sponsored by the *Living River Group* of the Sierra Club, and the Spirit Mound Trust. It was organized by the University of South Dakota's Tiospaye Council. At the wacipi, as our representative, Dr. Evans spoke about the return of native grasses at Spirit Mound.

Nancy Carlsen, Jess McGinnis and Jim Heisinger created a beautiful program for the Grass Dance Special that summarizes the recent history of Spirit Mound:

Since white settlement in 1868 it had been use for grazing and farming, including a recent feedlot on its shoulder, until the entire mound and surrounding area was acquired by the Spirit Mound Trust and their partners in 2001. Prairie restoration began in 2001 on the 320 acre site. Native grasses, flowers, and other plants have been thriving and it is considered to be one of the most successful prairie restoration projects in the area. It is hoped that native birds and small mammals will continue to repopulate the area, further restoring the natural balance.

Events on the Mound

Jim Heisinger

According to information provided by Mark Steck, regional Game, Fish & Parks supervisor, around 5,000 visitors of the human species have visited Spirit Mound since January 1, 2005.

During the past year, Jody Moats of the South Dakota Game, Fish and Parks Department led a series of nature trips to Spirit Mound. Among these activities were an April bird and plant identification walk, a May evening hike to the summit, the August 25 Lewis and Clark Anniversary Hike and the September Monarch Tagging. If you would like to receive information concerning future events, contact her at Jody.Moats@state.sd.us.

On June 12, many of the nearly 600 bicycle riders in the Tour de Kota, sponsored by the Sioux Falls *Argus Leader*, rode to Spirit Mound. The riders were from 20 states and Canada.

On June 15, at Spirit Mound, Trust board member Jim Heisinger met with thirty Native American journalism students participating in an institute sponsored by the Neuharth Center at the University of South Dakota. The group discussed the evolutionary history of the mound, from the geological events which shaped it to the eventual restoration of the native prairie.

Along with Kent Scribner, Trust board members Jim Peterson and Mark Wetmore hosted the Sergeant Floyd Tri-State Chapter of the Lewis and Clark Heritage Trail Foundation at a hike on Spirit Mound September 18, also guided by Jody Moats.

Successful 5 and 10 kilometer running events entitled the "Spirit Mound Race" were held September 3rd. This was the second year that Judy Clark, Collette Abbott and Barbara Yelverton managed the race.

On October 25 the Loess Hills Audubon Society had an outing at the Mound, also led by Jody.



The Cat that Walked up Spirit Mound, June 26, 2005
Steve Marsden of Iowa City and cat Luna.
Photo by Mark Wetmore.

Lewis and Clark Spirit Mound Trail

Dave Nelson and Jim Heisinger

The City of Vermillion has completed a .3 mile concrete surface extension of trails through Cotton Park and along the Vermillion River. The extension is being funded by the City of Vermillion and the Recreational Trails Grant Program through the State of South Dakota. The Street Department of the City of Vermillion did the grubbing and clearing for the trail and TR Harris Construction, Inc. did the rest of the project. It connects to the existing trail that runs from University Street along the Vermillion River and through Cotton Park. The new portion of the trail comes out at Broadway and 12th Street. It is a beautiful area along the river and through the woods and gives recreationists and nature enthusiasts a chance to experience the educational, historical and recreational benefits of this part of Vermillion. This area is where Lewis and Clark started their trek to Spirit Mound and is a great experience for everyone who wants to go for a walk or bike ride in the Vermillion area. We now have approximately 2 miles of trails from University Street to Dakota Street to Broadway and 12th Street in lower Vermillion. Along the trail you will find a fishing pier, park, picnic area, bathrooms, playground equipment, soccer field, dog park, nature trails and nature areas.

Dave Nelson, Judy Clark and Jim Heisinger have worked with the South Dakota Department of Transportation to get the shoulders of State Highway 19 designated as a bicycle trail. Riders or hikers can walk or bicycle from Cotton Park to Spirit Mound along this trail. On August 25, 1804, the expedition had the same starting point and destination, but the trip was much more difficult and potentially dangerous than it is today.

Plant Signs

As part of the Trust's responsibility to assist with interpretation of the mound, fifteen small signs identifying and briefly describing specific species of prairie plants were prepared by board member Brian Hazlett, purchased by the Trust and placed along the trail in time for the August 25 anniversary date. The intent is to add additional botanical signs next year as well as one explaining the large glacial erratic boulder along the trail.



Park Employee Honored

David Blaeser, McCook Lake, South Dakota, has worked on the Spirit Mound project since its inception. He is a seasonal employee at the Adams Homestead and Nature Preserve near North Sioux City, and was honored as the Park & Recreation Division's 2005 Seasonal Employee of the Year. He was recognized for his diverse talents, from maintenance of trails, to building and habitat improvements, to helping with the many school and tour groups that visit the Adams area.

Interpretive Sign Marks Rivers' Confluence

Nancy Carlsen

Watch for the dedication of a new interpretive sign being developed for installation at Cotton Park sometime this spring. This large, full color interpretive sign is designed to educate visitors about the changing confluence of the Vermillion and Missouri Rivers and to place into that context information about the mouth of the White Stone River referred to in Lewis and Clark journals and maps. In addition, the sign provides an illustrated interpretation of the Lewis & Clark expedition visit to Spirit Mound.

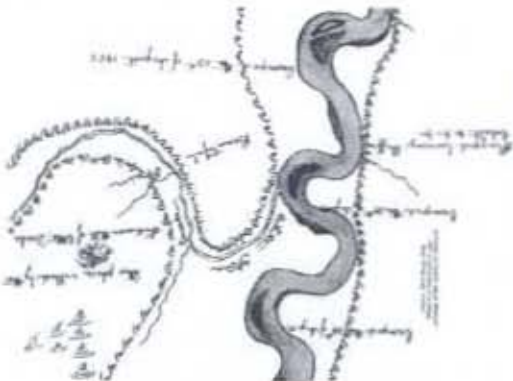
Work on the project began in April, 2004, propelled by the interest of Jim Heisinger of Spirit Mound Trust in the then-upcoming Lewis & Clark bicentennial. The effort is now sponsored by Spirit Mound Trust, South Dakota Geological Survey, Living River Group of the Sierra Club, City of Vermillion Department of Parks & Recreation, South Dakota Department of Game, Fish & Parks, South Dakota Parks & Wildlife Foundation, National Park Service, University of South Dakota Department of Anthropology, and Missouri River Institute.

In conjunction with the rest of the committee, Tim Cowman (SD Geological Services) and Nancy Carlsen (Living River Group) provided all but one of the images and illustrated maps, while Brian Molyneaux (Missouri River Institute & USD Anthropology) and Cindy Kirkeby (Living River Group) developed and edited the text. In addition to Jim Heisinger (Spirit Mound Trust & Living River Group), other active committee members, including George Berndt (National Park Service), Larry Bradley (USD Anthropology), and Dave Nelson (Vermillion Parks & Recreation Director), have added various perspectives to the endeavor.

The sign will feature a caption and explanatory text with maps and images illustrating the channels of the Missouri and Vermillion Rivers in each of three eras: 1804, 1881 and the present.

Confluence of the Vermillion and Missouri Rivers

The Missouri River flowed beneath the bluff when Meriwether Lewis and William Clark led the Corps of Discovery on their epic journey. The mouth of the White Stone River was then near this site at Cotton Park. Now known as the Vermillion River, its mouth in 2004 was some 3.5 miles southeast of that 1804 confluence.



White Stone Creek (Vermillion River) and camp site looking on the Missouri River shown by Clark's 1804 Route Map of the Lewis & Clark Expedition



Meriwether Lewis, 1804. (Courtesy of the National Park Service, Fort Belknap National Monument, Montana, U.S.A.)

1804

On August 24, 1804, nearly 50 men in two pirogues and a keelboat passed by on their way upriver, making camp on the Missouri southwest of the mouth of the White Stone River or Creek, now known as the Vermillion River. The next day, as the main party continued west, a mysterious mound, thought by native peoples to be occupied by powerful spirits, drew Lewis & Clark and a small group of explorers back to the White Stone River, where they left their pirogue & began a day-long overland visit to Spirit Mound.



August 25, 1804 Journal of William Clark.

... arrived about 10 miles to the mouth of White Stone River where we left the Pirogues with two men and at 200 yards we ascended a rising ground of about 50 yds. from the top of this ridge and the Country is better & open all the way to Capt. J. S. Beck's estate. Some men here at a Great Distance and the Mouth which the Indians call Mountain of the people of Spirit Mound at 4 miles from the mouth of the Creek at 23 miles from the mouth of the White Stone. At 12 o'clock we arrived at the mouth of the White Stone which we made a bend N.E. from the mouth about 3 miles up. We did not see any more of the Creek this the bottom of about 1 mile in with us at the place we first struck it where we gathered some tobacco roots such as Capasa Florida, & Blue Cornice we did not see any more of the Creek at the Pirogues at Sun set we arrived at the place which I cannot see right and stayed at night.



Clark's 1804 Route Map and annotated path to Spirit Mound, embossed on paper extraction made.



Spirit Mound (Spirit Mound) shown on paper extraction made by Clark's expedition.



Clark's 1804 Route Map also incorporated in Park Service Agency 2002 aerial photograph.

The Missouri River continued to flow in a 'great bend' near this spot beneath the bluff until Spring 1881, when massive ice gorges broke upriver and blocked the downriver flow. The deluge of ice and floodwater destroyed old Vermillion, cut off the bend, and carved a new channel across the land south of here.

No longer a riverboat landing, the town of Vermillion was rebuilt above the bluff by people made mindful of the power of the living River.

1881



1881 Missouri River channel cut-off above on 1804 Missouri River Confluence Map

After the 1881 flood, the Vermillion River adopted part of the abandoned bend of the big River's old meander, and lengthened its path to confluence with the Missouri River.

In 2004, the bicentennial of the Lewis & Clark Expedition, the Vermillion River's mouth was about 3.5 miles southeast of the old White Stone River's mouth at its 1804 confluence with the Missouri River near this Cotton Park site.

2004



Confluence of 1804 Missouri River on U.S. Geological Survey 1994 topographic quadrangle