

Prairie Management Perpetuates Historic Scene at Pipestone

By Gary Willson

National historic sites and monuments administered by the National Park Service in the Great Plains were established primarily to preserve cultural resources or to commemorate historical subjects or events. The historic scene of these parks — the landscape, the native plant and animal life, and the miscellaneous marks of human activity — constitutes an important resource. It is the policy of the National Park Service to perpetuate the historic scene in a manner appropriate to each of these historic places (**Management Policies 1979**).

Native prairie is an important facet of the historic scene at Pipestone National Monument (NM) where red-colored claystone known as pipestone or catlinite was quarried by American Indians to make ceremonial pipes since A.D. 900. Frontiers-

man George Catlin, while approaching the quarry in 1836, wrote: "There is not a tree or a bush from the highest summit of the ridge, though the eye may range . . . over a surface covered with a short, short grass, that is green at ones feet . . . but changing to blue in the distance." He continued with a description of the quarry: "On the top of the ridge, we found the quarry of the Red Pipe. The most striking feature is a perpendicular wall of close-grained, compact quartz, twenty-five and thirty-five feet in elevation, running nearly north and south with its face to the west, on a front nearly two miles in length. It then disappears at both ends by running under the prairie, which probably covers it for many miles both north and south. The depression of the brow of the ridge has been caused by the wash of a little stream, produced by several springs on the top, a little back from the wall . . . At the base of this wall



Shrub and tree cover increased dramatically between 1889 (top) and 1983 (bottom) as these photographs of the quartzite ridge show.



Prairie Management - Continued

there is a level prairie half a mile in width and running parallel to it."

Catlin painted a panoramic picture of the quarry, including several Indians working to extract pipestone. Although Catlin did not mention the presence of shrubs and trees along the ridge of quartzite, they appear in his painting. His pencil sketch shows little woody growth and is believed to be a more accurate presentation of the landscape of the quarry and ridge as it appeared in the 1830's.

Although well over half of the 283-acre park consists of original prairie, one is impressed today not only by the prairie, but by the trees and shrubs along the quartzite ridge and Pipestone Creek. Tree-ring evidence from a study in 1979 aged most trees sampled at around 1880. Records of land settlement in the area suggest woody plants began to grow because of the cessation of prairie fires. An article in the **Pipestone County Star** of June 24, 1880, noted the beginning of tree growth near the creek and along the quartzite ridge and expressed the hope that prairie fire will "leave the place alone" for the next few years. Photographs of the quartzite ridge taken in 1889 and in 1983 show the dramatic increase in shrub and tree cover.

Since 1973, prescribed burning has been used annually in the park's prairie management program, probably in response to the removal of woody vegetation and the enhancement of prairie grass by a wildfire which burned along Pipestone Creek in 1971. Spring burning has been conducted in each of six management units on a 4-to-5-year rotation. It has been successful in

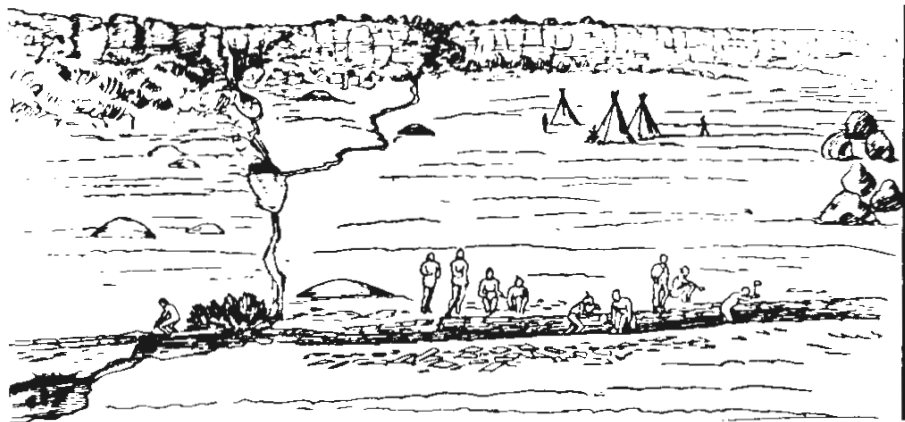
removing woody plants and restoring the dominance of native prairie species, such as big bluestem, in some areas of the monument. No attempt has been made to burn into the wooded areas along the quartzite ridge or to clear vegetation along Pipestone Creek.

In 1982, a study was begun to assess objectively the effect of current vegetation management practices, including prescribed fire, on the vegetation at Pipestone. Permanent plots and fixed point photography will be used to document vegetation changes and successional trends in the six management units. The distribution, composition, vigor and sea-

sonal periodicity of the vegetation will be determined over a 3-year period and historical factors which have impacted the vegetation will be identified and evaluated.

Results will likely influence prairie management through recommended changes in the frequency, intensity and seasonality of future prescribed fires and may lead to a decision to remove woodland vegetation in certain areas of the monument so as more closely to approximate the historic scene.

Willson is an ecologist with the NPS at Pipestone NM.



Pencil sketch of the pipestone quarry made in 1836 by George Catlin, courtesy of the National Archives.