

VISIONS IN STONE: THE ROCK ART OF MINNESOTA

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To date, only 55 prehistoric to protohistoric American Indian rock art sites have been identified in the state and many of these, since destroyed, were first identified at the turn of the century. Reported rock art sites in Minnesota include petroglyphs and pictographs appearing on exposed outcrops or in caves, as well as open-air petroforms. Minnesota's aboriginal rock art appears to have been produced from Archaic through Protohistoric times and was probably produced in Paleoindian times as well. The iconography of rock art has a unique potential to yield insights into the character and evolution of prehistoric and protohistoric American Indian ideation, subsistence practices, technology, aesthetics and other cultural elements which are difficult or impossible to elucidate by other means. Statewide, these generally unprotected sites are increasingly vulnerable to destruction as a consequence of vandalism, natural processes, and construction. At the same time, the potential for identifying numerous other, unrecorded rock art sites in the state remains quite high.

American Indian rock art, as commonly defined, includes both petroglyphic and pictographic iconography. Petroglyphs are produced by incising, abrading, pecking or otherwise carving designs or figures into non-portable rock surfaces such as rock outcrops, bluff faces, rock shelters, and caves. Pictographic images are produced by applying natural pigments to such surfaces by painting, drawing, or other means. Pictographs and petroglyphs may exist as isolated designs or as large, complex panels, and may co-occur. For purposes of this paper, the definition of rock art is extended to include petroforms, that is, boulder or stone outlines which have been configured directly on the ground surface to resemble a variety of anthropomorphic, zoomorphic or geometric forms; petroforms do not include tipi rings, drive lines, or other such rock alignments. The distribution of each of these types is rather limited to specific areas of the state, with pictographs found almost exclusively in the northeastern part of the state, petroglyphs largely limited to the south, and petroforms recognized only in southwesternmost Minnesota.

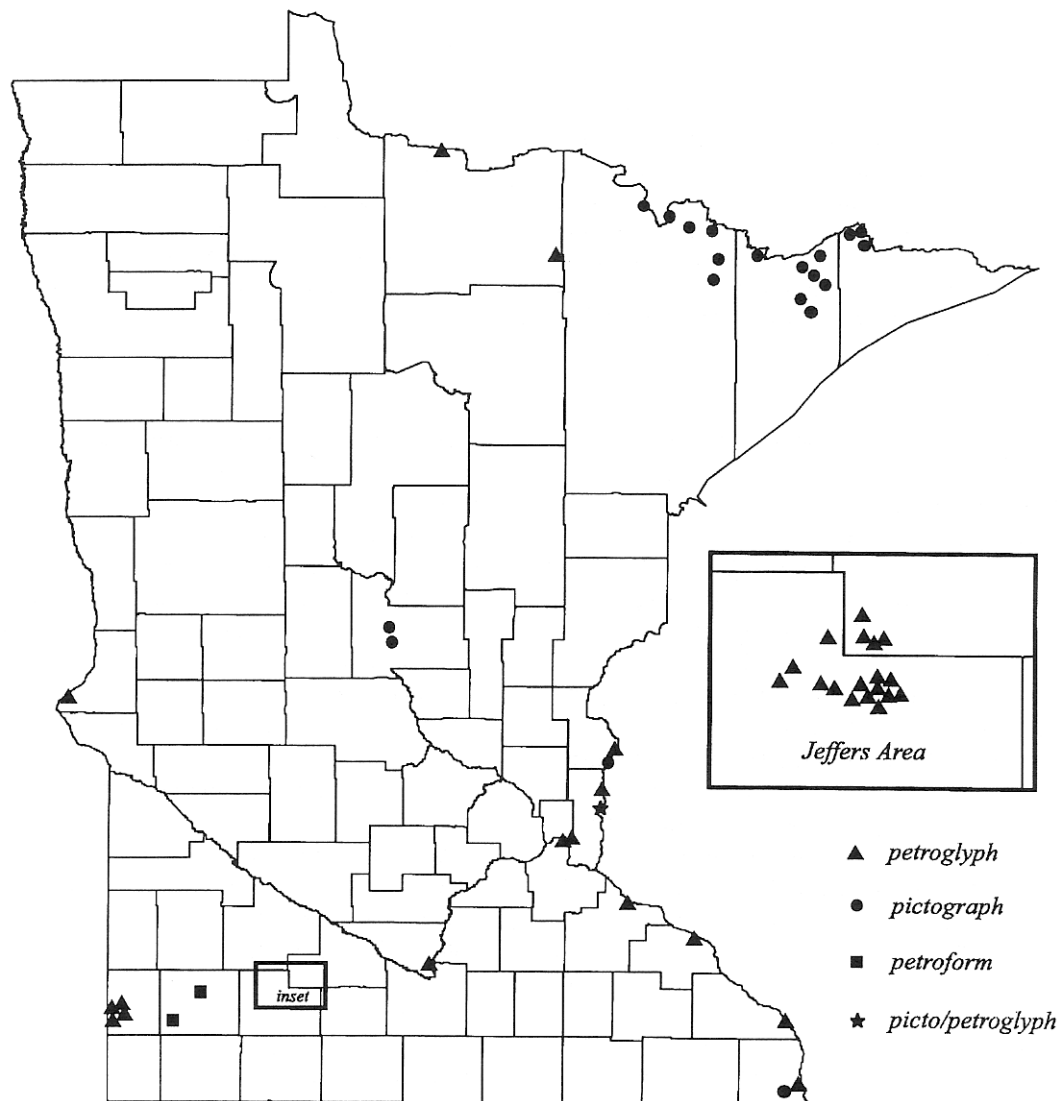
Unfortunately, Minnesota has not benefitted from an intensive survey and inventory of rock art sites, standardized description of identified sites, or, with few exceptions, even cursory stylistic analysis of the figures associated with individual sites. Comparative analysis of designs and figures occurring at different sites is virtually non-existent. The function and meaning of rock art thus remains essentially unknown; speculation as to function and meaning, nonetheless, abounds. What limited analysis does exist suggests that the production of rock art in Minnesota spans the period from (at least) Archaic through Protohistoric times. Petroglyphs at the Jeffers site clearly depict atlatls and tanged projectile points indicative of glyph manufacture as early as the Archaic period, dating this site as one of the oldest rock art sites in Minnesota. It may well be that the appearance of pictographic rock art in Minnesota is a more recent phenomenon than that of petroglyphs. Rajnovich (1994) cites evidence suggesting that the

production of pictographs in neighboring areas of Canada dates as far back as 2000 years B.P. and reports instances of rock painting in the region occurring as late as 1905. Salzer (1987a) has proposed that pictographic rock art in Wisconsin post-dates A.D. 900. Petroforms, the most ephemeral and poorly documented of rock art types, may also be the most recently developed form of rock art, products of Woodland, Protohistoric and Early Historic manufacture (Kehoe 1976; Steinbring 1990). It is not possible at this time to definitively associate Minnesota's rock art with specific, contemporary Indian peoples.

History of Minnesota Rock Art Studies

Although explorers such as Schoolcraft (1966) and Nicollet (Bray 1970) recorded casual observations describing rock art encountered during the course of their travels through the state, the history of rock art studies in Minnesota really begins with the pioneering work of A. J. Hill, T. H. Lewis and N. H. Winchell at the turn of the century (Lewis 1898; Winchell 560-568:1911). Winchell's publication is an especially valuable resource which summarizes much of Lewis' earlier work and includes numerous illustrations depicting the petroglyphs of major rock art sites in southern Minnesota, a number of which have since been destroyed. A 50 year hiatus passed before further substantive attention was paid to Minnesota rock art sites. In the 1960s, Dewdney and Kidd (1962) published a volume describing pictographs in the Great Lakes region, including several sites in the border lakes area of northeastern Minnesota, while Snow (1962) revisited and briefly described a number of previously reported petroglyph sites located in the southern part of the state. At about the same time, the Minnesota Historical Society became custodian of one of the premier rock art sites in North America, the Jeffers Petroglyphs site. The rock art at Jeffers was described in some detail by a number of researchers during the early- and mid-1970s (Lothson 1976; Roefer et al 1973).

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Minnesota Rock Art Distribution, 1997

Figure 1. Distribution of recorded rock art sites as of March, 1997. Not surprisingly, the distribution of the state's petroglyphs and pictographs parallels the distribution of rock outcrops; reported petroforms occur in areas where at-surface, glacially-deposited rocks, cobbles and boulders are present (cf. Table 1).

Interest in identifying, describing and preserving rock art in the state has since waned. In the meantime, rock art studies in neighboring states and provinces has continued to gain momentum. Organizations such as the Ontario Rock Art Conservation Association (ORACA) have made significant contributions to the study of Canadian rock art, while archaeologists working in Wisconsin and South Dakota have produced publications describing recent rock art research in those states (Birmingham and Green 1987; Sundstrom 1993). Of particular note are the on-going investigations at the Gottschall site in southwestern Wisconsin (Salzer 1987b; 1993). In recent years,

federal archaeologists have been actively identifying and documenting rock art sites in the Superior National Forest of northeastern Minnesota.

Minnesota's Rock Art Sites

To date, only 55 prehistoric to protohistoric American Indian rock art sites have been identified in Minnesota. Not surprisingly, the distribution of rock art parallels the distribution of rocky outcrops in the state (Figure 1). A total of 20 of these sites are pictograph sites, concentrated along the border lakes and rivers of



Figure 2. While depictions of individual rock art figures are often presented as in Figure 5 below, the interrelationship of such figures is obscured when they are not recorded and depicted as panels of associated figures among which exist meaningful spatial relationships. Clearly, the various petroglyphs which comprise the above panel collectively document, among other things, a hunting scene or hunt-related magic. Reproduced from *The Jeffers Petroglyphs: A Survey and Analysis of the Carvings*, by Gordon Lothson (1976), Minnesota Historical Society, St. Paul; used with permission.

northeastern Minnesota but also observed along the Mississippi River as well as the lower St. Croix; 32 are petroglyph sites which occur almost exclusively on low-lying rock outcrops in the open prairie setting of southwestern Minnesota and in caves or rock shelters bordering the Mississippi River and its tributaries in the southeast; two are petroform effigies occurring in open-air settings in southwestern Minnesota; and one is a combined pictograph/petroglyph site along the lower St. Croix River (Table 1).

The organization of rock art data in Minnesota has been fragmented, with a number of sites mentioned only anecdotally in correspondence, historic accounts or survey reports. Several of the state's earliest reported sites, since destroyed, have only recently been recorded in the site files of the Office of the State Archaeologist. Some of these sites have been described in great detail, while others are poorly-described and, in some cases, lack

adequate provenience information. In other instances, multiple sites have been reported as a single entity and have been given a single site number.

Reflecting diverse style and content, design elements associated with these sites parallel those observed in neighboring states and provinces, and include a variety of zoomorphic, anthropomorphic, geometric and abstract forms, with human and animal forms almost universally represented. The following provides a brief overview of the locations, settings, content and status of Minnesota's known aboriginal rock art sites.

Southwestern Prairie Sites

Many of the state's rock art sites are located in the prairie environs of southwestern Minnesota. Of these sites, Jeffers Petroglyphs (21CO3; Figure 2) is the most well-known and best-described;

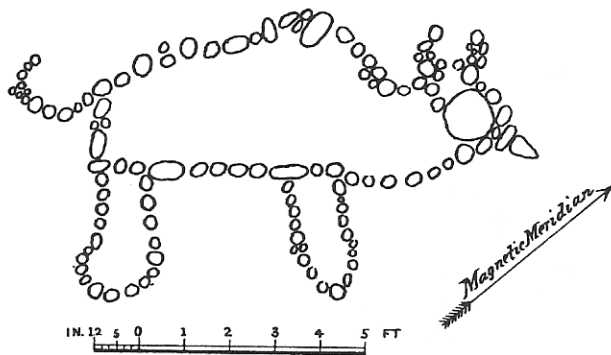


Figure 3. The bison effigy petroform described by Lewis (1890a). Although characterized as a "boulder outline", most of the petroform would have been composed of large rocks or cobbles rather than boulders.

almost 2000 petroglyphs at this unique site have been identified, with many subsequently reproduced in two separate publications (Lothson 1976; Roefer et al. 1973). The site's documented glyphs, grouped in 207 panels, extend for over 330 meters along the crest of a rose-colored Sioux quartzite formation known as the Red Rock Ridge; additional glyphs may lie undiscovered beneath encroaching prairie sod. Design elements at this National Register site include the types noted above as well as an assortment of glyphs representing tanged projectile points, atlatls, spears, and bows and arrows; these and other elements suggest that activity at the site occurred during Archaic, Woodland, and Protohistoric times. Lothson's original notes, photographs and petroglyph rubbings are presently archived at the Fort Snelling History Center, Minnesota Historical Society.

Seventeen other petroglyph sites occurring in the vicinity of Jeffers have been described; the locations and design elements of many of these sites are less-well known. The eighteen petroglyph sites in the Jeffers area comprise the densest concentration of reported rock art sites in Minnesota; the potential for identifying numerous other intact rock art sites in this area of the state is high.

The state's two reported petroforms are found in neighboring Murray County. One of these effigies (21MU6), located along the crest of the area's prominent Buffalo Ridge, is a bison form. Although popularly characterized as the bison effigy (Figure 3) first reported by Lewis (1890a), subsequent research (Dudzik 1995a) has demonstrated that the current petroform is, in fact, of relatively recent construction (ca. 1968). The second petroform, an anthropomorphic effigy located some fifteen miles northeast of the above bison effigy, was described by Hudak (1972); this petroform (21MU25) has been extensively "reconstructed". Nicollet had identified a similar petroform in 1838 (Bray and Bray 1976:70), and this effigy was subsequently described, but not relocated, by Lewis (1890a:272-274). Although Hudak suggested that 21MU25 is the same petroform as the one noted by Nicollet, Bray and Bray (1976:70) observe that Nicollet's notes, including a notation on an accompanying map, indicate that Nicollet's "man of

stone" lies in the vicinity of the above bison effigy. Lewis also cited information suggesting that Nicollet's human petroform was located "somewhere on Buffalo Ridge near the Buffalo" (1890a:274). Like the extant bison effigy, the present-day Stone Man may be of recent construction. Given their extreme susceptibility to destruction secondary to cultivation or other at- or near-surface soil disturbing processes, the identification of additional, previously unidentified petroforms in the state would be rather fortuitous.

Farther west, the Pipestone site (21PP2), a National Monument also listed on the National Register of Historic Places and well-known as the source of catlinite, evidences a variety of both prehistoric and historic petroglyphs. Pipestone's prehistoric petroglyphs, found at several locales separated from one another by up to 1000 meters, comprise three discrete sites. The best known of these glyphs was carved into a quartzite outcrop at the base of the "Three Maidens", several large glacial erratics located south and east of the pipestone quarries. These petroglyphs were broken up and removed from the site by C.H. Bennett in the late 1800s, ostensibly to save them from vandalism (Figure 4); fortunately, some of the glyphs have since been recovered and are currently on display at the monument's interpretive center. Original glass photonegatives of the petroglyphs, taken by Bennett shortly after he removed them, are presently archived at the Pipestone County Historical Society. A second prehistoric rock art site (Derby Petroglyph site) at Pipestone includes bird, turtle, turkey track and footprint glyphs, while a third (Noble Petroglyph site) is comprised of a single, isolated turkey track (Caven Clark, personal communication 1994). Pipestone is also the site of Minnesota's best-known historic petroglyph panel, which includes the inscribed names or initials of Joseph Nicollet and his fellow explorers, who visited the area in 1838. Neither the site number nor the NRHP designation are specific to the petroglyph sites at Pipestone.

To the north, in Traverse County, a series of petroglyphs including birds, crosses, and abstract forms were reportedly inscribed on a large boulder at the Browns Valley site (21TR81); the boulder and these glyphs have long since disappeared.

A single petroglyph from a Minnesota River Valley rock shelter in Nicollet County (21NL15) in south-central Minnesota was described by Winchell (1911:562) as "incomprehensible" in form; this glyph was one of several which Lewis had previously described as "bird tracks".

Southeastern Riverine Sites

Minnesota's southeastern rock art sites were generally carved into or painted on the relatively soft, fragile sandstone formations which border the Mississippi and St. Croix Rivers and their tributaries. LaMoille Cave (21WN55) and Reno Cave (21HU22), located in southeasternmost Minnesota, are two such sites. In 1889, Lewis made 43 tracings of the glyphs which covered the walls and roof of LaMoille Cave (Figure 5); he observed that there were "more (petroglyphs) in this cave than have been found at any

TABLE 1. MINNESOTA ROCK ART SITES - 1997

SITE #	SITE NAME	TYPE	----- SELECTED DESIGN ELEMENTS* -----			STATUS ^b	PERIOD ^c	REGION ^d
			Zoomorphic	Anthropomorphic	Geometric			
21BW0080	Wellner-Hageman I	petroglyph	-	•	•	extant	A	SP
21BW0083	Wellner-Hageman II	petroglyph	•	•	-	extant	W	SP
21BW0084	Wellner-Hageman III	petroglyph	•	-	-	extant	?	SP
21BW0085	Wellner-Hageman IV	petroglyph	-	-	•	extant	A	SP
21CH0054	Curtain Falls	petroglyph	-	-	•	extant	H	ER
21CH0058	Iverson	pictograph	•	•	•	extant	?	ER
21CK0019	Seagull Lake	pictograph	----- indistinct -----			extant	?	BL
21CK0033	Red Rock Lake	pictograph	•	-	-	extant	?	BL
21CK0034	Granite River	pictograph	----- indistinct -----			extant	?	BL
21CO0003*	Jeffers	petroglyph	•	•	•	extant	A/W/Pr	SP
21CO0021	Jeffers East No. 1	petroglyph	•	•	•	extant	A	SP
21CO0022	Jeffers East No. 2	petroglyph	•	•	-	extant	?	SP
21CO0023	Jeffers East No. 3	petroglyph	•	•	-	extant	W	SP
21CO0024	Jeffers East No. 4	petroglyph	•	•	-	extant	A	SP
21CO0025	Jeffers East No. 5	petroglyph	•	•	-	extant	?	SP
21CO0026	Jeffers West No. 6	petroglyph	---- no information available ----			extant	?	SP
21CO0027	Jeffers West No. 7	petroglyph	•	•	-	extant	?	SP
21CO0028	Jeffers West No. 8	petroglyph	•	•	-	extant	A	SP
21CO0029	Jeffers West No. 9	petroglyph	•	•	-	extant	?	SP
21CO0030	Jeffers West No. 10	petroglyph	-	•	•	extant	?	SP
21CO0031	Jeffers West No. 11	petroglyph	---- no information available ----			extant	?	SP
21CO0037	Southwick I	petroglyph	•	•	•	extant	?	SP
21CO0038	Southwick II	petroglyph	•	•	•	extant	?	SP
21GD0187	Spring Creek	petroglyph	•	•	•	extant	?	ER
21HU0022	Reno Cave	petroglyph	•	•	•	destroyed	?	ER
21HU0162	Konkle Cave	pictograph	----- indistinct -----			extant	?	ER
21KC0008*	Nett Lake	petroglyph	•	•	•	extant	A/W	BL
21KC0032	Manitou	petroglyph	•	-	•	extant	?	BL
21LA0008	Crooked Lake	pictograph	•	•	•	extant	?	BL
21LA0024	Fishdance Lake	pictograph	•	•	•	extant	?	BL
21LA0036	Hidden Rock	pictograph	----- indistinct -----			extant	?	BL
21LA0037	Island River	pictograph	-	•	•	extant	?	BL
21LA0038	Jordan Lake	pictograph	•	•	-	extant	?	BL
21LA0039	Kekekabic Lake	pictograph	-	•	-	extant	?	BL
21LA0040	Lake Polly	pictograph	-	-	•	extant	?	BL
21MO0102	LFR-23	pictograph	-	-	•	destroyed	?	CR

TABLE 1 (continued). MINNESOTA ROCK ART SITES - 1997

SITE #	SITE NAME	TYPE	----- SELECTED DESIGN ELEMENTS* -----			STATUS ^b	PERIOD ^c	REGION ^d
			Zoomorphic	Anthropomorphic	Geometric			
21MO0103	LFR-24	pictograph	---- no information available ----			destroyed	?	CR
21MU0006	Bison Effigy	petroform	•	-	-	extant ^f	?	SP
21MU0025	Stone Man	petroform	-	•	-	extant ^f	?	SP
21NL0115	Oshawa	petroglyph	•	-	-	extant	?	SP
21PP0002*	Pipestone (3 Maidens)	petroglyph	•	•	•	relocated	?	SP
21PP0002*	Pipestone (Nicollet)	petroglyph	----- historic script -----			extant	H	SP
21PP0002*	Pipestone (Derby)	petroglyph	•	•	•	extant	?	SP
21PP0002*	Pipestone (Noble)	petroglyph	•	-	-	extant	?	SP
21RA0027	Carver's Cave	petroglyph	•	•	-	destroyed	?	ER
21RA0028	Dayton's Bluff Cave	petroglyph	•	•	•	destroyed	?	ER
21SL0013	Beatty Portage	pictograph	•	•	-	extant	?	BL
21SL0413	Hegman Lake	pictograph	•	•	•	extant	?	BL
21SL0414	King Wms. Narrows	pictograph	-	•	-	extant	?	BL
21SL0415	Burntside Lake	pictograph	•	•	-	extant	W	BL
21SL0416	Crooked Lake #1	pictograph	-	-	•	extant	?	BL
21SL0417	Rocky Lake	pictograph	-	-	•	extant	?	BL
21TR0081	Browns Valley	petroglyph	•	•	•	destroyed	?	SP
21WA0043	Rivard	petroglyph	•	-	•	extant	?	ER
21WA0090	Stillwater	picto/petro	•	•	•	destroyed	?	ER
21WB0061	Fisk-Wabasha	petroglyph	-	-	•	extant	?	ER
21WN0055	LaMoille Cave	petroglyph	•	•	•	destroyed	?	ER

* design elements generally characterized as abstract in form are included under the "Geometric" heading in the above table; "Anthropomorphic" forms include full figures, footprints, handprints, etc.

^b many of the sites described as "extant", are, in effect, sites which have not been reported as destroyed

^c A = Archaic, W = Woodland, M = Mississippian, ? = indeterminate Prehistoric, Pr = Protohistoric, H = Historic EuroAmerican; per related reference or (for Archaic and Woodland) presence of specific elements (e.g., atlatl or bow & arrow)

^d "Region" designations indicate area of state and dominant physiographic characteristic of area in which rock art occurs; BL = Northeastern Border Lakes area, ER = Southeastern Riverine area, CR = Central Riverine area, SP = Southwestern Prairie area

* site listed on the National Register of Historic Places; site number and NRHP listing for Pipestone not specific for petroglyph components

^f petroform reconstructed; aboriginal construction dubious or disproved (see text)

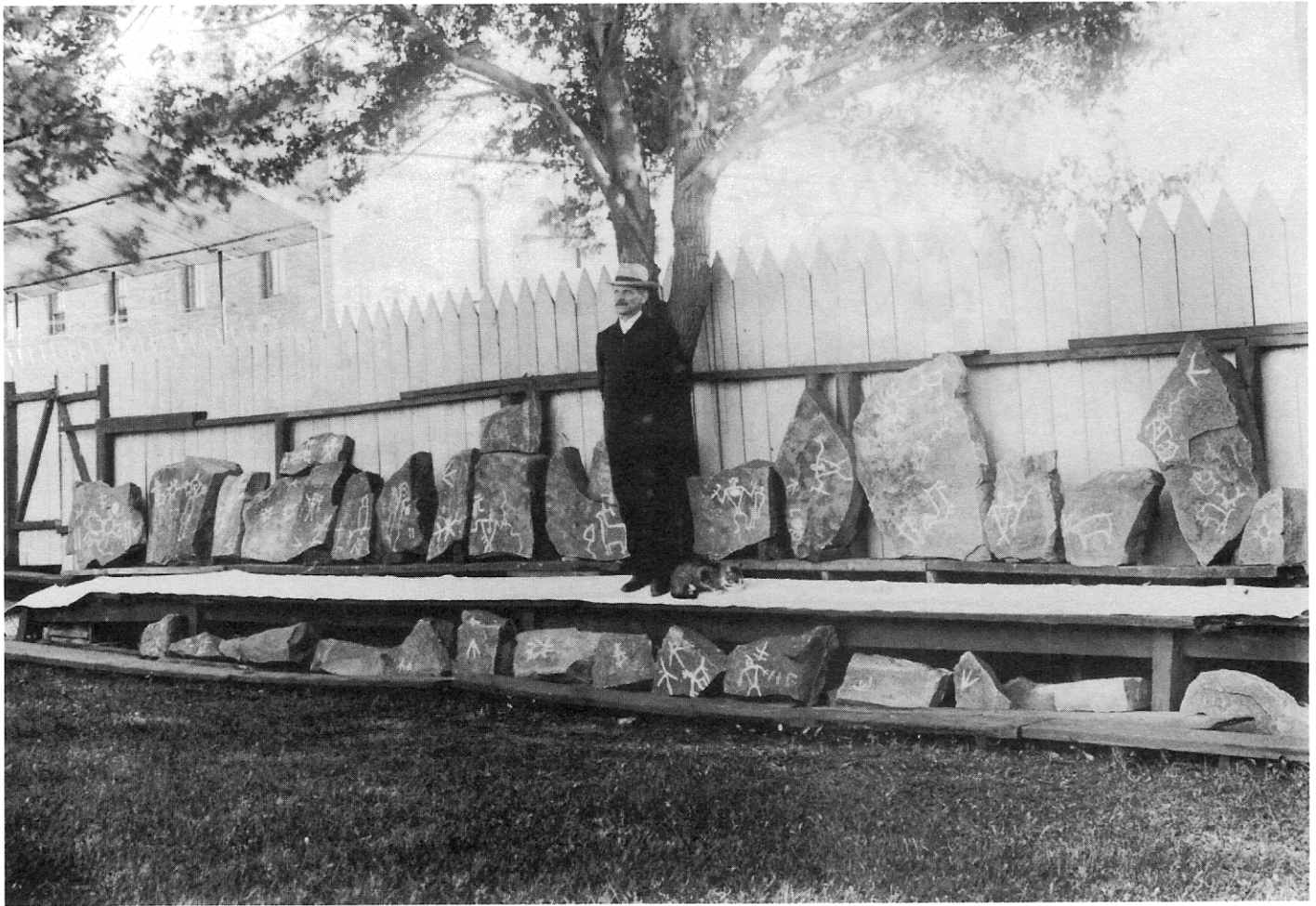


Figure 4. C.H. Bennett proudly displaying petroglyphs from the "Three Maidens" area of Pipestone. An early example of historic preservation (!), Bennett ostensibly removed the glyphs from the site to save them from vandalism, thus destroying both the spatial interrelationships of the glyphs and the integrity of the site. Note also the use of chalk to highlight the petroglyphs, a practice disdained by contemporary rock art researchers; in deference to the sensibilities of the time, obviously erect penises recorded by Lewis were deleted from several of the anthropomorphic glyphs (cf. Winchell 1911:Plate VIII). From the collections of the Minnesota Historical Society, St. Paul; used with permission.

other point in the Mississippi valley" (1890b:120). Although anecdotal reports have suggested that the cave (if not the petroglyphs themselves) remains intact, recent investigations have documented that the cave ceiling has collapsed within the past three years (Robert Boszhardt, personal communication 1996). Reno Cave, also visited by Lewis in 1889, evidenced several distinctive petroglyphs including two human faces (Figure 5). The petroglyphs at the Reno Cave site have been destroyed, largely due to vandalism. In two adjacent sandstone crevices located 100 miles to the northwest of Reno Cave, recent cultural resource investigations (Dobbs 1990) relocated a petroglyph site (Spring Creek site, 21GD187; Figure 6) first reported by Lewis (1885), who noted the presence of snake, bird, human, and other forms. Although evidencing some vandalism, including an historic-era (ca. mid-1980s) glyph which mimics prehistoric style, many of these petroglyphs (including apparent vulva-forms) are still intact

(Dudzik 1995b). This site is presently under consideration for listing on the National Register of Historic Places. Konkle Cave (21HU162) in Houston County evidences the state's southernmost reported pictographs; unfortunately, they are rather indistinct. The potential for identifying numerous other intact rock art sites in this area of the state is high. Lowe (personal communication 1996; cf. Lowe 1987, 1993) has recently recorded 80 rock art sites associated with similar sandstone formations in south-central Wisconsin, while archaeologists from the Mississippi Valley Archaeology Center in neighboring La Crosse, Wisconsin, have successfully conducted intensive surveys to identify rock art sites occurring on sandstone outcrops directly across river (Boszhardt 1995, 1996; Stiles-Hanson 1987).

Farther up the Mississippi, petroglyphs have been found in sandstone formations at Dayton's Bluff in St. Paul and at a number of sites along the lower St. Croix River. The Dayton's Bluff

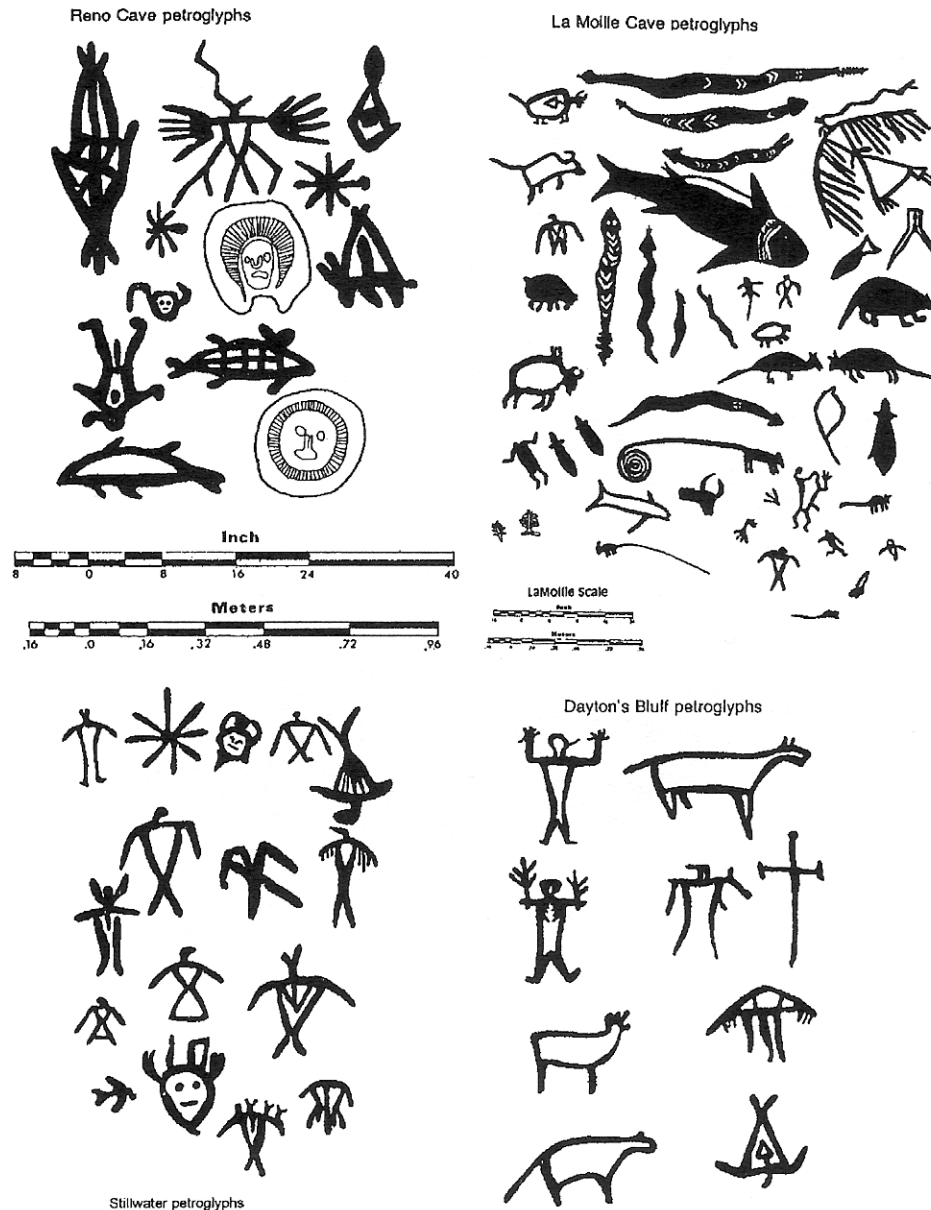


Figure 5. Petroglyphs of southeastern Minnesota including Reno Cave, LaMoille, Stillwater (erroneously labelled "Harvey Rock Shelter" petroglyphs elsewhere), and Dayton's Bluff sites. Although useful for illustrative purposes and for inter-site comparison of styles and figures, depiction of glyphs in the above manner obscures relationships evident when glyphs are depicted as a panel of spatially-related images. Adapted from *The Jeffers Petroglyphs: A Cultural Ecological Study*, by Florence Roefer, Meredith English and Gordon Lothson (1973), Minnesota Historical Society, St. Paul; used with permission.

petroglyphs (21RA28; Figure 5), since destroyed, were initially described by Lewis (1890b). Two of the four reported St. Croix area sites, the Stillwater site (21WA90, Figure 5; often erroneously referred to as the Harvey Rock Shelter site [21WA22], which lies approximately one-quarter mile upriver), and the Iverson site (21CH58) evidence pictographs. The Stillwater site is the only rock art site in the state where

pictographs and petroglyphs are reported to have co-occurred; unfortunately, descriptions of the pictographs are unavailable (Harvey 1944; Winchell 1911). The Iverson site pictographs, occurring on a basalt exposure, include an *en face* bison head suspended above two handprints (a shaman-image?), crosses, circles, and an eclipse-like form (Figure 7). Two other St. Croix area petroglyph sites include the Rivard site (21WA43) and the

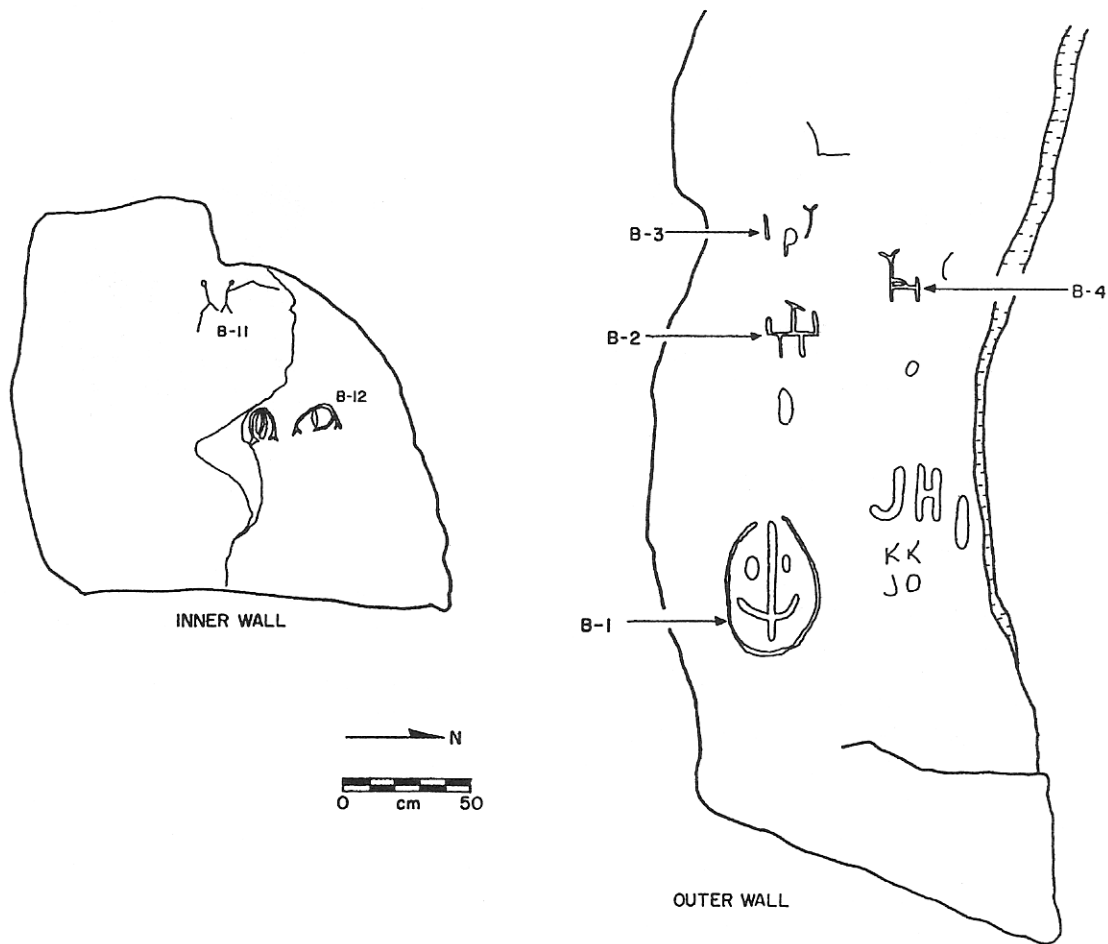


Figure 6. Two petroglyph panels from the Spring Creek site (21GD187). Note also recent graffiti including B-1, an historic-era (ca. mid-1980s) glyph which somewhat mimics prehistoric style. This site is presently under consideration for listing on the National Register of Historic Places. Adapted from Dobbs (1990).

Curtain Falls site (21CH54). While the petroglyphs associated with the Rivard site are especially noteworthy for their distinctive elements and element size, figures at the site may include non-aboriginal, historic-era glyphs which mimic prehistoric style (Rodney Harvey, personal communication 1995; cf. Harvey 1944:128). Based on an assessment of style, content, and location on the rock surface, the Curtain Falls figures clearly represent historic graffiti rather than prehistoric glyphs.

Central Riverine Sites

Early historic accounts by Schoolcraft in 1821 and Nicollet in 1843 reference several pictograph sites on diorite outcrops along the banks of the Mississippi River in the Little Falls area of central Minnesota (Bray 1970:51; Schoolcraft 1966:276). Nicollet sketched the figures at one of these sites. The locations of two of

these sites, LFR-23 (21MO102) and LFR-24 (21MO103), have recently been revisited (Birk 1991); unfortunately, contemporary evidence of these pictographs is no longer apparent.

Northeastern Border Lakes Sites

Like the southeastern and southwestern parts of the state, the potential for identifying numerous other, as yet unidentified, rock art sites in this region is high. Area rock art sites are typically located on Precambrian bedrock formations outcropping along the region's numerous lakes and rivers. With two exceptions, both found along the western margins of the Border Lakes area, all of these sites are pictographic. The Nett Lake site (21KC8; also referred to as the Spirit Island site) is located in Koochiching County. Although over 100 petroglyphs from this National Register-listed site were sketched by Dewdney in the late 1950s,

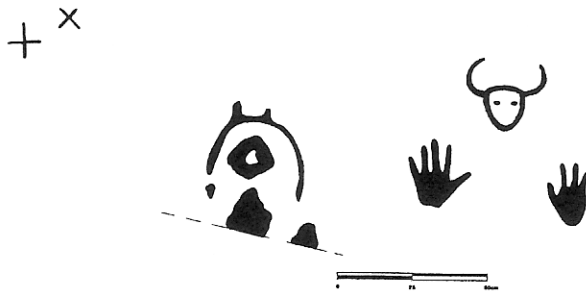


Figure 7. Panel "A" of the Iverson site pictographs (21CH58), depicting, among other things, an apparent shaman-form; hachured line indicates area of evident rock calving. The color of these figures is an ochre red.

he described them only in passing (Dewdney and Kidd 1962:38; Dewdney's renderings of the Nett Lake glyphs are archived by the Royal Ontario Museum, Toronto).

Glyphs at the site include a variety of abstract, zoomorphic, and anthropomorphic forms, including one described as a "birth scene" (Steinbring 1990:182). Access to the site is controlled by members of the Nett Lake Reservation. Petroglyphs at the Manitou site (21KC32), located along the Koochiching County/Canadian border, were first recorded by Minnesota Historical Society archaeologists in 1988 and include zoomorphic and abstract forms. These two sites are the northernmost reported petroglyph sites in the state.

All other recorded Border Lakes rock art sites lie within the boundaries of the Superior National Forest (SNF) and all are pictographic. Pictographs from the well-known Hegman Lake site (21SL413) include an anthropomorphic figure, figures in canoes, a canid (wolf?), and a moose (Figure 8); Dewdney (1962:36) characterized these pictographs as the "most photogenic" of all that he recorded. Figures at the Fishdance Lake site (21LA24) include a bear form, a two-man canoe, and abstract forms. The Crooked Lake site (21LA8) is notable for several distinctive images, including a horned anthropomorphic figure, a "shaman in a sweat lodge" form, canoes, birds (heron, pelican), a pipe-smoking(?) moose, and one figure described as a "sturgeon in a net" (Dewdney and Kidd 1962:30). A number of SNF pictograph sites have recently been identified by forest archaeologists. One of these, the Island River site (21LA37), includes the state's only reported depiction of the manitou known as *Mishipizheu* (Gordon Peters, personal communication 1996). The figures at this site are also distinguished by the dark brown pigments used to create them; all other recorded pictographs in the state are red ochre-colored. Site records and photodocumentation of related figures are archived by the Forest Archaeologist, Superior National Forest.

Research Considerations

Although the function and meaning of rock art is unclear, it seems



Figure 8. The central panel of ochre-red pictographs at the Hegman Lake site (21SL413); scale unavailable. Moose, anthropomorphs and canoes are recurrent images in the rock art of northeastern Minnesota and adjacent areas of Canada. The Office of the State Archaeologist logo is based on this moose figure.

apparent that it was produced for a variety of reasons and served a variety of purposes. It is evident that some rock art sites were revisited recurrently through time, with new figures being added to certain sites intermittently over thousands of years. As the sites were revisited, it is likely that older images acquired new meanings both in and of themselves as well as in the context of the more recent additions. Further, it seems reasonable to suggest that an aspect of the meaning of individual sites or images may have been left somewhat undefined, unknown and, perhaps, unknowable, intended to leave one searching for answers, wondering. Like beauty, a specific glyph's full meaning might lie solely in the eyes of the beholder, changing through time, a dynamic meaning rather than a static one. Hence, it may be impracticable to search for an absolute meaning associated with individual figures, groups of figures, or specific sites. In this context, it is especially noteworthy that National Park Service archaeologists working in Minnesota have recently identified an isolated "turkey track" petroglyph on NPS-administered land: a tobacco offering tied in a piece of cloth lay next to the glyph (Caven Clark, personal communication 1994).

A number of site functions do seem plausible, and it is within the context of such functions that one must search for meaning, remembering that, like meaning, site function may also have changed through time. Site functions might reflect, but are not limited to, the following uses and practices:

- territory or "presence" markers
- archaeoastronomical devices or records
- clan symbols

- vision quest
- hunting magic
- documentation of important events or origin myths
- mnemonic device for retelling events and myths
- aesthetic
- graffiti
- ground stone tool production (abraded grooves, often characterized as "tool grooves")

(It is evident from the above that characterization of the phenomena known as petroglyphs, pictographs and petroforms as "rock art" is something of a misnomer; indeed, in many quarters this appellation has been discarded in favor of terms such as "rock graphics", "rock painting", etc.).

Salzer's (1987b; 1993) work at the Gottschall Rockshelter, combining archaeology, ethnography, and ethnohistoric accounts, is an especially fruitful effort which suggests a connection between prehistoric Oneota culture, Winnebago peoples, and the pictographic iconography at Gottschall. Employing a process of "cognitive archaeology", Rajnovich's (1994) study of the pictographs of the Canadian Shield, admittedly inferential, draws upon the imagery of *Midewiwin* birch bark scrolls, interviews with Indian peoples and other sources to develop plausible interpretations of Shield rock art.

A variety of research topics may be addressed through the study of rock art sites. Some issues which might be pursued include:

- identification of the specific technologic processes and tools used to produce rock art
- dating rock art by absolute and relative means, and developing chronologies at sites evidencing a succession of new figures
- analysis to identify function, meaning and the development of styles
- reconstruction of origin and migration myths
- identification of aspects of material culture
- reconstruction of subsistence practices and related technologies
- determining the relationship of prehistoric, protohistoric, and contemporary Indian peoples as evidenced in rock art

It is essential to realize that a rock art site may include at-, near- or sub-surface artifacts associated directly with the production of glyphs as well as habitation-type, site-related artifacts. Further, it is imperative that researchers define a site's environmental and landscape contexts in order to develop both a coherent, comprehensive site interpretation and an appropriate, site-specific management plan.

Condition of the Resource and Related Considerations

Minnesota's aboriginal rock art appears to have been produced from Archaic through Protohistoric times and was probably produced in Paleoindian times as well. The iconography of rock

art has a unique potential to yield insights into the character and evolution of prehistoric and protohistoric American Indian ideation, subsistence practices, technology, aesthetics, and other cultural elements which are difficult or impossible to elucidate by other means. Rock art sites are, perhaps, the most fragile, uncommon and poorly documented of our cultural resources. Statewide, these generally unprotected sites are increasingly vulnerable to destruction as a consequence of vandalism, natural processes and construction. This is especially true in the more highly urbanized southeastern section of the state which, coincidentally, has the most fragile rock art: virtually all major reported petroglyph sites in this area of the state have been destroyed. At the same time, the potential for identifying numerous other, unrecorded rock art sites throughout Minnesota remains quite high.

Rock art sites possessing sufficient integrity will generally be eligible for listing on the National Register of Historic Places under National Register Criterion D, since they have the potential to yield information important in the prehistory or history of the state. In addition, evidence which indicates that rock art sites are currently being utilized, on however limited a basis, suggests that, in isolated instances, certain sites may additionally qualify as traditional cultural properties and be eligible for NRHP listing under National Register Criteria A, B or C (cf. Dudzik 1995c).

Conservation initiatives for these sites ultimately include identification, documentation, analysis, preservation, and interpretation components. With few exceptions, current efforts must stress *identification*, via intensive survey of potentially high-yield outcrop areas, and *documentation*, emphasizing the use of non-destructive photographic and tracing methods, assessment of the art's current condition and threats to its stability or preservation, and status updates of previously reported sites. The use of more aggressive recording techniques cannot be summarily discarded: the application of surface-modifying or potentially destructive recording techniques must be weighed against the potential for losing the site altogether due to natural causes or acts of vandalism. The notion that exposed, unprotected rock art surfaces can be maintained indefinitely in a "pristine" condition is ill-considered. Acceptable methods of site documentation, including the use of destructive techniques, should be determined on a case-by-case basis (cf. Wainwright 1990, for a brief review and assessment of non-destructive recording techniques). Recent attacks on rock art sites in neighboring states, in some instances by vandals equipped with concrete saws, underscore the need to act now. Failure to undertake these efforts will inevitably result in the continued, undocumented destruction of these uniquely intriguing sites.

Acknowledgements. This article is adapted from a document previously developed for the Minnesota State Historic Preservation Office. A note of thanks is extended to the following individuals who assisted in obtaining background information on many of the sites discussed above: Scott Anfinson, Minnesota State Historic Preservation Office; Caven Clark, Midwest Archaeological Center, National Park Service; and Gordon Peters, Superior National Forest. Any errors of omission or

commission are solely the author's.

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