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The Souris River Study Unit

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2008

This Study Unit is located in north-central North Dakota. Saskatchewan and Manitoba border it to the north. The Sheyenne River and Northern Red River study units border it to the east, and the Garrison and Southern Missouri River study units border it to the south.

Description of the Souris River Study Unit

Included are all or parts of the following counties: Benson, Bottineau, Burke, Divide, McHenry, McLean, Mountrail, Pierce, Renville, Rolette, Sheridan, and Ward. It encompasses 9,118 mi² of the state. Figures 11.1 and 11.1A illustrate the Study Unit and Table 11.1 provides a complete list of townships within it.

The Turtle Mountain Indian Reservation, located in Rolette County, North Dakota, is 6-x-12-mi. The Turtle Mountain Band of Chippewa assumed State Historic Preservation Officer functions on the Turtle Mountain Reservation effective in 2000. The functions assumed by the tribe includes:

- Conduct a survey and maintain an inventory of historic properties
- Review Federal undertakings pursuant to Section 106
- Carry out comprehensive historic preservation planning
- Conduct educational activities
- Advise and assist Federal and State agencies and local governments

Since 2000, any projects on the Turtle Mountain Reservation have been directed to:

Tribal Historic Preservation Officer
Turtle Mountain Chippewa Tribe
PO Box 900
Belcourt, ND 58316

Information in the Souris River Study Unit provides information currently housed at the SHSND up to 2000. The SHSND, however has not received site forms or cultural resource reports that are conducted on the Turtle Mountain Reservation since the National Park Service approved Turtle Mountain as the Tribal Historic Preservation Office. Thus, any information from 2000 to the present pertaining to the Turtle Mountain Reservation is not included in this chapter.

Figure 11.1: Map of the Souris River Study Unit.

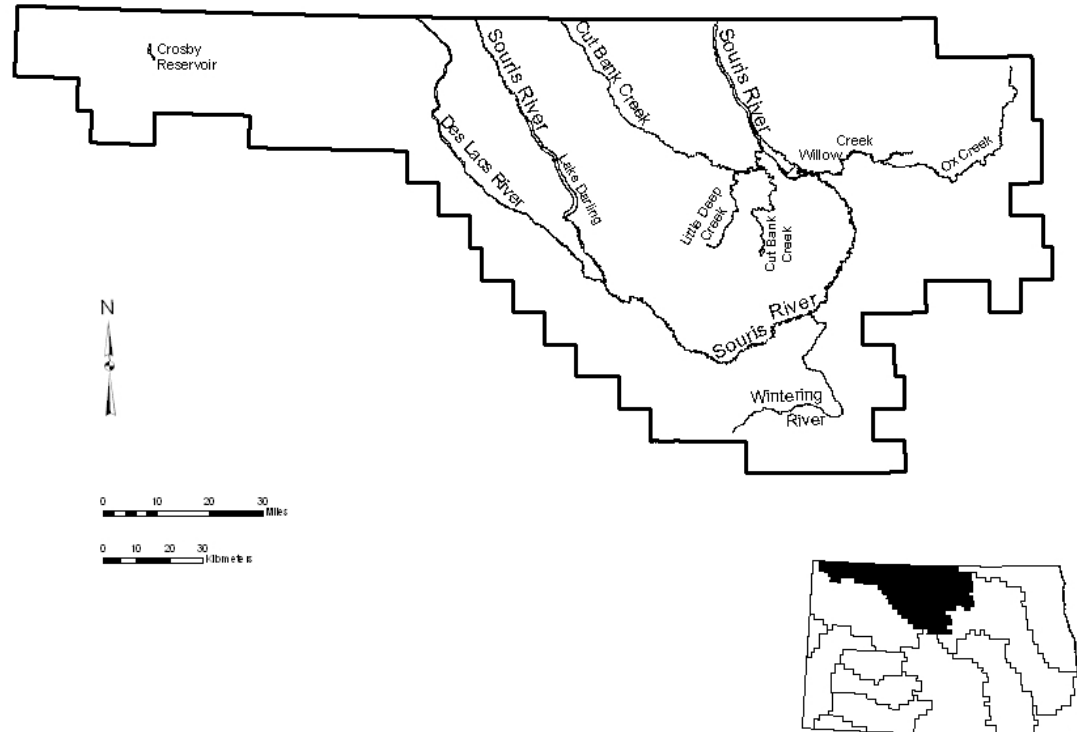


Figure 11.1A: Shaded relief map of the Souris River Study Unit.

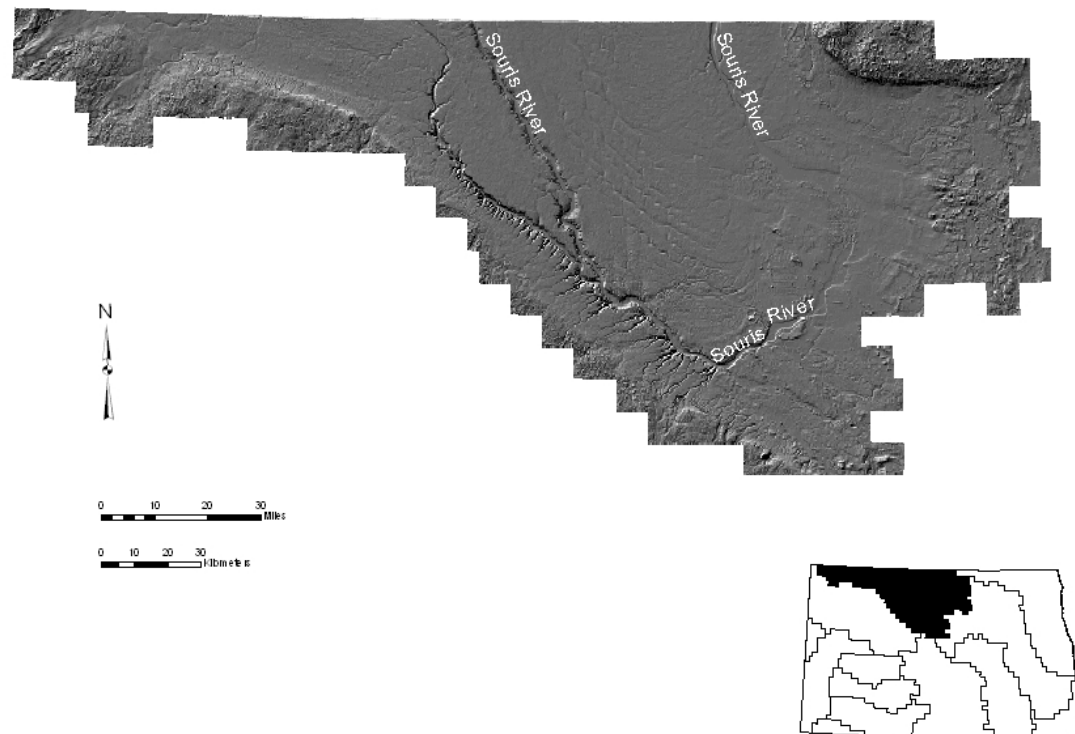


Table 11.1: Townships in the Souris River Study Unit.

TOWNSHIP	RANGE
150	75
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151	81
151	82
152	75
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TOWNSHIP	RANGE
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156	70
156	71
156	72
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TOWNSHIP	RANGE
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TOWNSHIP	RANGE
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TOWNSHIP	RANGE
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TOWNSHIP	RANGE
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Physiography

Portions of two physiographic provinces, the Central Lowlands and the Great Plains, cut across the Study Unit. The Central Lowlands are represented by the Drift Prairie district throughout much of Renville and Ward counties. The Drift Prairie is essentially a ground moraine exhibiting generally low relief with numerous potholes (Pettyjohn and Hutchinson 1971). When rainfall was adequate in the past, the pothole country attracted game which in turn attracted people who lived by hunting and gathering. Prehistoric sites abound around pothole lakes throughout the prairie pothole country of North Dakota, Minnesota, and Iowa.

The Missouri Coteau district represents the Great Plains province in the southern and western half of the Study Unit. The Coteau rises in elevation above the Central Lowlands. This land is hilly, having been formed by stagnation moraines, end moraines, and ground moraines during glacial times (Pettyjohn and Hutchinson 1971:4). Knob-and-kettle glaciated terrain is prevalent, and like the Drift Prairie, there are numerous sloughs and depressions (Freers 1973) that attracted prehistoric settlement when they held water.

Four other prominent topographic features attracted prehistoric settlement. The Des Lacs and Souris River valleys cut through Central Lowlands terrain. These glacial meltwater channels are incised into the glacial till plain. The Missouri Escarpment parallels the Missouri Coteau running along its northeastern boundary through the Study Unit. Prehistoric campsites abound along the upper edge of the Escarpment perhaps because of the overlook characteristics of that setting. The Turtle Mountains uplift at the eastern edge of the basin is another prominent topographic feature. But it represents more than mere topographic variation. It represents ecological diversity that was important in presenting resource diversity which was of considerable value to prehistoric peoples.

Drainage

Overall drainage in the northwestern part of the state is dictated by the location of the Missouri Coteau, a subcontinental divide. Streams located to the southwest of the Coteau flow into the Mississippi River system to the Gulf of Mexico while those to the northeast drain to Hudson Bay. The Missouri Coteau itself is essentially a closed system with internal drainage. Rainfall, snowmelt, and groundwater collect in numerous potholes and sloughs. All lands within the Study Unit either are along the perimeter of the Coteau and undrained or lie within the Hudson Bay drainage.

The Des Lacs and Souris (Mouse) rivers originate in Canada. The Souris forms a loop into North Dakota (the Souris Loop) which eventually flows back northward. The Souris headwaters are located near Weyburn, Saskatchewan. After flowing approximately 338 km through North Dakota, the Souris reenters Canada and empties into the Assiniboine River near Treesbank, Manitoba. The Des Lacs River originates near the North Dakota-Saskatchewan border and flows southeastward entering the Souris in north-central Ward County. Both of these are major permanent rivers with

deep, broad, well established valleys that were originally cut by torrents of glacial meltwater. The Des Lacs and Souris in North Dakota are fed by numerous tributaries including the Wintering River, Seven Mile Coulee, Little Deep Creek, Oak Creek, Willow Creek, Stone Creek, Cut-Bank Creek, Spring Coulee Creek, Boundary Creek, and West Cut-Bank Creek.

Souris is a French word for mouse. No original native Indian name has been documented for the river (Russell 1989:37). One of the upstream tributaries in Saskatchewan, Broken Shell Creek, was named by Native Americans after an event involving the breakage of a shell spoon (ibid.:48,56). The upstream portion of the Souris was a cultural headwaters area which was not explored and historically documented until 1881 (ibid.:40).

Climate

Today's climate is a northern continental type climate characterized by extreme fluctuations in temperature, and sporadic and erratic precipitation. Summary information for the Study Unit is provided by the COE (1978), Jensen (1972), and North Dakota State Planning Board (1939c). Temperatures can vary from as high as 114° F in the summertime to as low as -54° F during the winter. The mean average temperature is 39° F (COE 1978:19). The mean annual precipitation is about 15 inches; approximately 75% of this falls in the summer. Winds are typically persistent. During the winter, winds are predominantly northwesterly while during the summer the prevailing breezes are from the south. While it would make sense from today's perspective for hunter-gatherers to have moved into this area for the warm seasons and migrate to the south for winters, prehistoric residents probably lived in the area on a year-round basis. People aimed to dry and store enough food to last the winter, then settled in family-size groups in sheltered valley bottom settings close to water and wood for the winter.

A model of climatic conditions for the past 13,000 years has been constructed using information gathered from various parts of North Dakota plus other regions of the Northern Plains. During this period, a series of climatic episodes are hypothesized to have affected the Study Unit. Changes in vegetation and animal life are believed to have coincided with the climatic shifts (cf. Boettger 1986; Clayton et al. 1976). Biotic changes certainly affected human land use practices, especially when only primitive technologies were available to cope.

The early Holocene Boreal climatic episode in the Study Unit was characterized by the warming trend that caused glacial recession. Following the retreat of the Late Wisconsin Souris Lobe at ca. 11,300 BP (Clayton and Moran 1982), a massive "spillway" carrying torrents of meltwater from glacial Lake Arcola and glacial Lake Regina to the north likely drained through the Souris valley southeastward into the James and Sheyenne drainages (Christianson 1979; Kehew and Lord 1986, 1987; Lord 1984; Lord and Kehew 1987). When land surfaces were exposed during the Boreal Episode of ca. 9000-6000 BC, a series of vegetative changes were initiated which culminated in the mixed grass prairie of early historic times. The Des Lacs-Souris basin was forested during the late Glacial and early Boreal climatic episodes, first by spruce forest then suc-

ceeded by deciduous forest. The transition likely occurred after 8640 BP given the occurrence of dated spruce wood remains in deep core samples from the Souris valley (Boettger 1986).

During the period between 6000 and 3000 BC, there is posited to have been a decrease in precipitation and increase in temperature as the regional airflow was dominated by mild, dry, Pacific air masses (Bartlein et al. 1984). Grasslands, better adapted to the warmer, drier climate, succeeded stands of woodlands. As a result of these mid-Holocene climatic conditions of the Atlantic episode, vegetative cover in the Des Lacs-Souris basin diminished and land became susceptible to erosion. This period of climatic and landform instability is also referred to as the Altithermal (Boettger 1986; Clayton et al. 1976).

For the past 5,000 years, climatic conditions fluctuated between moist and dry several times. During at least two major episodes, the Sub-Atlantic and the Neo-Atlantic, moister conditions prevailed enabling buildups of the regional biomass. These changes surely influenced human settlement in the basin. Whenever plant and animal resources abounded, it is likely that there were people around to exploit them.

Landforms and Soils

Landforms in the Des Lacs-Souris basin include (1) upland till plain, (2) valley wall side slopes, (3) valley wall foot slopes, (4) alluvial fans, (5) river terraces, and (6) river floodplains (cf. Howey et al. 1974; Thiele et al. 1977; Whitehurst et al. 1989). On each of these landforms, different kinds of soils formed under the influence of a variety of pedogenic factors. Different soils support different floral communities which in turn are used by different sorts of animals. Resource diversity was greatest where landform variation was greatest: along the alluvial valleys.

Floodplains

A floodplain is that portion of a river valley subject to annual flooding by overbank flow of the river and its tributary streams. In the Study Unit, floodplain surfaces are broadest along the Des Lacs and Souris. Flooding during spring melt only became a concern in the 20th century when people began to build permanent settlements on the floodplain. This new and ill-advised pattern of permanent modern settlement led to a need for flood control measures such as the construction of levees and other diversions, especially along the Souris River.

The Souris River floodplain is a linear depositional environment (cf. Butzer 1976) characterized by the meandering course and numerous old channel scars, oxbow lakes, and developing point bars. The floodplain of the Souris consists of alluvial sediments that have built up to thicknesses of 25-287 ft (7.5-87 m) during the past 10,000 years since the retreat of the Pleistocene glaciers (Boettger 1986:20-21).

Terraces

Terraces are former stream beds or former floodplains that now lie at elevations above the present floodplain. In the upper Souris valley, McFaul (Whitehurst et al. 1989:157-180) identified the remains of two glaciofluvial terrace remnants of Pleistocene age. The older upper one of these terraces (PT2) has soils developed from glacial outwash deposits (Thiele et al. 1977; Whitehurst et al. 1989). These include Renshaw, Sioux, Embden and Swenoda (ibid.). The lower more recent one (PT1) lies 7.5 m (25 ft) below the PT2. Soils on the PT1 are of the Svea, Swenoda, and Sioux Series (ibid.). It is posited that patches of these terraces may be found here and there throughout the Souris Loop.

Three Holocene age terraces (HT1, HT2, and HT3) have also been identified by McFaul (Whitehurst et al. 1979). The highest and oldest of these--the HT3--is situated approximately 7 m (23 ft) above present river level. McFaul indicates that this terrace comprises three sediment units. The basal unit is a massive layer of dark gray sand. A second thick layer of dark grayish brown sand and silt loam overlies this unit. The upper zone consists of a 2 m thick layer of silt loam alluvium. McFaul reports the occurrence of seven buried former topsoils in one profile he studied. A radiocarbon date of 2590 ± 60 BP (Beta 27604) on cottonwood (*Populus deltoides*) from the second sediment unit of dark grayish brown sand indicates the upper zone of this terrace was deposited during the past 2,500 years.

A second Holocene terrace (HT2) is located approximately 2 m below the upper terrace. The sediments comprising this terrace fill are alluvial deposits of fine-grained sandy loam. McFaul did not report finding evidence of buried topsoils in this stratigraphic section.

The third Holocene terrace (HT3) is situated 2 m above present river level. Sediments comprising this terrace are an upper 30 cm thick zone of weakly developed sandy clay loam underlain by numerous beds of poorly sorted sands. A single thin possible buried A soil horizon may have been present in the sampled location. Sandy sediments continued downward to the water table.

Each of the three Holocene terraces exhibits a distinctive soil composition based on SCS pedological survey work. In Renville County, the HT3 terrace is mapped as the LaDelle Series consisting of weakly developed cumulic soils of silty clay loam (Thiele et al. 1977). Buried topsoils occur in these sediments overlying sand. A part of the HT2 is mapped as the Ludden Series of alluvially deposited clayey sediments. The remainder of HT2 and HT1 consist of Velva Series loamy soils. A similar soil classification is reported for Ward County (cf. Howey et al. 1974).

Valley Walls

The walls of the major river valleys are mantled with glacial till deposits. Classification of the soils is largely dependent on slope. Zahl-Max soils develop from till

on the steep sided portions of the valley sidewalls and other areas of major topographic relief.

Alluvial Fans

Alluvial fans are another feature of both the large and small drainage valleys. These are fan shaped bodies of sediment that have been carried into the valleys by permanent and ephemeral tributary streams and coulees. Alluvial fans afforded several advantages for prehistoric settlement. A major one was ecological diversity with riparian bottomlands below, upland grasslands above, and woody draws often extending upwards from the fans.

Upland Plains

The river valleys are incised into a low relief glacial till plain. This till plain is mantled with glacial outwash and ice-marginal deposits. Throughout the Study Unit, a number of different weakly developed soils are mapped in upland settings. These are areas of ground moraines and kettle plains. Included here are a host of soils grouped under the Barnes-Swea association (Howey et al. 1974) in Ward County and the Swenoda-Embsen-Barnes association in Renville County (Thiele et al. 1977).

Natural Resources Conservation Service (NRCS) official soil survey resources are available on the internet (NRCS 2007a, b, c). The Web Soil Survey in particular may be useful, as it has replaced the traditional county soil survey books.

Electronic Field Office Technical Guide: <http://www.nrcs.usda.gov/technical/efotg/>
Soil Data Mart: <http://soildatamart.nrcs.usda.gov>
Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/>

Flora and Fauna

Ecologically, the Study Unit is located within the Temperate North American Grasslands Biome (Odum 1971). Within the confines of the Study Unit specifically, Kuchler (1964) identified four specific vegetation communities: (1) medium-to-tall grassland, (2) oak savanna and grassland, (3) aspen parkland, and (4) northern floodplain forest. Much of this floral summary is abstracted from Barkley (1977), Burgess et al. (1973), COE (1978), and Lautenschlager (1964).

The medium-to-tall prairie grasslands comprise primarily needle grasses (*Stipa* sp.), slender wheat grass (*Agropyron trachycaulum*), needle and thread (*Stipa comata*), and grama grasses (*Bouteloua* sp.). These native prairie grasses extend over much of the Drift Prairie and Missouri Coteau within areas which have not been tilled or mined.

The oak savanna and grasslands community consists of scattered stands of bur oak (*Quercus* sp.) and bluestem (*Andropogon* sp.) grasses found at the heads of smaller

valleys and coulees draining to the Souris and Des Lacs rivers. Here acorns of the bur oak would have been available as a food resource.

Aspen parkland characterizes a transition zone between native prairie grasslands to the south and the boreal forests to the north in Saskatchewan and Manitoba. Here, grassland communities are mixed with stands of the aspen popular (*Populus* sp.). This zone is present in the extreme northeastern corner of the Study Unit.

The Northern floodplain forest occurs in the Souris valley bottom. Forested areas are dominated by cottonwood (*Populus* sp.), willow (*Salix* sp.), and elm (*Ulmus* sp.) (cf. Burgess et al. 1973). Box elder (*Acer negundo*) and green ash (*Fraxinus pennsylvanica*) are reported as well. Understory consists of mixed grasses and shrubs such as chokecherry (*Prunus* sp.), juneberry (*Amelanchier alnifolia*), buffaloberry (*Shepherdia argentea*), and wild rose (*Rosa* sp.). Some of the floodplain forest has been cleared by Euro-American settlers for agricultural lands.

These four floral communities provide suitable habitat for a variety of fauna. The rivers, streams, and potholes are also home to a variety of aquatic and semiaquatic creatures. Larger game animals inhabiting the basin today are white-tailed deer (*Odocoileus virginianus*) and pronghorn antelope (*Antilocapra americana*). Early in the century, mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and grizzly bear (*Ursus horribilis*) were reported (Bailey 1926). Moose (*Alces americanus*) and caribou (*Rangifer caribou*) may have been present at certain times in the past (ibid.). Bison (*Bison bison*) flourished on these grasslands before being extirpated.

Predators include the coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and the long-tailed weasel (*Mustela frenata*) (ibid.). Semi-aquatic fur bearing mammals present in the rivers and marshes include beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), and mink (*Mustela vison*).

A great variety of waterfowl can be seen today on the Upper Souris Wildlife Refuge including coot, ducks, and geese. In the past, the marshes formed by relict oxbows of the river in the bottomlands and the prairie potholes of the upland Coteau also supported large populations of waterfowl except during droughty times.

The Souris and Des Lacs rivers presently support 24 identified fish species (COE 1978:66; Russel 1975). Northern pike, yellow perch, black and brown bullhead, and walleye may have been food species for prehistoric groups at times. Numerous aquatic mussels, pill clams, and snails also occur in the Souris and its tributaries (Cvancara 1983). Freshwater mussels may have been a supplemental dietary item at times. Mussel shell also served a variety of purposes in native technologies.

Other Natural Resource Potential

In addition to the floral, faunal, and water resources which provided food, fuel, and shelter, a number of other raw materials merit mentioning. Lithic raw materials were very important to peoples with stone age technologies. Wattrall (1976:21-23)

indicates that brown petrified wood, chert, moss agate, and jasper have been reported from the Souris gravels in Saskatchewan. Artifacts made from these stones occur in collections from archeological sites in the Souris basin in Saskatchewan (Finnigan 1988a) and to a lesser extent in Manitoba (Leonoff 1970). In the Souris valley of North Dakota, Swan River chert and Knife River flint (KRF) were the preferred stones used to make chipped stone tools (Floodman and Friedman 1986; Good and Fox 1978; Good and Hauff 1980; Whitehurst et al. 1989). Much of the Swan River chert was probably collected locally. The quantity and quality of KRF in the Souris gravels in North Dakota remain to be assessed.

Glacial outwash gravel deposits on the Missouri Coteau are another likely source of flakeable stones (Pettyjohn and Hutchinson 1971). Cobbles of granite are abundant. Granite cobbles served as a construction material, as a heat source for food preparation (i.e., stone boiling and baking), and as a stock for making heavy stone tools.

Overview of Previous Archeological Work

This section provides information concerning past archeological work conducted in the Study Unit with an emphasis on the portion of the basin in the US. It is organized according to types of archeological investigation undertaken. Four types of studies are identified by the HPD, SHSND: (1) inventory projects, (2) test excavation projects, (3) major excavation projects, and (4) other works.

Inventory Projects

As of 13 September 2007, there were 209 archeological sites and 1,746 archeological site leads and isolated finds recorded in the state computerized archeological site file for the Souris River Study Unit. Considering actual sites alone, with the 9,118 mi² area of the Souris River Study Unit, there is one site recorded per 44 mi². The low number of recorded sites is due to the relatively low amount of professional site inventory work that has been done, partly because there are only small amounts of federal land and partly because the energy industries have undertaken minimal developments that have required cultural resources inventories. If both sites and site leads are considered, there is one site recorded per 5 mi. While a modern-day on-the-ground survey would show that there are actually several sites per square mile overall, the latter figure is fairly high from a statewide comparative perspective.

That the site density is actually higher is also evidenced from the observations of Thad Hecker who wrote in 1937 that in McHenry County, "Before the land was plowed up and especially before the Pioneers gathered the Buffalo bones from the surface, Indian campsites could be seen on every quarter section" (SHSND archives, Series 226, Box 17).

The first reported "archeological survey work" conducted within the Study Unit was undertaken by Hecker, an avocational archeologist, from about the turn of the century into the early 1940s. Fortunately, Hecker summarized his lifetime of discoveries and insights and inferences in a series of written reports during the late 1930s when he

was employed by the Works Progress Administration (WPA). These written reports and reams of supplementary information and maps are housed in the SHSND archives. Most of the 1,746 archeological site leads in the site file database are derived from maps upon which he plotted locations of sites that he visited. Unfortunately, no professional archeologists have yet taken up the task of studying the Hecker archival materials and “ground truthing” the site leads information. It would be an enormous task that would take years, but it would certainly yield a wealth of useful information if it was done adequately. In addition to recorded information, Hecker collected samples of artifacts for the SHSND from a number of the sites he visited. SHSND collections contain materials labeled “Hecker-Souris Basin 1942.” Hecker’s investigations certainly demonstrate the presence of an abundance of prehistoric cultural resources in this Study Unit. The contributions of all the subsequent inventory projects pale in comparison to Hecker’s work.

If more were known about the site leads, there would be a very useful sample of sites for the Study Unit from which predictions, inferences, and comparisons could be drawn. However, there is complete information only for the 209 recorded archeological sites. Some of these data are summarized in Table 11.2. The table considers the variables of the landforms upon which sites are situated and the feature types represented. More than one variable may be recorded for a single site. For example, a late prehistoric site might be very extensive and straddle floodplain and terrace landforms. This would result in the recording of two landform occurrences for a single site.

It is very likely that some of the sites recorded as scatters of cultural material (cultural material scatters) were originally stone circle sites. In 1937, Hecker wrote that the “area of rolling hills dotted with small lakes” lying “between the southern and eastern outlets of ancient Lake Souris” in McHenry County was once “covered with surface rock but the homesteaders have cleared the land of rock leaving only a few places where tepee rings or fireplaces show today” (SHSND archives, Series 226, Box 17).

Other characteristics of the recorded site sample can be inferred from the first table. Most recorded sites are situated in areas where the greatest amount of survey work has been conducted (floodplain and terrace areas surveyed by the St. Paul District of the US Army Corps of Engineers [COE]), and in areas where there has been very little sedimentation during the Holocene so that surface sites from 6,000 years ago are still on the surface (upland plains, hills, and ridges). Also, there is no official record of Paleo-Indian sites from the Study Unit even though this area may be second only to the Garrison Study Unit in occurrence of Paleo-Indian sites considering Hecker’s notations of Paleo point finds. Professional archeologists have simply not followed up on reports of Paleo-Indian finds and entered this valuable information in the statewide site data base. Of importance in this regard is a University of North Dakota (UND) undergraduate’s senior thesis on surface collected Paleo-Indian points from Bottineau County (Miller 1992).

Other features of this sample of recorded sites can be generalized from the other table. For example, mounds are uncommon. Earthen burial mounds are very prominent

Table 11.2: Feature Type by Landform for Archeological Sites in the Souris River Study Unit, 13-Sept-2007.

	Cultural Material Scatter	Grave	Hearth	Mound	Other Rock Features	Pit	Rock Art	Rock Shelter	Stone Circle	Misc.	Total
Beachline (glacial)	2								1		3
Beach or riverbank	6		1							1	8
Upland plain	7		1		1		1		3		13
Floodplain	34		6	1	1				1		43
Hill - Knoll - Bluff	11	1			13			1	23	1	50
Ridge	6				16				21		43
Spur									2		2
Terrace	46		1	1	7	1			17		73
Alluvial fan	1		1								2
Butte	1				1	1	1		1		5
Foot slope	8	1	1	1	5				7		23
Other	2				2				3		7
Total	124	2	11	3	46	2	2	1	79	2	272

sites and are usually among the first sites recorded when archeologists go to work in an area. This seems to be confirmed by Hecker's observations regarding the types of burial sites he encountered. He mentioned tree burials, platform burials, and surface burials cribbed with sticks or logs, surface burials cribbed with rocks, and subsurface burials with no surface indications (SHSND archives, Series 226, Box 17).

From Table 11.3, it can be derived that cultural/temporal affiliation was recorded as unknown for nearly 75% of the sites. This is common to the samples of recorded sites in all Study Units in the state. After years of studying archeological sites in the Study Unit, Hecker concluded that the vast majority of them represented recurrently occupied locations with artifacts representing several cultural/temporal affiliations: "I spent the greater part of 1934, 1935 and 1936 on the blown areas of McHenry and Bottineau Counties trying to find a campsite where only one culture occurred. During that time I visited nearly every blown area...and failed to find a place where less than two cultures occurred. On the 80-acre campsite northeast of Buffalo Lodge Lake I found examples of every culture that is general in the Souris Basin" (Hecker:SHSND archives, Series 226, Box 17). Table 11.4 provides a list of all inventory project reports for the Souris River Study Unit on file in the manuscript collection in the A&HPD, SHSND.

Table 11.3: Cultural/Temporal Affiliation of Archeological Resources in the Souris River Study Unit, 13-Sept-2007.

Paleo-Indian	
Unspecified	1
Folsom	1
Total	2
Archaic	
Unspecified	2
Oxbow	1
McKean/Duncan/Hanna	2
Pelican Lake	2
Total	7
Woodland	
Unspecified	16
Besant/Sonota	4
Late Woodland	1
Avonlea	1
Total	22
Plains Village	
Total	6
Plains Nomadic	
Total	1
Historic	
Unspecified	6
Chippewa	4
Euro-American	2
Total	12
Unknown	1,912

Table 11.4: Inventory Projects in the Souris River Study Unit, 5-Sept-2007.

Year	First Author	Second Author	Title	Ms #
1947	Bauxar, J.		Preliminary Appraisal of the Archeological & Paleontological Resources of Crosby Reservoir, Divide Co., ND	7
1973	Franke, N.		West Minot Bypass (Project No. F-4-083 (02) 902) Negative Declaration Survey Report, Ward Co., ND	233
1974	Carmichael, G.		The Archaeological Survey Along the Proposed Route of Dome Pipeline in ND	93
1974	Schneider, F.		Archaeological Investigations in the Proposed Lonetree Reservoir, Garrison Diversion Unit, ND: 1973 Season, Wells & Sheridan Counties, ND	52
1975	Adamczyk, T.		Archaeological Inventory Missouri River Reach Between Fort Benton, MT & Sioux City, IA	80
1975	Dill, C.	N. Franke	US Corps of Engineers Disposal Area Negative Declaration Survey Report, Ward Co., ND	240
1975	Franke, N.		Report of the Archaeological & Historic Site Reconnaissance Survey of Project No. F-3-002 () 211, Rugby to Leeds, Pierce & Benson Counties	154
1975	Franke, N.		Report of the Archaeological & Historic Site Survey of Channel Modification the Souris River in the Vicinity of Minot, ND, & the Areas of the Burlington Dam and Lake, Ward Co., ND	148
1976	Dill, C.		1976 Archaeological and Historic Site Survey of Consolidation Coal Company's Velva Mine, Limited & Extended Mining Plan Area, Ward Co., ND	77
1976	Dill, C.	N. Franke	Baukol-Noonan, Inc., Larson Mine Negative Declaration Survey Report, Burke Co., ND	257
1976	Dill, C.		Consolidation Coal Company Velva Mine Site Negative Declaration Survey Report, Ward Co., ND	256
1976	Dill, C.		ND Highway Department Project No. F-4-002 () 186 Negative Declaration Survey Report, McHenry Co., ND	263
1976	Franke, N.		Basin Electric Power Cooperative Transmission Line Right of Way Negative Declaration Survey Report, McLean, Ward, & Mountrail Counties, ND	258
1976	Franke, N.		Burke County Road Project OS 13 (1) Negative Declaration Survey Report	250
1976	Franke, N.		ND Highway Department Project No. RF-4-002 () 132, Ward Co., Negative Declaration Survey Report	265
1976	Franke, N.		ND Highway Department Project No. RS-4-028 () 069, Renville Co., Negative Declaration Survey Report	247
1976	Franke, N.		ND Highway Department Projects No. F-7-002 () 054 and F-4-002 () 089 Negative Declaration Survey Report	261
1976	Schneider, F.		Archaeological Investigations in the Proposed Lonetree Reservoir, Garrison Diversion Unit, ND: 1974 Investigations: Part 1, Wells & Sheridan Counties, ND	53
1977	Dill, C.		Baukol-Noonan, Inc., Southern Coal Mine, Burke Co., Negative Declaration Survey Report	296
1977	Dill, C.		Larson Mine Survey, Burke Co., ND	139
1977	Fox, R.		Cultural Resource Survey of Des Lacs, J. Clark Sayler and Upper Souris National Wildlife Refuge Areas, Ward Co., ND	149
1977	UND		Archaeological Field Report, Burlington Dam Flood Control Project Area, Upper Souris River Basin, Renville & Ward Counties, ND	221
1978	Dill, C.		1978 Cultural Resources Inventory: Surry East to Rugby Project Nos. F-4-002()156, F-4-002()171 and F-4-002()194, US Highway 2 Four-laning in Ward, McHenry & Pierce Counties, ND	303

Year	First Author	Second Author	Title	Ms #
1978	Good, K.	R. Fox et al.	An Archaeological Survey: Shoreline of Lake Darling & Proposed Burlington Dam, Ward & Renville Counties, ND	553
1978	O'Brien, L.	L. Loendorf et al.	A Cultural Resource Survey of the Proposed Otter Tail Transmission Line	310
1978	Schreiner, M.		Cultural Resource Inventory of the Proposed Sewage Lagoon Area at Kramer, McHenry Co., ND	412
1978	Schreiner, M.		Cultural Resource Inventory of the Proposed Sunflot Heirs No. 1 Well Line, Divide Co. & Burke Co., ND	161
1978	Snortland, J.		The 1978 US Hwy 83, Max Cultural Resources Inventory SHD Project F-4-083()160, Ward Co. & McLean Co., ND	302
1978	UND		Cultural Resource Investigations of Reach A-3 Improvement Areas, Souris River, Ward Co., ND	2523
1978	Woolworth, A.	N. Woolworth	A Report on an Archaeological and Historical Reconnaissance Survey of the Great Lakes Gas Transmission Company Pipeline Route in ND & MN	306
1979	Franke, N.		EDA Project No. 05-01-01727.40, Water Distribution System, International Peace Garden, Rolette Co., ND	908
1979	Good, K.		Cultural Resource Inventory of the Proposed Sewage Lagoon Areas at Velva, McHenry Co., ND	2205
1979	Loendorf, L.		Cultural Resource Inventory of Proposed Sewage Lagoon in Rolette Co., ND	422
1979	Schweigert, K.		Historical Cultural Resource Survey of the Upper Souris River, ND-Final Draft, Renville & Ward Counties	2522
1980	Fox, R.		Class III Intensive Inventory for all Cultural Resources at the Proposed Sewage Facility Development Areas for Rural Lake Metigoshe, Bottineau Co., ND	3017
1980	Fox, R.		Class III Intensive Inventory for all Cultural Resources at a Proposed Industrial Park Sewage Lagoon Town of Velva, McHenry Co., ND	3024
1980	Fox, R.		Class III Inventory for All Cultural Resources At the Proposed Mine Expansion of Consolidation Coal Company's Velva Mine, Ward Co., ND	1543
1980	Fox, R.		Class III Inventory For All Cultural Resources At The Proposed Sewage Lagoon Expansion Site at Rugby, ND, Pierce Co., ND	1278
1980	Fox, R.		Cultural Resource Inventory of the Proposed Saskatchewan, Canada, Intertie Transmission Line Right of Way, Northwestern ND, Vol. 1, Ward, Mountrail, Williams, Divide, & Burke Counties	970
1980	Good, K.	J. Hauff	Archaeological Testing and Survey: Testing of Three Sites and Survey of a Road Detour Within Proposed Project Construction Zones, Burlington Dam Flood Control Project Area, Upper Souris River, Ward Co., ND	960
1980	Greer, J.		An Intensive Cultural Resource Survey of the Federal Beaver 2-30 & the Federal Gary 2-30 Well Locations and Accesses, Ward Co., ND	1283
1980	Gregg, M.		Class III Intensive Inventory for all Cultural Resources at a Proposed Industrial Park Development, Town of Velva, McHenry Co., ND	1007
1980	Lau, S.		An Intensive Cultural Resource Survey of the Inexco Federal Gary #3-30 Well Location & Access, Ward Co., ND	1552
1980	Metcalfe, M.		Inexco Co. Fed. Deaver #1-30 Well Pad Survey, Ward Co., ND	2306
1980	Senulis, J.		Federal Mrs. Bradshaw 1-29 Well Pad & Access Route Survey, Ward Co., ND	2042
1981	Fox, S.		Cultural Survey at the Belcourt School Site Belcourt, Rolette Co., ND	3031
1981	Fox, S.		Proposed Sewage Lagoon Expansion for the City of Minot, Ward Co., ND	3012
1981	Pearson, J.	A. Simon	A Class III Intensive Inventory of the Proposed Tolley Total Containment Pond in Renville Co., ND	3007

Year	First Author	Second Author	Title	Ms #
1981	Rippeteau, B.		A Cultural Resource Survey for Wold Engineering CAP-2542 (81), Survey of Co., Road Improvement, McHenry Co., ND	3000
1981	Rippeteau, B.		Pogo Production Well Location & Access Route Survey, Divide Co., ND	1657
1981	Sheldon, C.	A. Simon	A Class III Intensive Inventory of the Proposed Step I Facility Plan for Donnybrook, ND (Prepared Under Federal Sewage Works Grant #C380542-01), Ward Co., ND	3287
1981	Sheldon, C.	A. Simon	A Class III Intensive Inventory of the Proposed Step I Facility Plan for Surry, Ward Co., ND	2742
1982	Klein, A.		Garrison and Bueckler Projects AML Projects to Abate Subsistence Hazards, Ward & McLean Co., ND	2874
1982	Kuehn, D.		Abel USA #3 for Monsanto Co. (U-W Project No. 530), Burke Co., ND	2288
1982	Kuehn, D.		Abel-USA #4 for Monsanto Co. (U-W Project No. 531), Burke Co., ND	2289
1982	Kuehn, D.		Delores USA #2 for Monsanto Co. (U-W Project No. 532), Burke Co., ND	2290
1982	Kuehn, D.		Dolores USA #3 for Monsanto Co. (U-W Project No. 533), Burke Co., ND	2291
1982	Kuehn, D.		Dolores USA #4 for Monsanto Co. (U-W Project No. 534), Burke Co., ND	2292
1982	Kuehn, D.		Jacobson USA #2 for Monsanto Company (U-W Project No. 528), Burke Co., ND	2286
1982	Montgomery, S.	K. Keim	A Class III Cultural Resource Inventory for the Proposed Monsanto Abel USA #1 Well Location & Access in Burke Co., ND	2241
1982	Montgomery, S.	S. Gade et al.	A Class III Cultural Resource Inventory for the Proposed Ward County Road Improvements, Ward Co., ND	2583
1982	Montgomery, S.	K. Keim et al.	The Class III Cultural Resource Inventory for the Proposed Monsanto Company Dolores #1 Well Location & Access, Burke Co., ND	2245
1982	Montgomery, S.	K. Keim	The Class III Cultural Resource Inventory for the Proposed Tolley Lagoon and Force Main Project EPA Project No. C380613-01, Renville Co., ND	2986
1982	Rippeteau, B.		Chandler and Associates Federal 14-10 Survey Report, Burke Co., ND	2798
1982	Rippeteau, B.		Monsanto Eaton #1 Well Pad & Access Route Survey, Burke Co., ND	2314
1982	Rippeteau, B.		Monsanto Jacobsen #1 Well Pad & Access Route Survey, Burke Co., ND	2315
1982	Rippeteau, B.		Texaco Government Gin-Han Partnership NCT Well #1 Survey Report, Divide Co., ND	2797
1982	Sheldon, C.		A Class III Intensive Inventory of the Proposed Antler Community Wide Drainfield in Bottineau Co., ND	2898
1982	Sheldon, C.		A Class III Intensive Inventory of the Proposed Tolley Total Containment Pond in Renville Co., ND	3006
1982	Sheldon, C.		Abel-USA #2 for Monsanto Co. (U-W Project No. 529), Burke Co., ND	2287
1983	Borchert, J.	A. Simon	Class III Intensive Inventory of Proposed Glenburn Treatment Facility, Renville Co., ND	2741
1983	Floodman, M.		Broschat Engineering Long Petroleum Inc. Stoland Federal #1, Ward Co., ND	3063
1983	Floodman, M.		Broschat Engineering Long Petroleum Inc., Stoland Federal #1, New Location, Ward Co., ND	3193
1983	Floodman, M.		Chandler and Associates Inc. Probst Federal #12-10, Burke Co., ND	3041
1983	Rippeteau, B.		Chandler & Associates Federal 14-10 Tank Battery & Flowline Survey Report, Burke Co., ND	2804
1984	Borchert, J.		Class II Survey Ward County Road No. 10 Project No. CRS 5138(52)	3577

Year	First Author	Second Author	Title	Ms #
1984	Gregg, M.		Consolidation Coal Company's Velva Mine, Ward Co., ND: Class III Intensive Inventory for all Cultural Resources in Noncontiguous Parcels Totaling ca. 150 Acres	3249
1984	Kuehn, D.		A Class III Intensive Inventory of the Proposed Kenmare 57 kV Transmission Line, Ward Co., ND	3408
1985	Blikre, L.		A Class III Cultural Resource Inventory of the Turtle Mountain Road Improvement Project, Turtle Mountain Indian Reservation, Rolette Co., ND	3649
1985	Floodman, M.	P. Friedman et al.	Final Report of the 1982 Cultural Resources Survey for the Lake Darling-Souris River Project, Ward Co. & Renville Co., ND	3672
1985	Floodman, M.		Mustang Oil Company 31-2 Federal, Renville Co., ND	3729
1985	Greer, J.	M. Greer	Adams Federal 12-26 (JG-ND-1475), Bottineau Co., ND	4023
1985	Kuehn, D.		A Cultural Resource Reconnaissance Inventory of Oil & Gas Lease Areas in & Around the Turtle Mountains, Rolette Co., ND	3862
1985	Quivik, F.	M. McCormick et al.	Final Report on the Intensive & Reconnaissance Surveys for Minot, Ward Co., ND	4037
1986	Floodman, M.		Westar Energy Company Harris #1, Renville Co., ND	3926
1986	LaPoint, H.		A Class III Level Cultural Resource Inventory was Conducted August 14, 1986 on Approximately 40 Acres of Land for the Souris Land Exchange, McHenry Co., ND	4166
1986	Smith, G.		Rugby Landfill (86 MT030-9, Case File No. M 14269), Pierce Co., ND	4113
1987	Schweigert, K.	R. Persinger	Results of a Cultural Resource Inventory & Evaluation the Burlington AML Project, Ward Co., ND	4417
1987	Schweigert, K.	R. Persinger	Results of a Cultural Resource Inventory & Evaluation the Columbus AML Project, Burke Co., ND	4419
1987	Schweigert, K.	R. Persinger	Results of a Cultural Resource Inventory & Evaluation the Noonan AML Project, Divide Co., ND	4418
1987	Smith, G.		A Class III Inventory Report For Two Isolated BLM Tracts in McHenry Co., ND	4407
1988	Fiege, M.	F. Quivik et al.	Final Report of Reconnaissance Surveys in Williston, Kenmare, & Eight Smaller Communities in Mountrail, Williams, Ward, & Renville Counties in Northwestern ND	4540
1988	Granger, S.	S. Kelly	The Bottineau Historic Sites Inventory Project in Bottineau Co., ND Cultural Resources Survey	4669
1988	Granger, S.	S. Kelly	The Rugby, Pierce Co., Historic Sites Inventory Project ND Cultural Resources Survey	4666
1988	Indeck, J.		Archaeological Resource Survey & Evaluation of Des Lacs River Channel Cleanout between Middle & Lower Des Lacs Lakes Des Lacs National Wildlife Refuge Kenmare, Ward Co., ND	4547
1988	Renewable Tech., Inc.		Final Report of Reconnaissance Surveys in Crosby, Divide Co. and Velva, McHenry Co., ND	5037
1988	Schweigert, K.		Survey and Evaluation of a Truss Bridge, Ward Co., ND	4481
1988	Smith, G.		Lake George Scattered Tracts Project: A Class III Inventory of Two Isolated BLM Parcels in McHenry Co., ND	4581
1988	Whitehurst, J	J. Dahlberg et al.	A Class III Cultural Resource Inventory of a Portion of the Upper Souris River Valley, Renville Co., ND	4702
1989	Banks, K.		A Cultural Resources Inventory of Projects in Six Wildlife Development Areas, Cavalier, Nelson, Burleigh, Stutsman, Towner, & Ramsey Counties, ND	4869
1989	Floodman, M.		Final Report of a Phase I Cultural Resources Survey of the Levee Modifications at Sawyer Ward Co., ND	4682
1989	Floodman, M.		Initial Group of Proposed Borrow Areas, For Rural Improvements, Stage 1, Souris River Basin Project, McHenry Co., ND	4770

Year	First Author	Second Author	Title	Ms #
1989	Floodman, M.		Phase I Archaeological Survey of the Souris River Basin Project Rural Improvements, Renville, Ward, & McHenry Counties, ND	4706
1989	Floodman, M.		Sawyer and Burlington to Minot Levee Construction Phase I Cultural Resources Investigation of Borrow Areas, Souris River Project Ward Co., ND	4851
1989	Good, K.		ND State Highway Department State Highway 30 Improvement Project-Barrow Pit Areas, Benson Co., A Class III Cultural Resources Survey	4860
1989	Kloberdanz, T.		Index of German-Russian Wrought-Iron Cross Sites in McHenry, McIntosh, Emmons, Ramsey, Logan, Burleigh, McLean, Benson, & Pierce Co. in Central ND	4906
1989	Kuehn, D.		Minot Air Force Base, Peacekeeper Rail Garrison Cultural Resource Inventory, Ward Co., ND	4568
1989	Peterson, L.		Ward Co., Road No. 8 Cultural Resource Survey CRS 5132(54)	4823
1989	Späth, C.		Borrow Areas for Rural Improvements in the Vicinity of Velva, Souris River Basin Project, McHenry Co., ND	4929
1989	Späth, C.		Burlington, Ward Co., Ball Diamonds Class III Cultural Resource Inventory	5060
1990	Chevance, N.		A Gravel Pit Near Belcourt & a Gaming Hall at the State Line: Intensive Cultural Resources Inventories of Proposed Projects For the Turtle Mountain Agency, Rolette & Williams Counties, ND	5204
1990	Christensen, R.		Class III Cultural Resource Inventory of a Proposed Fill Area in the SW/SW/SW, S. 2, T153N, R81W, Ward Co., ND	5235
1990	Gnabasiak, V.		Renville Co., Park Improvements Borrow Area Survey, Souris River Basin Project, Renville Co., ND	5254
1990	Good, K.		ND Department of Transportation Wolf Creek & Mud Creek Bridge Replacement Project, Rolette Co., A Class III Cultural Resources Survey Project No.BRF-2-001(019)019	5058
1990	Sanders, P.		LTA Project # 900831a. Contract #DACW37-90-C-0044, Souris River Basin Project in McHenry Co., ND: Initial Fieldwork Report by Paul H. Sanders and Jim Miller	5227
1990	Sanders, P.	D. Penny et al.	Results of a Class III Cultural Resource Inventory of Selected Bureau of Land Management Parcels, Ward, Renville, Cavalier, Mountrail, McKenzie, Williams, Ward, Golden Valley, Dunn, & McHenry Counties, ND Vol. 1	5499
1990	Schweigert, K.		Cenex Pipeline Company Fargo Extension, Steele, Griggs, Foster, Cass, Barnes, Eddy, Wells, Pierce, McHenry, & Ward Counties, Class III Cultural Resource Survey	5443
1990	Schweigert, K.	R. Persinger	Cultural Resources Survey of Borrow Areas for Dam 87, Souris River Basin Project, Ward Co., ND	5062
1990	Schweigert, K.	R. Christensen et al.	Phase I Cultural Resources Survey of the Lake Darling Reservoir Area, Souris River Basin Project, Ward & Renville Counties, ND	5444
1990	Späth, C.	R. Persinger	Cultural Resources Survey of Borrow Area for Dam 96, Souris River Basin Project, Ward Co., ND	5086
1990	Späth, C.		J. Clark Salyer Refuge Structures Borrow Areas in McHenry & Bottineau Counties, Class III Cultural Resource Inventory	5063
1991	Blikre, L.	J. Borchert	US West Underground Fiber Optic Line, Rolette Co., ND	5458
1991	Blikre, L.	J. Borchert	Ward Co., CRS-5158() Grading and Aggregate Surfacing	5572
1991	Burbidge, G.	J. Borchert	The 1991 McLean-Sheridan Water Pipeline Sheridan Co., ND	5576
1991	Chevance, N.		An Intensive Cultural Resources Inventory of a Proposed Expansion to the Dunseith Day School, Turtle Mountain Agency, Rolette Co., ND	5623

Year	First Author	Second Author	Title	Ms #
1991	Christensen, R.		Cenex Pipeline Company Fargo Extension Class III Cultural Resource Survey Additional Survey of Nine Pipeline Reroutes in McHenry, Pierce, Ward & Wells Counties, ND	5591
1991	Christensen, R.		Results of an Intensive, Class III Cultural Resource Inventory of Divide Co., Highway 21 (CRS-1249) Project	5393
1991	Good, K.		31 st Avenue Southwest, Minot, Ward Co., ND (An Improvement Project of an Existing Street) M-4-989(020)020	5689
1991	Good, K.		Highway #3 Class III Cultural Resources Survey, South of Dunseith, Rolette Co., ND	5409
1991	Good, K.		Highway #41, South of Velva F-4-041(004)057, McHenry Co., ND	5692
1991	Good, K.		Valley Street Improvement Project Minot, Ward Co., ND	5413
1991	Kinney, J.		Chandler and Associates, Inc. #10-15 Spiel-Vogel Federal Cultural Resources Inventory, Renville Co., ND	5553
1991	Larson, T.		A Phase I Cultural Resources Investigation of Two Proposed Borrow Areas for Rural Improvements, Stage 1, Souris River Basin Project, Ward Co., ND	5468
1991	Larson, T.		Flood Control, Souris River, Burlington to Minot Improvements, Stage 4, King's Court Levy Clay Pits, Ward Co., ND	5519
1991	Larson, T.		The Boys Ranch Pit, Ward Co., ND	5518
1991	Lewis, R.		Small Projects, Ward Co., ND	5397
1991	Olson, B.		Chandler and Associates, Inc. #10-15 Spiel-Vogel Federal Cultural Resources Inventory, Renville Co., ND	5554
1991	Peterson, L.		A Class III Cultural Resource Survey of the Minot Force Main Replacement Project in Sections 27 & 28, T155N, R82W Ward Co., ND	5353
1992	Blikre, L.		Schriock Construction Gravel Pit on the Des Lacs River, Ward Co., Cultural Resource Inventory	5717
1992	Borchert, J.		Schriock Construction Gravel Pit, Renville Co., Cultural Resource Inventory	5724
1992	Borchert, J.		Williston Basin 8" Portal-Lignite Pipeline 2.2 Mile Reroute Class III Cultural Resource Inventory Burke Co., ND	5906
1992	Christensen, R.		International Peace Garden Archaeology: Class III Cultural Resource Inventory of the Primary Road Loop in Rolette Co., ND	5962
1992	Christensen, R.		US Highway 281 Archaeology: Class III Cultural Resource Inventory in Rolette Co., ND	5966
1992	Foster, J.	G. Wermers et al.	Burke Co., Road Improvement Class III Cultural Resource Inventory Final Report (Project #DPI-0182(001)0701)	5728
1992	Johnson, L.	M. Hufstetler et al.	Historic Bridges in North Dakota	5920
1992	Kinney, J.	T. Larson et al.	Results of the 1991-1992 Class III Cultural Resource Inventory of Selected Bureau of Land Management Tracts, Divide, McHenry, Williams, Pierce, McKenzie, Ward, Benson, Grant, Sheridan, & McLean Co., ND, Vols. I & II	5904
1992	Lahren, L.		Cultural Resource Evaluations of the Burlington AML Area, Ward Co., ND	5936
1992	Larson, T.	D. Penny et al.	A Cultural Resource Inventory of Selected Segments of the Lower Souris River Valley, McHenry & Bottineau Counties, ND, Vols. I & II	5704
1992	Stine, E.		Gravel Pit & Haul Road Pierce Co., ND, A Class III Cultural Resource Inventory	5813
1992	Stine, E.		Mouse River Park Road Expansion, A Class III Cultural Resource Inventory Renville Co., ND	5816
1992	Wermers, G.		Williston Basin 8" Portal-Lignite Pipeline Class III Cultural Resource Inventory Burke Co., ND	5885
1993	Banks, K.		The Burlington Lagoon Expansion Project, Ward Co., ND: A Cultural Resources Inventory	6085

Year	First Author	Second Author	Title	Ms #
1993	Blikre, L.		Ward Co., Project DPI-0172(001)511 Route Change Class III Cultural Resource Inventory	6107
1993	Kulevsky, A.		Sunbehm's Federal Darling #5H Well: A Class III Cultural Resource Inventory in Renville Co., ND	6326
1993	Kulevsky, A.		Sunbehm's Federal Darling #6H Well: A Class III Cultural Resource Inventory in Renville Co., ND	6327
1993	Kulevsky, A.		Sunbehm's Federal Darling #7H Well: A Class III Cultural Resource Inventory in Renville Co., ND	6328
1993	Kulevsky, A.		Sunbehm's Federal Darling #8H Well: A Class III Cultural Resource Inventory in Renville Co., ND	6329
1993	Kulevsky, A.		Sunbehm's Federal Darling #9H Well: A Class III Cultural Resource Inventory in Renville Co., ND	6330
1993	Kulevsky, A.		Top Operating Company's Hurdel-Brink #1 Well Pad: A Class III Cultural Resource Inventory in Renville Co., ND	6156
1993	Lahren, L.		Cultural Resource Evaluations Bowbells AML-Burke Co., ND	6187
1993	Lahren, L.		Cultural Resource Evaluations Noonan AML-Divide Co., ND	6283
1993	Martorano, M.	T. Anderson	Cultural Resources Survey Report Class III Cultural Resource Inventory Item No. 1, Ten Microwave Repeater Sites, ND	6090
1993	Stine, E.		Fisher Gravel Pit Burke Co., ND A Class III Cultural Resource Inventory	5992
1993	Stine, E.		Lignite To Ramberg Canadian Crude Project Cultural Resource Reconnaissance, Burke and Mountrail Counties, ND	5995
1994	Christensen, R.		US Highway 52 Archaeology: A Class III Cultural Resources Inventory East of Minot: Ward Co., ND NH-4-052(021)097	6414
1994	Kulevsky, A.		Des Lacs Gravel Pit Expansion: A Class III Cultural Resource Inventory in Ward Co., ND	6212
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1994	Lewis, R.		A Cultural Resource Inventory of Five Small Projects on the Upper Souris National Wildlife Refuge, Renville & Ward Counties, ND	6284
1994	Maginniss, H.	J. Hess et al.	Historical & Architectural Inventory of Eighteen Rural Roman Catholic Churches in the Diocese of Bismarck, ND	6248
1994	Stine, E.		Iverson Lake Gravel Pit: A Class III Cultural Resource Inventory in Burke Co., ND	6303
1994	Toom, D.		Bridge Replacements, Archeological Sites, & Archeological Site Surveys in ND	6249
1995	Anderson, A.	D. Hoisington et al.	Class I and Class III Cultural Resource Inventory of Minot Air Force Base Ward Co., ND	6431
1995	Borchert, J.		ND Department of Transportation Material Source Projects Cultural Resource Review 1989-1994	6509
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1995	Borchert, J.		STATEOP-246 Class III Cultural Resource Inventory, AAO-482/TM/95 in Rolette Co., ND	7571
1995	Borchert, J.		STATEOP-247 Class III Cultural Resource Inventory, AAO-482/TM/95 in Rolette Co., ND	7572
1995	Kordecki, C.		Log Piles of Cass, McHenry, Ransom & Walsh Counties ND, Cultural Resources Inventory	6565
1995	Kordecki, C.		Nesting Islands Survey of 43 Borrow Areas in an 11 County Area of Central ND	6441
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1996	Borchert, J.		Highway 281 Borrow Areas, Rolette Co., NDDOT Project #NH-3-281(032)232, SIP #AAO-573/TM/96.	6826

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1996	Borchert, J.		Highway 52 Harvey to Drake Class III Cultural Resource Inventory	6684
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1996	Kulevsky, A.		Westhope Golf Course Waterline: A Class III Cultural Resource Inventory in Bottineau Co., ND	6681
1996	Kulevsky, A.		Wold's Ox Creek Culvert Replacement: A Class III Cultural Resource Inventory in Rolette Co., ND	6776
1996	Lewis, R.		Des Lacs Nature Trail 96DSL002, Ward Co., ND	6737
1996	Lewis, R.		Des Lacs Observation Point 96DSL001, Ward Co., ND	6738
1996	Ollendorf, A.		Cultural Resources Management Investigation: Interenergy Sheffield Gathering Line, Portal, Burke Co., ND Overview & Survey Report	6707
1996	Rothwell, S.		LTA, Inc. Cultural Resource Inventory Report for the Rugby Water Supply & Treatment Plant Improvement, Pierce Co., Phase II	6856
1996	Späth, C.		Bottineau Gravel Pit Class III Cultural Resource Inventory T162N, R75W, Section 18 Bottineau Co., ND	6740
1996	Stine, E.		Ox Creek Line: A Class III Cultural Resource Inventory Turtle Mountain Indian Reservation, Rolette Co., ND	6834
1996	Stine, E.		U. S. West Bingo Palace Cable Route: A Class III Cultural Resource Inventory on the Turtle Mountain Indian Reservation, Rolette Co., ND	6782
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1996	Wermers, G.		The Central Power Electric Cooperative Transmission Line and Substation Project in Rolette Co., ND: Results of a Class III Cultural Resources Inventory	6803
1997	Ferris, K.	C. Murdy	Great Walker and Martin Lake Roads (BIA Routes 13 & 6): A Class III Cultural Resource Inventory on the Turtle Mountain Indian Reservation, Rolette Co., ND	6939
1997	Fuller, T.		Henderson Hills Gravel Pit: A Class III Cultural Resource Inventory, McHenry Co., ND	6909
1997	Graham, C.		Two Proposed Gravel Pits Located in Ward & Renville Counties, ND	6875
1997	Kinney, W.		1997 Water System Improvements A Class III Cultural Resource Inventory of ca. 3.75 Miles of Proposed Pipeline in Bottineau Co., ND	7016
1997	Kinney, W.		Three Proposed Rolette Co., Borrow Areas, A Class III Cultural Resource Inventory for Project No. NH-3-281(032)232	7058
1997	Kordecki, C.	J. Bales	Radio Tower Locations in a Multi-Co., Area of Central & Southeastern ND: 1995 & 1996 Cultural Resources Inventory	6860
1997	Olson, B.		Indian Health Service Dept. of Health and Human Services, Office of Environmental Health and Engineering, Turtle Mountain Reservation Project AB-96-799: A Class III Cultural Resources Inventory, Rolette Co., ND	7078
1997	Scott, J.		Bottineau & Rolette Counties Bridge Replacement: A Level III Cultural Resource Inventory	7046
1997	Scott, J.		Cutbank Creek Bridge: A Level III Cultural Resource Inventory, Bottineau Co., ND	7047
1998	Christensen, B.		Victor Hoff Pit (STATEOP-302) Class III Inventory Report	7775
1998	Ferris, K.	C. Murdy	A Cultural Resources Inventory of a Proposed Buried Waterline Relocation Project and Water Treatment Project on the Turtle Mountain Chippewa Indian Reservation, Rolette Co., ND	7201
1998	Ferris, K.	C. Murdy	A Cultural Resources Inventory of a Proposed Tribal Headquarters Addition on the Turtle Mountain Chippewa Indian Reservation, Rolette Co., ND	7200

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1998	Good, K.		Kenmare Super 8 Motel Project-A Class III Cultural Resource Inventory, Ward Co., ND	7221
1998	Kinney, W.		Ward County N.D. Bridge Replacement and Proposed Borrow Area. A Class III Cultural Resource Inventory Report For NDDOT Project No. DPI-0036(004)511	7132
1998	Kinney, W.		Turtle Mountain Community College Water and Sewer System: Proposed Water and Forced Main Pipeline Routes. A Class III Cultural Resource Inventory Within the Turtle Mountain Reservation & Rolette Co., ND	7162
1998	Klinner, D.		Burlington Resources Leon 11-8H Well Pad in Burke Co., ND	7242
1998	Klinner, D.		Survey of Two Selected Areas for the Burke-Divide Electric Cooperative Inc. Electrical Line Replacement Project in Burke Co., ND	7225
1998	Larson, T.		Results of a Class II & Class III Cultural Resource Inventory for NDDOT Project Area NH-4-052(031)112, McHenry Co., ND	7309
1998	Larson, T.		Results of a Class II and Class III Cultural Resource Inventory for NDDOT Project Area NH-7-085(034)240, Divide Co., ND	7286
1998	Ollendorf, A.		Cultural Resources Management Investigation: Proposed Casino and Resort Complex on the Turtle Mountain Indian Reservation, Belcourt, Rolette Co., ND Phase I (Class III) Investigation	7218
1998	Olson, B.		Dakota Gasification Company Co2 Pipeline Selected Segments in Mercer, Dunn, McKenzie, Williams & Divide Counties, ND: A Class III Cultural Resources Inventory & Appendix B: USGS Topographic Coverage of the Pipeline	7144
1998	Scott, J.		Ward Co., Highway 11 Borrow Area: A Class III Cultural Resource Inventory, Northwestern Central ND	7125
1998	Stine, E.	D. Forsberg et al.	A Class III Cultural Resource Inventory of the ND Segment of the Alliance Pipeline (Milepost 0 to 323.87)	7227
1998	Wermers, G.	D. Klinner	Turtle Mountain Indian Reservation 1998 Ox Creek Cultural Resources Survey, Rolette Co., ND	9066
1999	Ferris, K.		Project Walking Shield: A Cultural Resources Inventory of 25 Proposed Tribal Homesites on Turtle Mountain Chippewa Trust Lands in Rolette Co., ND	7533
1999	Isern, T.	K. Nesemeier	Wrought Iron Cross Cemeteries in ND-Continuing Survey, 1998-99	7725
1999	Kinney, W.		Rolette Co., Borrow Pit for NDDOT Project No. # NH-3-281(032)232 Near Belcourt, ND, A Class III Cultural Resource Inventory	7324
1999	Klinner, D.		North Central Electric Cooperative, Inc. Underground Electric Cable Replacement in Bottineau and Rolette Counties, ND	7344
1999	Lewis, R.		Des Lacs National Wildlife Refuge Construction Site 99DSL003 in Renville Co., ND	7392
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1999	Lewis, R.		Upper Souris River National Wildlife Refuge Residence Site 99USR003 in Ward Co., ND	7408
1999	Morrison, J.		In the Drink, Des Lacs River Bridge Replacement: A Class III Cultural Resource Inventory, Renville Co., ND	7512

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1999	Morrison, J.		Kongsberg Road Upgrade, Another Borrow Pit: A Class III Cultural Resource Inventory, McHenry Co., ND	7361
1999	Morrison, J.		Kongsberg Road Upgrade, Twelve Borrow Pits: A Class III Cultural Resource Inventory, McHenry Co., ND	7362
1999	Morrison, J.		Overly Bridge Replacement, Bridge Number 162-24.2: A Class III Cultural Resource Inventory, Bottineau & Rolette Counties, ND	7428
1999	Morrison, J.		Sheridan Co., Grade Raise Borrow Pit: A Class III Cultural Resource Inventory, Sheridan Co., ND	7518
1999	Morrison, J.		South Maxbass Bridge Replacement: A Class III Cultural Resource Inventory, Bottineau Co., ND	7519
1999	Morrison, J.		US Highway 83 from the Minot Air Force Base to US Highway 5: A Class III Cultural Resource Inventory in Bottineau, Renville & Ward Counties, ND	7462
1999	Morrison, J.		Verendrye Electric Cooperative, Inc. Upper Souris Cable Replacement, Renville Co., ND	7383
1999	Morrison, J.		Verendrye-Alliance Line: A Class III Cultural Resource Inventory, McHenry Co., ND	7429
1999	Olson, B.		NAWS Reach 1: Minot to Highway 83 Ward Co, ND Class III Cultural Resource Inventory & Addendum	8161
1999	Olson, B.		Otter Tail Company's 230kV Harvey/Rolla Transmission Line: A Class III Cultural Resources Inventory of Selected Segments in Wells, Pierce, & Rolette Counties, ND	7503
1999	Travis, L.		Highway 5 Survey: A Class III Cultural Resource Inventory, Bottineau Co., ND	7439
2000	Bluemle, W.		Krumwiede Borrow Area: A Class III Cultural Resource Inventory, McHenry Co., ND	7747
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2000	Bluemle, W.		Mouse River Church Bridge: A Class III Cultural Resource Inventory, Bottineau Co., ND	7768
2000	Bluemle, W.		Willow Lake Road: A Class III Cultural Resource Inventory, Rolette Co., ND	7555
2000	Forsberg, D.	B. Mitchell et al.	Alliance Pipeline Project: A Class III Cultural Resource Inventory of the ND Segment of the Alliance Pipeline, Addendum: Access Roads & Shooflies	7563
2000	Kinney, W.		A Proposed Pierce Co., ND Borrow Area for NDDOT Project No. SC-CER-3521(54). A Class III Cultural Resource Inventory	7695
2000	Kordecki, C.	C. Jackson	Northern Plains Electric Cooperative Cultural Resources Inventory of Specific Projects Associated with 1999-2000 Construction Work Plan in Benson, Foster, Towner, Stutsman, & Wells Counties, ND	7773
2000	Larson, T.		Results of a Class II/Class III Cultural Resource Inventory for the All Seasons Water Project: System IV, Phase II, Rolette & Towner Co., ND	7560
2000	Lewis, R.		Upper Souris River National Wildlife Refuge Landing 3 Boat Ramp & Borrow Areas 00USR001, Ward Co., ND	7735
2000	Morrison, J.		East Branch of Short Creek Bridge: A Class III Cultural Resource Inventory, Burke Co., ND	7535
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2000	Olson, B.		Addendum To: Ottertail Company's 230 kV Harvey/Rolla Transmission Line Cultural Resources Inventory, Wells, Pierce, and Rolette Counties, ND	7660
2000	Olson, B.		Dakota Gasification CO ₂ Pipeline Compliance Report in McKenzie, Williams, Dunn, & Divide Co., ND	7569

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2000	Stine, E.		Portions of US Highways 2 & 83 and N.D. Highways 3 & 5: A Class III Cultural Resource Inventory in McHenry, McLean, Ward, Kidder, Wells & Bottineau Counties, ND	8652
2001	Bluemle, W.		Bowbells Exchange: A Class III Cultural Resource Inventory, Burke Co., ND	7869
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2001	Bluemle, W.		Nerpal Borrow Area: A Class III Cultural Resource Inventory, Rolette Co., ND	8007
2001	Bluemle, W.		Olson Borrow Area: A Class III Cultural Resource Inventory, Rolette Co., ND	8041
2001	Bluemle, W.		Portal Road Survey: A Class III Cultural Resource Inventory, Burke Co., ND	8047
2001	Borchert, J.		Highway 281 Safety Improvements Dunseith to the Canadian Border Class III Cultural Resource Inventory, Rolette Co., ND	7971
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2001	Christensen, B.		Grim Trust Pit (STATEOP-357). Class III Inventory Report, McHenry Co., ND	7797
2001	Christensen, B.		ROW-019 Class III Inventory Report Sheridan Co., ND	7921
2001	Christensen, B.		ROW-027 Class III Inventory Report, Bottineau Co., ND	7983
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2001	Christensen, B.		STATEOP-403 Class III Inventory Report McHenry Co., ND	7930
2001	Kinney, W.		Pierce Co., ND Proposed Borrow Area For NDDOT Project Number SER-4-060(004)007. A Class III Cultural Resource Inventory Report	7881
2001	Kinney, W.		Two Benson Co., ND Borrow Area Locations for NDDOT Project SC-0309(053). A Class III Cultural Resource Inventory Report	7883
2001	Lewis, R.		Des Lacs National Wildlife Refuge Partners Projects 01DSL002	7947
2001	Lewis, R.		Des Lacs National Wildlife Refuge Small Projects 01DSL001	7948
2001	Metcalf, M.		A Class III Cultural Resource Inventory, Sheridan Co., ND	7949
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2001	Olson, B.		Otter Tail Company's 230 kV Harvey/Rolla Transmission Line: Class III Cultural Resource Inventory of Selected Segments of Reroute Alternate #5, Pierce Co., ND	7891
2001	Olson, B.		Site Acquisition Consultants: Class III Cultural Resources Inventories of Eleven Tower Locations Along ND Highways 2 and 83	7998
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2002	Bluemle, W.		Two Carbury Bridges: A Class III Cultural Resource Inventory in Bottineau Co., ND	8189
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2002	Borchert, J.		Highway 5, E Jct. 40 East to W Jct. 52, Highway 89, Lignite Spur, Class II Inventory Report, Burke Co., ND	8094
2002	Borchert, J.		RSN-7-052(021)014, NDDOT Underpass Replacement Project, Class II Reconnaissance Inventory	8397
2002	Borchert, J.		SNH-4-083(059)920. Class II Cultural Resource Inventory of the Highway 83 Bypass, Overlay, Pedestrian Shared-Use Path with a Structure and Incidentals	8328
2002	Christensen, B.		ROW-042 Class III Inventory Report, Renville Co., ND	8242
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2002	Christensen, B.		STATEOP-411 Class III Inventory Report, Renville Co., ND	8244
2002	Kinney, W.		Benson Co., ND Borrow Area For NDDOT Project Number CER-0305(57). A Class III Cultural Resource Inventory Report	8165
2002	Marmor, J.		A Cultural Resources Inventory For the Proposed Border Station Improvement Project, Portal, Burke Co., ND	9480
2002	Morrison, J.		Hanson Gravel Pit: A Class III Cultural Resource Inventory, McHenry Co., ND	8235
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2004	Giliberti, J.		A Cultural Resource Inventory of Structure Replacement Rugby-Devil's Lake 115-kV Transmission Line Benson, Ramsey & Pierce Counties, ND	9005
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2005	Loflin, G.		Upper Souris River National Wildlife Refuge-Review for Small Dam Construction 05USR004, Renville Co., ND	9150

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2005	Loflin, G.		Upper Souris River National Wildlife Refuge-Review for Small Dam Construction 05USR005, Renville Co., ND	9151
2005	Loflin, G.		Upper Souris River National Wildlife Refuge-Review for Small Dam Construction 05USR006, Renville Co., ND	9152
2005	Loflin, G.		Upper Souris River National Wildlife Refuge-Review for Small Dam Construction 05USR007, Ward Co., ND	9153
2005	Palmer, E.	J. Kloss et al.	Class III Cultural Resources Inventory for the Rugby Wind Farm Transmission Line Project, Pierce Co., ND	9362
2005	Salkin, P.		An Archaeological Survey of a Proposed Communications Tower Site in the Township of Lebanon, McHenry Co., ND	9310
2005	Salkin, P.		An Archaeological Survey of a Proposed Communications Tower Site in the Township of Pickering, Bottineau Co., ND	9312
2005	Stine, E.		Arnold Gravel Pit Expansion: A Class III Cultural Resource Inventory in Ward Co, ND	9223
2005	Stine, E.		Brooks Gravel Pit Expansion: A Class III Cultural Resource Inventory in Ward Co, ND	9225
2005	Stine, E.		Community Transportation Enhancement Grant Program: A Class III Cultural Resource Inventory in Dunn, Pierce, Steele & Williams Co., ND	9320
2005	Stine, E.		Funk Gravel Pit Expansion Areas: A Class III Cultural Resource Inventory in Renville Co., ND	9472
2005	Stine, E.		Hanson Pit Expansion: A Class III Cultural Resource Inventory in Ward Co, ND	9224
2005	Stine, E.		Herzig Gravel Pit: A Class III Cultural Resource Inventory in Ward Co, ND	9221
2005	Stine, E.		Highway 2 Berwick to Rugby: A Class III Cultural Resource Inventory in Pierce Co., ND	9261
2005	Stine, E.		State Land Gravel Pit Expansion: A Class III Cultural Resource Inventory in Ward Co, ND	9222
2005	Wermers, G.		ROW-152 Class III Inventory Report, Burke Co., ND	9471
2005	Wermers, G.		ROW-155 Class III Inventory Report, Burke Co., ND	9470
2005	Wermers, G.		ROW-145 Class III Inventory Report, Benson Co., ND	9520
2005	Wermers, G.		ROW-146 Class III Inventory Report, Benson Co., ND	9395
2005	Wermers, G.		ROW-148 Class III Inventory Report, Burke Co., ND	9396
2005	Wermers, G.		ROW-149 Class III Inventory Report, Burke Co., ND	9397
2005	Wermers, G.		ROW-150 Class III Inventory Report Ward Co., ND	9371
2005	Wermers, G.		ROW-153.a & ROW-153.b Class III Inventory Report, Ward Co., ND	9468
2005	Wermers, G.		ROW-154.a & ROW-154.b Class III Inventory Report, Burke Co., ND	9469
2005	Wermers, G.		STATEOP-0453 Class III Inventory Report, Pierce Co., ND	9398
2006	Bleier, A.		Granville Water Line 2006: A Class III Cultural Resources Inventory in McHenry & Ward Counties, ND	9662
2006	Bleier, A.		Jost Pit Expansion: A Class III Cultural Resource Inventory in Ward Co., ND	9670
2006	Bleier, A.		Kelly Sand Pit: A Class III Cultural Resource Inventory in Burke Co., ND	9667
2006	Bleier, A.		Kongslie Brothers Pit Expansion: A Class III Cultural Resource Inventory in McHenry Co., ND	9668
2006	Burns, W.		The Baguslewski Survey, Bottineau Co.: A Class III Cultural Resource Inventory	9831
2006	Burns, W.		The Meyer Coleman Survey, Rolette Co.: A Class III Cultural Resource Inventory	9789
2006	Burns, W.		The Rolette Borrow Survey, Rolette Co., ND: A Class III Cultural Resource Inventory	9720
2006	Burns, W.		The Willard Johnson Survey, Divide Co.: A Class III Cultural Resource Inventory	9876

Year	First Author	Second Author	Title	Ms #
2006	Burr, J.		Adams Pit Survey: A Class III Cultural Resource Inventory in Bottineau Co., ND	9819
2006	Burr, J.		Burkley Coulee Bridge (Bridge #151-49.1): A Class III Cultural Resource Inventory, Ward Co., ND	9767
2006	Burr, J.		Merck Pit Survey: A Class III Cultural Resource Inventory in McHenry Co., ND	9822
2006	Burr, J.		Oak Creek Bridge Replacement (Bridge #153-53.1): A Class III Cultural Resource Inventory in Ward Co., ND	9768
2006	Fandrich, B.	L. Peterson	Junction 83 East to Junction 41: A Class III Cultural Resource Inventory of a 17.2-Mile Segment of State Highway 23 in Ward & McHenry Counties, ND	9779
2006	Fandrich, B.		Mouse River Bridge: A Class III Cultural Resource Inventory of a Steel Stringer Bridge Along State Highway 14, McHenry Co., ND	10127
2006	Hiemstra, D.		16th Street Expansion: A Class III Pedestrian Cultural Resource Survey in Minot, Ward Co., ND	9837
2006	Hiemstra, D.		Community Transportation Enhancement Grant Program: A Class III Cultural Resource Inventory in Burleigh, Grand Forks, Ward & Williams Counties, ND	9894
2006	Hiemstra, D.		United Telephone Mutual Aid Corporation Lease Property: A Class III Cultural Resource Survey for a Proposed Cell Phone Tower & Access Road in Bottineau Co., ND	9698
2006	Hiemstra, D.		Velva Sunflower Road: A Class III Cultural Resource Survey for Road Improvements Along State Route 97 South of Velva in McHenry Co., ND	9946
2006	Kinney, W.		Proposed Ward Williston Company Well Pad Locations in Bottineau Co., ND, A Class III Cultural Resource Inventory Report	9908
2006	Kinney, W.		Six Borrow Area and Stockpile Areas in Bottineau Co., ND (NDDOT Project Number SC-0547(055). A Class III Cultural Resource Inventory Report	9953
2006	Kinney, W.		Three Proposed Borrow Pits Near Max, ND for NDDOT Project Number SNH-4-083(067)159. A Class III Cultural Resource Report	9718
2006	Kinney, W.		Two Borrow Pits in McHenry and Pierce Counties, ND, A Cultural Resource Inventory for NDDOT Project No. SNH-3-002(095)199	9702
2006	Kinney, W.		Zimmerman Pit Stockpile and Possible Expansion. A Class III Cultural Resource Inventory For ROM-0300(091) in Bottineau Co., ND	9952
2006	Klinner, D.	J. Morrison	Enbridge Pipelines (ND) LLC, Phase 4 Pipeline Expansion Project Pumping Stations: A Class III Cultural Resource Inventory, Grand Forks, McHenry, Mountrail, & Ramsey Counties, ND	9855
2006	Klinner, D.		MADC Intermodal Site: A Class III Cultural Resource Inventory, Ward Co., ND	9632
2006	Madson, M.	L. Kennedy et al.	Archaeological Resources Investigation Canadian Pacific Railway Additional Right-of-Way Acquisition in Des Lacs National Wildlife Refuge, Ward Co., ND	9661
2006	Pezzoni, J.	M. Eades	Aberdeen Area Indian Health Service Historic Resources Survey Project Report: Abridged Version for ND State Historic Preservation Office, Mountrail, Benson, Sioux, Rolette Co.	9914
2006	Springer, K.		06-013-043 Well & Tank Project Cultural Resources Inventory, Divide Co., ND	9935
2006	Stine, E.		Living Snow Fence Projects: A Class III Cultural Resource Inventory in Adams, Benson, Bottineau, Emmons, Griggs, McLean, Mountrail & Stutsman Counties, ND	9888
2006	Wermers, G.		ROW-166 Class III Inventory Report Burke Co., ND	9842
2006	Wermers, G.		ROW-172.a & .b, Ward Co., ND	9792
2006	Wermers, G.		ROW-179 Class III Inventory Report Ward Co., ND	9893
2006	Wermers, G.		ROW-181 Class III Inventory Report Ward Co., ND	9898

Year	First Author	Second Author	Title	Ms #
2006	Wermers, G.		STATEOP-0445 and STATEOP-0446 Class III Inventory Report, Burke Co., ND	9600
2006	Wermers, G.		STATEOP-0457 Class III Inventory Report, Ward Co., ND	9793
2007	Bluemle, W.		Bridge #05-154-24.0: A Cultural Resource Inventory for a Proposed Bridge Replacement Project in Bottineau Co., ND	9999
2007	Burns, W.		The Elstoen Survey, Ward Co.: A Class III Cultural Resource Inventory	10053
2007	Curran, M.	P. Metzger	Cultural Resources Inventory & Documentation for the Verizon Wireless ND01 Fortuna Alternate #1 AG Wehrman Communication Tower, Divide Co., ND	10093
2007	Harty, J.		Mohall Municipal Airport: A Class III Cultural Resource Inventory, Renville Co., ND	10037
2007	Hiemstra, D.		Hoff Pit Expansion: A Class III Cultural Resource Inventory of a Proposed Materials Pit Expansion in Burke Co., ND	10138
2007	Hiemstra, D.		Kongslie Pit Expansion: A Class III Cultural Resource Inventory in McHenry Co., ND	10140
2007	Hiemstra, D.		Lakeview Pipeline: A Class III Pedestrian Cultural Resources Inventory for a Proposed Waste Water Pipeline in Burke Co., ND	10020
2007	Hiemstra, D.		ND01 DT Crosby Alt 3: A Class III Cultural Resource Survey for a Proposed Cell Phone Tower & Ancillary Facilities in Divide Co., ND	10132
2007	Hiemstra, D.		ND Forest Service Wildfire Protection Grant Program: A Class III Cultural Resource Inventory of Select Areas in Bottineau & Benson Counties, ND	10034
2007	Hiemstra, D.	A. Kulevsky	Northern Prairie Rural Waterline: A Class III Cultural Resource Inventory in McHenry & Ward Counties, ND	10035
2007	Hiemstra, D.		Northwest Area Water Supply Treated Water Pipeline for Minot: A Cultural Resource Inventory in Ward Co., ND	10000
2007	Jackson, M.		NAWS Berthold Segment Water Pipeline Class I, II, & III Cultural Resources Inventories, Ward Co., ND	10014
2007	Kinney, W.		An Equipment Storage and Dirt Stockpile Area NDDOT Project Number AC-HPU-CMU-4-083(076)201 and An Additional Staging Area. A Class III Cultural Resource Report, Ward Co., ND	10096
2007	Klinner, D.		Leon Unit 1 Well Pad and Access Road: A Class III Cultural Resource Inventory, Burke Co., ND	10143
2007	Klinner, D.		Smith Unit 1 Well Pad and Access Road: A Class III Cultural Resource Inventory, Burke Co., ND	10069
2007	Kluth, D.		A Cultural Resource Inventory of Three Proposed Fiber Duct Installations in North Central ND, McHenry, Ward, & Ramsey Counties	10046
2007	Metzger, P.	E. Bank	Short Format Cultural Resources Inventory Documentation for the Verizon Wireless ND01 Kenmare Alternate #1 Schoemer Communication Tower, Ward Co., ND	10095
2007	Stine, E.		North Prairie Rural Water District's Water Treatment Plant Pond Site: A Class III Cultural Resource Inventory in McHenry Co., ND	10142

The earliest formal report covers a three-day survey of the Des Lacs drainage in Divide County conducted by the Smithsonian Institution prior to construction of the proposed Crosby Reservoir. Bauxar (1947a) recorded no sites in his project area. Little information is available concerning the survey procedures that he employed. He did go outside his project area and record one site (32DV1) containing stone circles and cairns reported to him by a local informant. Someone who had done some digging at the site said one of the cairns capped a human burial. Hecker wrote in 1937, "surface burials that were cribbed up with rocks have nearly all been dug into or rifled by relic hunters" (SHSND archives, Series 226, Box 17).

During this same excursion to north-central North Dakota, Bauxar (1947b) conducted a one-day survey of the proposed Des Lacs reservoir areas. Due to time constraints, only a "spot check" survey was made of a 10-mile reach along the west side of Upper Des Lacs Lake. (The Upper Des Lac Lake was first dammed by a series of low dikes in 1938.) No sites were reported, although test pits were dug at one "promising location" (see Test Excavation below). Bauxar (1947b:5) recommended that a more intensive reconnaissance be undertaken along the reaches of the prospective 25-mile-long reservoir. Apparently, his recommendation was not followed and the area of project effect was never intensively surveyed.

A period of nearly 20 years elapsed until the next reported inventory was conducted. During the initial phases of the Garrison Diversion project funded by the Bureau of Reclamation, some preliminary site survey work was conducted by Mallory (1966). There were also some surveys in 1973 for lands to be impacted by construction activities in the Garrison Diversion Unit (Schneider 1976).

During the mid-1970s, an increasing number of small surveys were completed in compliance with new public laws and regulations requiring that important prehistoric and historic properties be considered in the process of planning developments that modify the landscape. As indicated in the tabulation of inventory reports, much of this work involved surveying land tracts where coal and electric power developments and road improvements were planned.

A reconnaissance survey along stretches of US Highway 2 from Rugby to Leeds at the eastern edge of the Study Unit was conducted by the SHSND in June 1975. No archeological sites were recorded in the highway corridor for the ca. 27 mile (43 km) length of the survey transect (Franke 1975). Additional inventory work for the Highway 2 project were carried out by the SHSND in 1976 (Dill 1976a, 1976b) and 1978 (Dill 1978). One prehistoric site was identified during the survey. This site was subsequently tested and found to be a disturbed surface scatter which did not warrant further work (Dill 1978:1-2).

In April 1976, a small survey was undertaken of prospective coal strip mine areas near Velva, North Dakota. Dill (1976) reported one previously unrecorded prehistoric lithic scatter in a surveyed area of approximately 1,200 acres.

During the 1970s, plans were unveiled by the US Army Corps of Engineers (COE) to construct the Burlington Dam across the Souris River in the central part of the Study Unit. In response to this proposed action, preliminary survey work was conducted by the SHSND during 1974 and 1975. Franke (1975) reported finding eight sites. One of these, which was said to have formerly included an earthen mound (32WD103), had been completely destroyed prior to the survey. All of the recorded sites were located on the upland till plain overlooking the valley bottomlands. No sites were found on the floodplain.

Additional follow-up pedestrian survey of the Burlington dam and Lake Darling project areas was conducted by the UND for the COE during the fall of 1977. One goal was to identify sites, objects, and structures important to the prehistory of the area. A second goal was to provide input concerning management of the cultural resources present in the flood control project area. Forty previously unrecorded archeological sites were found during this reconnaissance (Good and Fox 1978).

During the following year, another cultural resource inventory was conducted for the COE by UND involving the Reach A-3 improvement areas of the Minot channel project along the Souris near Logan, North Dakota. One previously unrecorded site was found (Loendorf 1978a).

Several years passed before the next flurry of COE-sponsored inventory work along the Souris River took place. During the intervening period, plans for the proposed Burlington Dam had been shelved, and alternative flood control measures were devised by the COE. The next major cultural resource inventory along the Souris was conducted by Powers Elevation in late 1982. That work centered on three COE flood control project areas: (1) the Velva Levee, (2) the upper Souris bottomlands above Lake Darling, and (3) the Burlington to Minot levees and the Sawyer levee. These investigations documented 21 previously unrecorded prehistoric sites in the three project areas (Floodman et al. 1985).

A COE-sponsored survey was conducted in the north-central portion of the Study Unit by Cultural Research & Management, Inc. during May and June 1988. The survey area was a seven-mile stretch along the Souris River extending southward from the Canadian border in northern Renville County. Within this 3,000 acre tract of surveyed bottomland, 19 previously unrecorded prehistoric sites and four isolated finds were documented (Whitehurst et al. 1989).

A host of other inventories have been completed in other parts of the Study Unit. As indicated in the manuscript listing, much of this work was linked to 1) municipal, industrial, and road improvements and 2) energy demands (development of coal lands, oil patches, and power transmission lines). One of the first of these inventories was a long transect surveyed by UND in 1979 for the proposed Saskatchewan Intertie 230 kV Transmission line linking power exchange between Saskatchewan Power Cooperation and Basin Electric Power Cooperative. The surveyed right-of-way was a 38 m wide strip extending 217 km southeast from near Noonan, North Dakota, to a terminus south of Minot. Transects crossed the Drift Plains, a small segment of the Missouri Plateau, and a

much larger segment of the Missouri Coteau. The survey identified 58 previously unrecorded prehistoric sites (Fox 1980). Most of these sites contained stone features, predominantly stone circles.

The development of coal lands prompted a small amount of survey in the central part of the Study Unit along the Missouri Escarpment and the Coteau. At Consolidation Coal's Velva Mine, Gregg (1984) found four prehistoric sites in a 150-acre area comprising four discontinuous survey parcels.

Pedestrian surveys in the last two decades have been undertaken almost exclusively for transportation and energy projects. Linear road surveys and borrow pits are common. Energy projects include proposed well pads, transmission lines, and pipelines. More recently tracts also have been surveyed for cellular phone towers and windfarms (Table 11.4).

Pedestrian survey of the Alliance Pipeline occurred in 1996 and 1997. The pipeline enters North Dakota from Canada, beginning north of the community of Sherwood, running southeasterly, and exits Richland County near the intersection of the North Dakota, South Dakota, and Minnesota borders (Stine et al. 1998b). The linear corridor width ranged from 200-300 ft with much of the pipeline paralleling the previously constructed Dome Pipeline. The Alliance Pipeline segment within the Souris River Study Unit runs through Renville, Bottineau and McHenry counties. Two archeological sites and four prehistoric isolated finds were recorded along the segment. Site 32MH143 was found on the north side of the Deep River. It consists of numerous small- to large-sized mammal bone fragments and one brown chert flake, paleosols also were noted (ibid.:31). Site 32MH143 was tested in 1997 (Stine et al. 1998a, c). An additional two flakes and 11 pieces of bone were recovered. No further work was recommended. Located on the south side of the Deep River, 32MH144 is recorded as a buried cultural material scatter. Shovel probes at the site contained flakes, charcoal, and burned and unburned bone. They also revealed the presence of two to three buried A horizons (Stine et al. 1998a). Later testing resulted in expansion of the site boundaries, however the site was avoided by rerouting the pipeline (Stine et al. 1998c).

Assessment of Inventory Procedures

The following paragraphs provide an assessment of (1) the inventory procedures that have been employed in the Study Unit to identify sites and (2) future directions in on-the-ground inventory practices which could increase inventory productivity and usefulness of inventory results.

Surveyed tracts vary from the 50 ft to 300 ft wide linear projects, to large blocks of land containing hundreds of acres, to small parcels of a few acres. The standard field procedure employed to locate sites has been visual pedestrian reconnaissance. This involves walking over the land looking for evidence of past human use as evinced by surface artifacts or other cultural remains such as rock features. Surface manifestations also include things that are exposed in erosional cuts and areas disturbed by burrowing animals or other agents of pedoturbation.

Shovel probing and auger probing have been incorporated into inventory programs in some instances to explore for shallowly buried cultural artifact deposits which are obscured by dense surface vegetation (cf. Whitehurst et al. 1989). Similarly, solid rod probing has been employed to locate shallowly buried stone features (Gregg 1984).

A number of characteristics must be considered when utilizing the cultural resource inventory database for the Des Lacs-Souris basin in particular, and other parts of North Dakota in general. First, there exists no standard definition and working criteria of what constitutes a "site." [David Benn (1986:55-57) has discussed this same problem for northwestern Iowa]. "Isolated find spots" are defined as solitary artifacts as well as "occurrences of cultural material that are not sufficiently concentrated to be classified as a site" (Snortland-Coles and Perry 1986:13). Lacking a definition of a site, both isolated artifacts and diffuse scatters of artifacts that some investigators would record as sites are recorded as isolated find spots.

Second, field procedures have never been systematized or standardized to insure that similar spacing intervals and inspection techniques are employed for surveys. Reported spacings vary from 5 m intervals (Good and Fox 1978:8-9) to "not more than 30 m" (Whitehurst et al. 1989:49). It appears that a 15 m (50 ft) interval is common. More tightly spaced intervals should result in closer scrutiny of the ground surface and discovery of more artifacts and more sites (all other things being equal, such as surveyor experience and aptitude for spotting artifacts).

Looking back to 1974, the survey of the proposed Dome pipeline right-of-way which transected 327 miles of North Dakota resulted in the discovery of only five archeological sites and one historic site (Carmichael 1974). One reason for the low yield is probably that only heavily grazed pastureland and plowed unplanted fields were surveyed.

Third, geomorphological and landform modeling as a research tool in the Study Unit has been underutilized. Geomorphological considerations by McFaul (in Whitehurst et al. 1989) represent an important step. Modeling of the sort that McFaul developed serves as a guide for surveyors to look more carefully and explore specifically in certain areas and at certain depths below the surface. The McFaul study should also be useful for helping plan test excavation sampling strategies in the basin.

Certainly, the Hecker archival materials need to be studied, and the sites that he noted need to be revisited and recorded. Then, with the very large resultant sample of site data, more precise models can be formulated regarding prospects for sites in different settings. Following is an example of the kind of information related to this topic which is immediately available in the archives:

In looking over the surface for Indian relics or evidence of occupation, you will find [several] types or conditions of surface area in McHenry County. (1) Cultivated fields where the plow brings to the surface or wind erosion uncovers artifacts or other evidence of occupation. (2) Hay meadows where the more rapid soil growth has covered any lost or

discarded Indian relics that may have been left on their surface. (3) Level pasture land still in the natural state. This land is usually light, sandy loam or gravel unfit for agriculture. In these sandy pastures wind erosion working on spots where the sod is broken or dust wallows made by stock, blowouts from a few square rods to several acres in extent develop uncovering campsites or casual artifacts. This condition prevails in the northeast one-fourth of McHenry County. (4) Pasture land along the banks of coulees, on glacial hills, and the bluffs along the Mouse River where the land is too rough for cultivation. On this rough land where the surface rock has not been removed . . . can be seen tepee rings, tepee sites, fire places, graves, etc. As the Indian preferred to camp on level ground, only a small amount of evidence of occupation can be seen on this rough land. (5) In the brush covered sand hills where the wind is constantly shifting small areas, artifacts are uncovered and covered again by every shifting wind. (6) On dry lake beds and beaches, wind erosion uncovers campsites. In the timber along the Mouse River, the falling leaves, brush, and soil growth has buried practically all evidence of Indian occupation (SHSND archives. Series 226, Box 17).

Test Excavation Projects

The beginnings of controlled test excavations at archeological sites in the Study Unit were in the mid-1970s (Table 11.5). Earlier professional archeologists generally focused on the Missouri and Red River valleys.

With the passage and adoption of major CRM legislation and regulations (National Historic Preservation Act of 1966; Archeological Resources Protection Act of 1984; Executive Order 11593; Code of Federal Regulations, Volume 36 Part 800), it became necessary to conduct test excavations in order to objectively evaluate the significance of sites.

The following paragraphs mention those testing projects undertaken in the Study Unit which yielded substantive results. Due to the limited amount of test excavation conducted, much of this discussion will focus on general matters of cultural chronology, artifact technology and style, settlement practices, and subsistence pursuits in the Des Lacs-Souris basin. A second point to be addressed concerns negative evidence; some tests where artifact deposits were anticipated but not found are also considered. A third issue is the nature and adequacy of testing strategies and sampling designs employed.

It seems that Bauxar (1947b) conducted the first excavations within the Study Unit near the Des Lacs dam. The report is inadequate. There is no information regarding whether screens were used, and there is no description of what was really found. Apparently, only bone remains were recovered.

A period of nearly 30 years passed before formal test excavations were undertaken. Limited testing took place at one site associated with US Highway 2

improvement projects. Dill (1977) reported no substantive results. Methods and written results of this investigation are sketchy.

Table 11.5: Test Excavation Projects in the Souris River Study Unit, 5-Sept-2007.

Year	First Author	Second Author	Title	Ms #
1977	Dill, C.		North Dakota Highway Department Project No. F-4-002 ()147 Test Excavations Negative Declaration Survey Report, Ward Co., ND	269
1984	Floodman, M.		Preliminary Field Report of the 1983 Archeological Testing Program on the Upper Souris River, Renville Co., ND	3520
1984	Floodman, M.	G. Firebaugh	Preliminary Report of Archaeological Testing at Site 32MH3 at the Proposed Velva Levee, McHenry Co., ND	3034
1985	Floodman, M.	P. Friedman	Final Report of the 1983-1984 Archaeological Testing Program for the Lake Darling-Souris River Project, McHenry Co. & Renville Co., ND	3674
1995	Borchert, J.		32RO19 Evaluative Testing in the Turtle Mountains	6627
1996	Christensen, R.		US Highway 52 Archaeology: Evaluative Testing at 32WD396.	6843
1998	Stine, E.	M. Cassell et al.	Alliance Pipeline Project: Phase II Testing and Evaluation of 37 Sites in ND, Vols. I & II	7212
1998	Stine, E.	M. Hannum et al.	Phase II Testing and Evaluation of 21 Sites and Five Sites Revisited An Addendum to Alliance Pipeline Project: Phase II Testing & Evaluation of 37 Sites in ND	7329
2001	Morrison, J.		Deep Into the Mud Along an Old Trail: Testing of a Deeply Buried Site, 32WD1555: Ward Co., ND	8457
2001	Morrison, J.		Into the Mud with the Bugs Along an Old Trail: Evaluative Testing of Seven Sites and Geoarchaeological Investigations at Seven Locales Along Forty Miles of US Hwy 52, in Renville & Ward Co., ND	7956
2001	Morrison, J.		State Option Gravel Pit #0403: Evaluative Testing of 32MH115, McHenry Co., ND	8049

Dill also tested several sites just outside the Study Unit along the northern edge of the Coteau in northeastern Mountrail County in 1978. Three stone circle sites (32MN103, 32MN104, and 32MN105) located along US Highway 2 near Blaisdell were sampled. A single 1 x 1 m test unit was dug at each site. No artifacts were recovered (Dill 1978).

The first testing project associated with the proposed Burlington Dam project was conducted by UND in the fall of 1978. Three sites (32WD401, 32WD407, 32WD408) were sampled by test excavation and mechanical auger probing. This represents the first use of auger probes in the Study Unit to collect information for the purpose of defining site boundaries and locating buried cultural deposits. Data recorded concerning artifact density from auger probes served to aid in the selection and placement of test units at the three sites. At each of the three sites, single test units measuring 2 x 2 m in size were excavated. The Washek site (32WD408) evinced a buried cultural deposit containing stone tools, chipped stone flaking debris (CSFD), fire-cracked rock (FCR), and bone remains. Temporally/culturally sensitive artifacts were not recovered and the deposit was not dated. The other two sites did not yield substantial artifact samples.

The most extensive testing project undertaken thus far was conducted by Powers Elevation during 1983 and 1984 (Floodman and Friedman 1986). Twenty-one previously recorded prehistoric sites along the Souris River in McHenry and Renville counties were investigated. The purpose of this work was to provide evaluations of

National Register of Historic Places (NRHP) eligibility for these properties. Of the 21 sites, eight were sampled by controlled test excavation (test units 1 x 1 m or larger in size), and the remaining 13 were sampled with smaller shovel probes of varying dimensions. Four sites on the Souris River floodplain were found to contain buried, intact cultural deposits beneath the zone of plowing disturbance. At 32RV415, one component was radiocarbon dated to 720±120 BP (Beta 11380; Floodman and Friedman 1986). At a second site (32RV429), a fire hearth feature was excavated. A buried deposit of culturally modified bone remains was encountered at 32RV9; culturally or temporally diagnostic artifacts were not found in association. Finally, work at 32RV15 revealed a buried cultural zone that yielded a small side-notched projectile point. All of these sites were assessed as NRHP eligible.

Test excavation was conducted at 32MH144 in September 1997 to determine its size, significance, and impact of the Alliance Pipeline. Testing included 59 shovel tests, three 1-x-1 m units, and one 2-x-2 m unit (Stine et al. 1998:50). The cultural assemblage consisted of one feature, three Knife River flint (KRF) chipped stone tools (retouched flake tool, a biface tip, and an end scraper), flaking debris, fire-cracked rock, and numerous faunal remains (bird, bison, and unknown species [ibid.:53-54]). The feature consisted of grey ash and grey-brown mottled ash below (ibid.:52). The function and age of the feature are unknown. However, investigators speculate that due to the type of feature fill there are likely hearths in the vicinity. Seventy percent of the flaking debris was recovered from the feature. Bone was located in association with a paleosol (ibid.:54). The paleosol investigation was limited by safety concerns. Future excavation is recommended. Investigators propose the possibility of the site dating to the Archaic period (ibid.:55).

As part of a transportation project along US Highway 52, seven sites were tested in the summer of 2000. Two of the sites (32WD1475 and 32WD97/32RV243) were recommended as eligible for the NRHP. Further, geoarcheological investigations were conducted at seven locales, resulting in the recordation of one archeological site (32WD1555; see below).

Site 32WD1475 is located southwest of the highway on the edge of a “coulee fan terrace” (Morrison 2001a:33). Artifacts recovered from multiple cultural layers include medium- to large-sized mammal bone fragments, burned turtle shell, flaking debris, chipped stone tools, and one ground stone fragment. The sole diagnostic tool is a Prairie Side-Notched point dating to 1250-650 BP (ibid.:36). The analysis of flaking debris suggests that cores were imported to the site and then reduced in order to create blanks (ibid.:42). Faunal analysis revealed that the bone had been modified (burned, charred, spirally fractured, or marked from butchering). Investigators surmise that the site was a routinely visited temporary camp (ibid.:49).

Site 32WD97/32RV243 is situated south of US Highway 52, east of a drainage in a flat farm field (ibid.:58). The artifact assemblage, recovered from multiple cultural layers, includes faunal remains, flaking debris, a chipped stone tool, fire-cracked rock, and a shell fragment. A Prairie Side-Notched point was recorded during the initial survey of the site. The analysis of flaking debris and faunal remains (ibid.:61) and the

site's stratigraphic pattern indicate that it functioned similarly to 32WD1475 discussed above (ibid.:68).

Site 32WD1555, located west of US Highway 52 on a coulee terrace in the Des Lacs River valley, was discovered during geoaarcheological investigations of a backhoe trench (Morrison 2001:ii). The site consisted of a hearth remnant of oxidized earth and organic fill two meters below ground surface (Morrison 2001b:28). Radiocarbon tests resulted in a date of 9700±120 BP (ibid.). In 2001 test excavations were conducted at the site. The artifact assemblage consists of flaking debris, chipped stone tools, bone fragments, and snail shells. The investigators were surprised by the paucity of artifacts. They suggest: "Based on the artifact assemblage and the geomorphic data the feature appears to be (a) on the edge of a paleo-landform, (b) testing was skewed too far to the south/east and/or (c) the site was not an extensive occupation" (ibid.).

The bulk of the work in the basin has been conducted for the St. Paul District, US Army COE. Figure 11.2 is a summary written by V. Gnabasik presenting COE work dating through 1989.

Figure 11.2: US Army Corps of Engineers work through 1989.

Summary of Cultural Resources Work, Souris River Basin, North Dakota
<p>Field Season: 1974-1975 Project: Burlington Dam Flood Control Project Contract No.: DACW37-74-C-0165 Institution: SHSND, Principal Investigator: N. Franke Report Title: Report of the Archaeological and Historic Site Survey of Channel Modifications on the Souris River in the Vicinity of Minot, ND and the Areas of the Burlington Dam and Lake, ND Author: N. Franke, Report Date: 1975 Description of Work: Fieldwork consisted of an archeological and historical sites survey of three areas: the proposed channel modifications on the Souris River near Minot, ND; the proposed Burlington Dam site on the Des Lacs River; and the proposed diversion tunnel between the Des Lacs River and the Souris River. The areas surveyed included all or parts of 156/84-Sec. 3-10, 14-18, 22-26, 35-36 and all or parts of 156/85-Sec. 1, 12, 13. Results: No sites were found in the channel modifications areas. Eight prehistoric sites (32WD101-32WD108) and two isolated finds were recorded for the dam site and diversion tunnel areas. None of these sites were evaluated for eligibility to the NRHP. Manuscript #148</p>
<p>Field Season: 1977 Project: Burlington Dam Flood Control Project Contract No.: DACW37-77-M-1387 Institution: UND, Principal Investigator: F. Schneider Report Title: Preliminary Cultural Resource Investigation of the Upper Souris River Basin, ND Author: F. Schneider, Report Date: 9/9/1977 Description of Work: This was primarily a literature and records search for archeological, historical and paleontological resources, but did include a five-day preliminary field reconnaissance. It addressed the project areas outlined in the Final Updated Environmental Impact Statement, Flood Control, Burlington Dam (1975). The study area included the proposed Burlington Dam site and Des Lacs Diversion projects; the maximum floodpool area of the Burlington Reservoir; proposed levee construction in the Minot, Sawyer and Velva areas; and part of the Souris River between Towner and the J. Clark Salyer Wildlife Refuge scheduled for channel clearing and snagging. Results: The literature and records search turned up information on 10 known archeological and 2</p>

Summary of Cultural Resources Work, Souris River Basin, North Dakota

historical or architectural sites and 786 archeological and/or historical site leads for the study area. The five day preliminary field reconnaissance concentrated on local informant interviews and visits to known sites.

Manuscript #136

Field Season: 1977

Project: Burlington Dam Flood Control Project

Contract No.: DACW37-77-C-0128

Institution: UND, **Principal Investigator:** F. Schneider

Report Title: An Archaeological Survey: Shoreline of Lake Darling and by Virginia Gnabasik Proposed Burlington Dam Flood Control Project Area, Upper Souris River, ND

Authors: K. Good, R. Fox, and M. Nicolai, **Report Date:** 1978

Description of Work: Work involved the entire Burlington Dam Flood Control Project area from the proposed dam site two miles north of Burlington, ND northerly along the Souris River valley to the Canadian border. The project area was divided into three areas of ranked priority for cultural resources survey purposes.

Area 1 extended from Dam No. 83 (Lake Darling) north to the river crossing in the 161/86-Sec. SE $\frac{1}{4}$ 25 and involved lands between the existing Lake Darling shoreline and 1620 ft amsl, plus fill and borrow areas in 160/85-Sec. SW $\frac{1}{4}$ of 19, NW $\frac{1}{4}$ of 30, E $\frac{1}{2}$ of 30, SW $\frac{1}{4}$ of 29, SE $\frac{1}{4}$ of 29, SW $\frac{1}{4}$ of 28, NW $\frac{1}{4}$ of 33.

Area 2 extended from the proposed Burlington Dam site in the 156/83-Sec. NE $\frac{1}{4}$ of 26 (2 mi north of Burlington, North Dakota) to Dam No. 83, and involved lands from the Souris River up to 1620 ft amsl, plus borrow areas in the 157/84-Sec. NW $\frac{1}{4}$ of 6, 156/83-Sec. NW $\frac{1}{4}$ of 26; 156/83-Sec. NW $\frac{1}{4}$ of 25.

Area 3 extended from the river crossing in the 161/86-Sec. SE $\frac{1}{4}$ of 25 and north along the Souris River valley to the Canadian border.

Area 4, the proposed Des Lacs Diversion Tunnel right-of-way, was also included. This right-of-way consisted of a 300 ft wide corridor extending from the common section corner for 156/86-Sec. 4, 5, 8, 9 true southwest to the Des Lacs River.

An intensive cultural resources inventory was conducted of Areas 1, 2 and 4. Only random spot checking of that part of Area 3 below 163/87-Sec. 36 was accomplished however. The authors state that it was not even of sufficient intensity to constitute a reconnaissance level survey.

Results: A total of 48 archeological sites were found or relocated as a result of this survey: 23 in Area 1; 11 new and 7 relocated in Area 2; 6 in Area 3; and 1 at the proposed tunnel outlet on the Souris River in Area 4. Of those sites in Area 1, one (32RV426) is considered potentially eligible, 13 (32RV401-32RV403, 32RV405, 32RV407, 32RV408, 32RV410, 32RV421, 32RV423-32RV425, 32RV427-32RV428) are considered not eligible, and 9 (32RV404, 32RV406, 32RV416-32RV420, 32RV422) are of unknown eligibility to the NRHP. Seven of the sites in Area 2 (32WD101-32WD103, 32WD106-32WD108, 32WD411) are considered to be not eligible and 11 (32WD104-32WD105, 32WD401-32WD409) are of unknown eligibility to the NRHP. One site (32WD412) is listed as being outside of the project area and thus is not evaluated. In Area 3, sites 32RV411 and 32RV412 are considered to be potentially eligible, site 32RV413 is considered to be not eligible, and sites 32RV414, 32RV415 and 32RV429 are of unknown eligibility to the NRHP. Site 32WD404 in Area 4 is also of unknown eligibility.

Manuscript #553

Field Season: 1978

Project: Burlington Dam Flood Control Project

Contract No.: DACW37-77-C-0128

Institution: UND, **Principal Investigator:** F. Schneider

Report Title: Historical Cultural Resource Survey of the Upper Souris River, ND

Author: K. Schweigert, **Report Date:** 1979

Description of Work: Archival research, interviewing local inhabitants, and field survey were conducted in connection with a historic sites inventory of the same Burlington Dam Flood Control Project areas as covered in the UND's 1977 archeological survey. The Burlington Dam Flood Control Project included the following components: dam construction on the Souris River near Burlington, ND; dam construction on the Des Lacs River near Foxholm, ND; construction of a diversion tunnel from the Des Lacs River to the Souris River; raising the existing Lake Darling Dam on the Souris River with a resultant increase in pool

Summary of Cultural Resources Work, Souris River Basin, North Dakota

level from 1598-1620 ft amsl; levee upgrading between Burlington and Minot; and levee construction at Sawyer and Velva, ND. A windshield survey for standing buildings and structures and obvious historic ruins was conducted of the entire study area, with intensive pedestrian survey of all proposed construction areas and of areas of historic interest identified either during the previous field season's archeological survey or during archival work.

Results: Fourteen historically or architecturally significant sites (32RV101, 32RV430-32RV441, 32WD413) were recorded as a result of this survey. One of these, 32RV101, the pioneer era McKinney Cemetery, is already on the NRHP. Three others, 32RV431, the Parker Log House, 32RV437, the Swenson Cabin, and 32RV441, the Mouse River Park, are believed to be eligible to the NRHP. In addition, field notes were taken on 151 other structures, farmsteads and sites considered of low historical significance by the author. It is unknown if these were ever formally recorded on official ND site forms as no official site numbers are given.

Manuscript #2522

Field Season: 1978

Project: Burlington Dam Flood Control Project

Contract No.: DACW37-77-C-0128, Supplemental Agreement No. P00001

Institution: UND, **Principal Investigator:** F. Schneider

Report Title: Archaeological Testing and Survey: Testing of Three Sites and Survey of a Road Detour Within Proposed Project Construction Zones, Burlington Dam Flood Control Project Area, Upper Souris River, ND

Author: K. Good and J. Hauff, **Report Date:** 1980

Description of Work: Three sites in imminent danger of destruction due to Burlington Dam Flood Control Project related construction activities were tested to determine their NRHP eligibility and whether further work at them would be necessary prior to construction. The Herzig site, 32WD401, was endangered by Des Lacs Diversion Tunnel construction and outfall. Twenty-five auger holes and one 2-x-2-m excavation unit were dug at this site. The Big Critter site, 32WD408, was endangered by borrow area activities a short distance below the Lake Darling Dam. Testing here by Virginia Gnabasik consisted of 15 auger holes and one 2-x-2-m excavation unit. The Washek site, 32WD407, would be totally destroyed by construction at the Burlington dam site. Testing at this site involved 41 auger holes and one 2-x-2-m excavation unit. In addition to this testing, a cultural resources survey was conducted of road improvement areas along a proposed detour route involving Ward County Road (CR) 10 from CR 15 to CR 17 and CR 17 from CR 10 to CR 8.

Results: Only very sparse cultural material was encountered at the Herzig and Big Critter sites. They are evaluated as being not eligible to the NRHP. In contrast, seven of the auger probe holes at the Washek site were positive and dense deposits of bone, burned bone, fire-cracked rock, flakes and chipped stone tools were encountered between 0-80 cm in the excavation unit there. This site was interpreted as being a meat processing site with a special emphasis on bone grease rendering. This site is evaluated as being eligible to the NRHP based on contributions it could potentially make to knowledge of the prehistory of the area. Finally, no cultural resources were observed along the road detour route surveyed.

Manuscript #960

Field Season: 1982 (1984)

Project: Lake Darling-Souris River Project

Contract No.: DACW37-82-C-0030

Report Title: Final Report of the 1982 Cultural Resources Survey for the Lake Darling-Souris River Project, ND

Institution: Powers Elevation, **Principal Investigator:** Bruce E. Rippeteau

Author: M. Floodman, P. Friedman, K. Schweigert, A. Johnson, **Report Date:** 1985

Description of Work: This survey represents the first fieldwork done along the Souris River after overall flood control project emphasis had changed from constructing the Burlington Dam to the alternative of raising the existing Lake Darling Dam with a resultant increase in its pool level. Intensive surveys were conducted in four areas: the Velva levee; the Upper Souris River above Lake Darling (equivalent to UND's 1977 survey Area 3); the six Burlington to Minot levees; and the Sawyer levee. The proposed rural residence flood protection levees were not included as part of this survey contract. In addition, and in

Summary of Cultural Resources Work, Souris River Basin, North Dakota

connection with this survey, a total of 76 shovel probes were dug at six selected locations within the area above Lake Darling in May and June of 1984.

Results: A total of 16 new prehistoric sites, 61 new historic/architectural sites, and 8 prehistoric isolated finds were recorded during this survey. Of these, one prehistoric site (32MH3) and 25 historic or historic/architectural sites (32MH4-32MH27 and field no. PE-S-2) were recorded for the Velva levee survey area. All the historic/architectural sites are in the town of Velva. Prehistoric site 32MH3's NRHP eligibility is undetermined; historic-architectural site 32MH20 (Swanson House) is considered eligible to the NRHP; and the remainder are believed to be not eligible to the NRHP.

Fourteen of the newly recorded prehistoric sites (32RV3-32RV16) and 15 of the newly recorded historic/architectural sites (32RV17-32RV31) were recorded for the Lake Darling-Upper Souris River survey area. Additionally, six prehistoric sites (32RV411-32RV415, 32RV429) and five historic or architectural sites (32RV101, 32RV434, 32RV437, 32RV440, 32RV441), which were recorded by UND during their 1977 and 1978 surveys, were relocated. No sites were found as a result of the 1984 shovel probe testing in parts of this survey area. Regarding these sites, historic site 32RV101 (McKinney Cemetery) is already on the NRHP; historic/architectural sites 32RV23 (Syverson Homestead), 32RV437 (Swenson Cabin), 32RV440 (Brekkas Stone House) and 32RV441 (Mouse River Park) are considered eligible; prehistoric sites 32RV8, 32RV9, 32RV12, 32RV14, 32RV411, 32RV412, 32RV415 and 32RV429 are considered potentially eligible; prehistoric sites 32RV15 and 32RV16 and historic/architectural sites 32RV21 (Josln Homestead), 32RV25 (Mouse River Horse and Cattle Company), 32RV28 (Barber Townsite) and 32RV434 (McKinney Mill) are of undetermined eligibility; and the remaining sites are considered to be not eligible to the NRHP.

Finally, one prehistoric site (32WD24) and seven historic or architectural sites (32WD33-32WD37, 32WD44, 32WD45) were newly recorded for the Burlington to Minot levee areas and 14 historic or architectural sites (32WD25-32WD32, 32WD38-32WD43) were recorded for the Sawyer levee area. Of these, prehistoric site 32WD24 is considered potentially eligible and all 21 of the historic/architectural sites are considered to be not eligible to the NRHP.

Manuscript #3672

Field Season: 1983-1984

Project: Lake Darling-Souris River Project

Contract No.: DACW37-82-C-0030, Contract Modification No. P00001

Report Title: Final Report of the 1983-1984 Archaeological Testing Program for the Lake Darling-Souris River Project, ND

Institution: Powers Elevation, **Principal Investigator:** B. Rippeteau

Author: M. Floodman, P. Friedman, S. Greiser, A. Johnson, D. Walker, **Report Date:** 1985

Description of Work: Twenty-one prehistoric sites (32MH3, 32RV3, 32RV4, 32RV5, 32RV6, 32RV7, 32RV8, 32RV9, 32RV11, 32RV12, 32RV13, 32RV15, 32RV16, 32RV413, 32RV414, 32RV415, 32RV419, 32RV420, 32RV421, 32RV422 and 32RV429) and four historic sites (32RV21, 32RV25, 32RV28 and 32RV434) were tested to determine their eligibility to the NRHP.

Prehistoric site 32WD24 was also scheduled for testing, but was not because the landowner refused access. Sites 32RV413-32RV415, 32RV419-32RV422, 32RV429 and 32RV434 were originally recorded by UND in 1977 and 1978; the remaining sites were recorded by Powers Elevation in 1982.

Testing at all the prehistoric sites consisted of a combination of a controlled surface collection and excavation of a series of shovel probes. In addition, a single 1-x-1-m excavation unit was dug at sites 32RV12, 32RV15, 32RV415 and 32RV419; two such units were dug at site 32RV421; three at site 32RV422; and four each at sites 32RV420 and 32RV429. A single 1-x-2-m excavation unit was dug at site 32RV9 and a single 50-x-50-cm excavation unit was dug at site 32RV413. For the historic sites' evaluation, five 1-x-1-m excavation units were dug in various features at site 32RV21; six such units were dug at each of sites 32RV28 and 32RV434; and seven such were dug at site 32RV25.

Results: Based on the results of the surface collection, shovel probing, and test unit excavation at the various prehistoric sites, only sites 32RV15, 32RV415, 32RV420, 32RV421, 32RV422 and 32RV429 are evaluated as being eligible to the NRHP as only these six sites produced sufficient undisturbed diagnostic and/or datable materials or evidence of undisturbed features, which suggests that they have the potential to yield important information on the prehistory of the region. The remaining 15 prehistoric sites tested are all evaluated as being not eligible to the NRHP. The testing at the four historic sites resulted in their being

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evaluated as not eligible to the NRHP.

Manuscript #3674

Field Season: 1988

Project: Souris River Basin Project

Contract No.: DACW37-88-M-0705

Institution: Cultural Research & Management, Inc., **Principal Investigator:** R. Persinger

Report Title: A Class III Cultural Resource Inventory of a Portion of the Upper Souris River Valley, ND

Author: J. Whitehurst, J. Dahlberg, K. Schweigert, R. Persinger and M. McFaul, **Report Date:** 1988

Description of Work: This survey represents the first field work done along the Souris River after primary flood control project emphasis had changed from raising the existing Lake Darling Dam to increase its storage capacity to a cooperative flood control project between the USA and Canada involving construction of the Alameda and Rafferty dams in Saskatchewan which would also provide flood protection for communities in ND along the Souris River. This particular intensive cultural resources survey covers the 7.5 miles of Souris River valley from the Canadian border in 164/87-Sec. 28, southward to 163/87-Sec. 36. Parts of 163/87-Sec. 3, 4, 10, 11, 14, 15, 22, 23, 25, 26, 35, 3 and 164/87-Sec. 28, 33, 34 are included in the survey area, which is located entirely on the valley floor. While the actual survey took place in May-June 1988, geomorphological studies, which were not anticipated at its start, were conducted in August and September 1988. A total of 66 auger and shovel probes were dug in areas of poor surface visibility to supplement the survey.

Results: A total of 38 new and 1 relocated sites were found during this survey. Nineteen of the newly recorded sites are prehistoric (field numbers CRM276-3, CRM276-4, CRM276-5, CRM276-6, CRM276-7, CRM276-10, CRM276-12, CRM276-14, CRM276-16, CRM276-18, CRM276-21, CRM276-23, CRM276-24, CRM276-25, CRM276-26, CRM276-27, CRM276-34, CRM276-36 and CRM276-37); three are historic (field nos. CRM276-15, CRM276-19 and CRM276-22); and the remaining 17 sites are historic/architectural (32RV438 and field nos. CRM276-1, CRM276-2, CRM276-8, CRM276-9, CRM276-11, CRM276-13, CRM276-17, CRM276-20, CRM276-28, CRM276-29, CRM276-30, CRM276-31, CRM276-32, CRM276-33, CRM276-35 and CRM276-38). Previously recorded architectural site 32RV438 is considered eligible to the NRHP. All 19 prehistoric sites are of undetermined eligibility. The remaining 19 historic and architectural sites are considered to be not eligible to the NRHP. All of the shovel and auger probes were negative.

Draft report dated 11/1988 includes geomorphology section. Received by St. Paul District in 12/1988.

Review comments sent to contractor 2/1/1989.

Manuscript #4702

Project: Souris River Basin Project

Report Title: Final Report of a Phase I Cultural Resources Survey of the Levee Modifications at Sawyer, Ward County, ND

Institution: Powers Elevation, Inc., **Principal Investigator:** M. Floodman

Author: Mervin G. Floodman, **Report Date:** 1989

Description of Work: Fieldwork consisted of an intensive cultural resources survey of a channel cutoff and three levee modification areas to the proposed Sawyer levee which was initially surveyed in 1982 by Powers Elevation. The four modification areas are in 153/81-Sec. 2, 10, 11, Ward County.

Results: No new historic, prehistoric or architectural sites were recorded as a result of this survey. Previously recorded historic/architectural sites 32WD40 in Area 2 and 32WD30 and 32WD41 in Area 3 were relocated. All three of these sites were considered to be not eligible to the NRHP during the earlier (1982) Sawyer levee survey.

The draft report has been submitted to the ND SHPO for review and comment. Final report received by St. Paul District in 1/1989.

Manuscript #4682

Field Season: 1988

Project: Souris River Basin Project

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Contract No.: DACW37-88-M-0979

Institution: Powers Elevation, Inc., **Principal Investigator:** M. Floodman

Report Title: Final Report of a Phase I Archaeological Survey of the Souris River Basin Project Rural Improvements, Renville, Ward, and McHenry Counties, ND

Author: M. Floodman, **Report Date:** 1989

Description of Work: An intensive archeological survey for prehistoric cultural resources was conducted at 14 rural farmsteads involved in the proposed rural improvements segment of the Souris River Basin Project. Proposed flood protection actions at these farmsteads include the following options: raising their access roads, construction of ring levees around primary farm residences, raising primary farm residences, and/or acquisition of farm residences. Corps identification numbers for the farmsteads involved are 420, 769, 810, 960, 1020, 1045, 1108, 1112, 1114, 1116, 1181, 1182, 1183 and 2600. An additional area, 1130, is not connected with a farmstead, but rather is a bank stabilization area. These areas are located as follows: 420 (154/77-NW¼ Sec. 4) in McHenry County, 769 (153/81-SW¼ Sec. 2), 810 (153/81-NE¼, Sec. 10), 960 (154/82-SE¼ Sec. 19), 1020 (154/82-SE¼ Sec. 24), 1045 (154/82-NE¼ Sec. 24), 1108 (154/82-NE¼ Sec. 10), 1112, 1114 & 1116 (154/82-NW¼ Sec. 10), 1130 (154/82-NW¼ Sec. 11), 1181, 1182 & 1183 (154/82-SE¼ Sec. 3), all in Ward County, and 2600 (163/87-NW¼ Sec. 36) in Renville County.

Results: One prehistoric cultural material scatter site (32WD53) was recorded at farmstead 810. Its NRHP eligibility is undetermined. A prehistoric isolated find was encountered at farmstead 420. No prehistoric cultural resources sites or isolated finds were observed at any of the other rural improvement areas surveyed.

The draft report has been sent to the ND SHPO for review and comment. Final report received by St. Paul District in 1/1989.

Manuscript #4706

Field Season: 1988

Project: Souris River Basin Project

Contract No.: DACW37-88-M-1093

Report Title: Historic Standing Structure Investigation of the Souris River Basin Project Rural Improvements

Institution: Historical Research Associates, **Principal Investigator:** D. Gallacher

Author: D. Gallacher, **Report Date:** 1988

Description of Work: Seventeen farmsteads, most still occupied, were recorded during an architectural survey and NRHP evaluation of buildings and structures to be surrounded by ring levees or raised above flood level in connection with the rural improvements segment of the Souris River Basin Project. Over 150 features, buildings and structures were looked at as part of these 17 farmsteads, although only their primary residences are scheduled for protection. These 17 proposed rural improvement locations are situated along both sides of the Souris River from Minot, ND to about 8 mi north of Towner, ND. The farmsteads involved are numbered 81 (157/77-NW¼ Sec. 19), 121 (157/76-NE¼ Sec. 12), 195-199 (156/76-W½ Sec. 16), 232 (156/76-E½ Sec. 29), 320 (155/77-SW¼ Sec. 1), 420 (154/77-NW¼ Sec. 4), 430 (154/77-NE¼ Sec. 6), 451 (154/78-SE¼ Sec. 1), 452 (154/78-SE¼ Sec. 10), 454 (154/78-SW¼ Sec. 1), 475 (154/78-E½ Sec. 10), 485 (154/78-S½ Sec. 9), 525 (154/78-E½ Sec. 20), and 580 (153/79-NE¼ Sec. 7, NW¼ Sec. 8), all in McHenry County, and 1090 (154/82-SE¼ Sec. 11), 1130 (154/82-N½ Sec. 11) and 1421 (155/83-SE¼ Sec. 17) in Ward County.

Results: None of the 17 farmsteads are considered to be NRHP eligible or to have NRHP eligible buildings or structures due primarily to a lack of physical integrity or integrity of association.

The draft report was sent to the ND SHPO for review and comment. Review comments sent to contractor 12/1988.

Manuscript #4704

Assessment of Sampling Designs and Testing Strategies

Archeological sites often need to be “tested” in order to evaluate their content and structure and integrity. This information is necessary in order to evaluate sites for NRHP eligibility. Because this evaluation phase is so important in the Section 106 process, the Professional Council for North Dakota Heritage developed a set of Standards for test excavations in North Dakota (PCNDH 1986). However, much of the site evaluation work that has been done in the Study Unit has employed shovel probing rather than test excavation as the procedure for assessing site content, structure, and integrity.

Due to the relatively small number of archeological sites which have actually been evaluated through the use of test excavation, it is quite simple to summarize the approaches that have been applied. Sampling designs have not been standardized.

Most testing has relied on field recovery through use of quarter-inch mesh screens. Only a few tests have employed finer-scale sixteenth-inch mesh water screen recovery. PCNDH testing standards have not yet been fully applied at sites in the Souris basin.

Test units excavated in floodplain settings were not taken down to culturally sterile deposits. Tests have not probed downward to explore the total depth of artifact deposits. Of course, there are limitations to ordinary deep testing such as encountering the water table or working in sediments where excavation walls are liable to collapse and endanger excavators. However, in an archeologically perfect world, all testing projects would include exploration for deeply buried artifact deposits by some means, even if it is only through small-diameter core sampling. Stratified and deeply buried sites do occur in the Study Unit. Hecker mentioned several deep blowouts in one particular township which revealed “stratas of black soil below stratas of sand drift showing various surface levels during the past several thousand years. In one place...I found artifacts embedded in a blow ten feet below the present surface” (SHSND archives, Series 226, Box 17).

Major Excavation Projects

Formal data recovery was conducted at 32WD397 in 1995 by archeologists with the North Dakota Department of Transportation. The cultural material scatter straddles US Highway 52, on an alluvial fan in the Souris River valley. In light of the cultural materials recovered, it appears to be a 5,000 year old temporary campsite that saw repeated occupation (Christensen 2001:110). The density of artifacts, particularly bone and fire-cracked rock, found in Stratum E evince an intense occupational episode (ibid.). Faunal analysis and the lack of middens and/or bone concentrations indicate that inhabitants processed bison on a small-scale at the site for immediate food preparation (ibid.). Investigators note that 32WD397 has enhanced “understanding of the area paleoecology and climate, cultural chronology, and other aspects of prehistoric lifeways” and “demonstrated that deeply buried and stratified cultural components can exist in alluvial fan sediments in the Souris River valley” (ibid.:112).

Proposed construction of the Alliance Pipeline resulted in data recovery at 32MH94 in 1999 (Stine et al. 2001). The site is located on the border of an upland sand plain and the bed of former Glacial Lake Souris (the floodplain of the Souris River). Based on the recovery of diagnostic chipped stone tools and radiocarbon dates, at least four components have been identified at the site. These components include: Woodland or Late Prehistoric, Late Archaic (Besant), Middle Archaic (Oxbow and the McKean Complex), and Archaic (ibid.:i-iii). The cultural chronology of the site is not definitive; however, it is supported by the complex stratigraphy identified at the site. That is, the site has undergone repeated eolian erosional and depositional episodes dating back to the Middle Holocene (ibid.:ii). Radiocarbon dates were obtained and the date ranges at two Sigma are 3985-3830 BP to 1420-1300 BP (ibid.:ii). Late-stage tool production appears to have been a prehistoric activity at the site. The predominant raw material type of the Late Archaic assemblage is KRF, followed by local materials and one obsidian tool. In contrast, local raw materials comprise the majority of the Middle Archaic assemblage. Lithic analysis further revealed that biface production was the primary goal of manufacture during the Late Archaic, whereas unpatterned flake tool manufacture was favored during the Middle Archaic (ibid.:iii). Recovered faunal remains from the site almost exclusively consist of bison bone. The amount of identifiable bone present suggests that light butchering and processing of bison killed in the vicinity of the camp is a probable scenario. Investigators conclude that the site was a camp revisited over time but used less frequently after the Middle Archaic, due in part to past peoples' adaptation to a changing environment (ibid.:v).

Table 11.6: Major Excavation Projects in the Souris River Study Unit, 5-Sept-2007.

Year	First Author	Second Author	Title	Ms #
1998	Toom, D.	C. Kordecki et al.	Lonetree Wildlife Management Area 1994 Cultural Resources Investigations, Sheridan & Wells Counties, ND	9069
2001	Christensen, R.		US Highway 52 Archaeology: 32WD397 Excavation	7008
2001	Stine, E.	T. Madigan et al.	Alliance Pipeline L.P.: Excavations at 32MH94, McHenry Co., ND, Vols. I & II	7959

NRHP and NDSHSR

Six archeological sites have been determined eligible for listing in the NRHP as per the following list. No archeological properties in the Souris basin are listed in the State Registry (NDSHSR).

The current list of archeological sites in North Dakota listed on the National Register of Historic Places is available on the National Park Service website. The following internet links are useful (NPS 2008a, b):

General information and links to specific information: <http://www.nps.gov/nr/>
 National Register Information System: <http://www.nr.nps.gov/>

Other Work

The few reports in the HPD manuscript collection that fall into the "other" category for the Study Unit are listed in the following table. Several publications are

noteworthy. The prehistoric ceramics of the Souris basin have intrigued several archeologists over the years. While the subject pottery sherd collections have not come from well controlled contexts, they do reflect use of the basin by many different groups who made and used different kinds of pottery. W. Raymond Wood has described sherds and vessels that indicate occupations by Middle Woodland peoples with Besant-Sonota material culture and by Late Woodland peoples perhaps with Mortlach material culture (Wood 1959, 1962).

Several other artifact finds have gained the attention of professionals and have been described in print. Carved stone effigy pieces from collections in the Velva and Carpio areas were reported by Johnson (1955) (cited in Whitehurst et al. 1989:43). A stone atlatl weight from the Kenmare vicinity was described by Metcalf and Carlson (1971) (ibid.).

Table 11.7: Other Work in the Souris River Study Unit, 5-Sept-2007.

Year	First Author	Second Author	Title	Ms #
n.d.	Hecker, T.		List of Known Earth Lodge Village Sites Above the Grand River	94
n.d.	Hecker, T.		Survey of Indian Campsites in Townships 160N R95W – 160N R96W - 161N R95W - 161N R96W, all West of the 5 th PM in Divide Co., ND	7574
n.d.	Hecker, T.		Survey of Indian Campsites in Townships 162N R95 & 96W of 5 th PM in Divide Co., ND	7576
n.d.	Hecker, T.		Survey of Indian Campsites in Townships 163N R95W & Fractional Township 164N R95, Both West of 5 th PM in Divide Co., ND	7578
n.d.	Hecker, T.		Survey of Indian Campsites in Townships 163N R97W - 163N R98W & Fractional Townships 164N R97W - 164N R98W, All West of 5 th PM in Divide Co., ND	7579
n.d.	Hecker, T.		Survey of Indian Trails and Campsites in Divide Co., ND Townships 160, 161, 162, 163 & Fractional Township 164 North Ranges 95, 96, 97, 98, 99, 100, 101, 102 & Part of Range 103, all West of 5 th PM	7575
1959	Wood, R.		Two Woodland Vessels From Divide Co., ND	4639
1965	Anonymous		Historic Sites Under the Authority of the State Historical Society of North Dakota as Established by The 39 th Legislative Assembly	2011
1966	Mallory, O.		An Appraisal of the Archeological Resources of the Garrison Diversion Project, ND	96
1976	Franke, N.		U.S Corps of Engineers Minot-Souris Snagging and Clearing Project Negative Declaration Survey Report, Ward Co., ND	244
1977	Schneider, F.	F. Holland	Preliminary Field Reconnaissance and Literature Search of Cultural Resources in the Burlington Dam Project; Preliminary Cultural Resource Investigation of the Upper Souris River Basin, ND	136
1979	Starr, D.	W. Reynolds	Final Report of an Architectural and Historical Survey on Approximately 121,265 Acres in Central ND, Dickey, Sargent, LaMoure, Stutsman, Eddy, Wells & Sheridan Counties	2477
1981	Good, K.	J. Dahlberg	Mitigation Plan Phase I for the Proposed Saskatchewan, Canada, Intertie Transmission Line Right-of-Way, Northwestern ND, Divide, Williams, Burke, Mountrail & Ward Counties	2524
1983	Schweigert, K.		Evaluation of Twenty-Eight Farmsteads in the Lonetree Section, Garrison Diversion Unit, ND, Wells & Sheridan Counties, ND	3840
1984	Kjos, J.	M. Schreiner	Technical Report: AML Cultural Resources Study Vols. 1 & 2. Appendix III, Vol. A. Adams, Billings, Bowman, Burke, Burleigh, Divide, Dunn, Golden Valley; Volume E. Renville, Slope, Stark; Vol. F. Ward; Volume G. Williams; Appendix IV Bibliography	4292

Year	First Author	Second Author	Title	Ms #
1989	Gallacher, D.		Historic Standing Structure Investigation of the Souris River Basin Project Rural Improvements, McHenry and Ward Counties, ND	4704
1989	McCormick, M.	F. Quivik	A Determination of Eligibility to the National Register of Historic Places for Select Historic Properties Along the Souris River in Bottineau, Ward, & McHenry Counties in ND	4908
1990	Gregg, M.	P. Picha	Des Lacs-Souris Drainage Basin Erosion Control Study Area Cultural Resources Review Pt. 1: Prehistoric Cultural Resources Overview & Pt. 2: Prehistoric & Historic Archeological Sites on Primary Sample Units & Potential Impacts	5036
1990	Quivik, F.	M. McCormick et al.	Historic American Engineering Record-J. Clark Salyer National Wildlife Refuge Dams, McHenry and Bottineau Counties, ND	5341
1992	Miller, W.		A Survey & Analysis of Surface Collected Paleo-Indian Points from Bottineau County, North Dakota	6066
1993	Williams, J.		Unidentified Human Skeletal Remains Recovered from Site 32WI341, Williams Co., ND	6072
1994	Hoffbeck, S.		National Register Evaluation of 32WD132 Bonnes Coulee Homestead Site Brilliant Township, Ward Co., NW¼ of SW¼, Section 17, T152N, R81W	6267
1994	Stine, E.	A. Kulevsky	Four Cities in ND: A Class I Cultural Resource Survey Records & Files Search of Fargo, Grand Forks, Mandan, & Minot, ND	6240
1995	Hoisington, D.		The Baukol Noonan Mining District, Divide Co., ND	6452
2000	Penny, D.		An Architectural Evaluation of Two Properties in the Vicinity of 3 rd Street NE and 5 th Avenue NE, Minot, Ward Co., ND	7606
2000	Penny, D.		Proposed Boundaries for the North Minot Residential District, Ward Co., ND	7769
2004	Stine, E.		Funk Gravel Expansion Avoidance of 32RV422	8972
2005	Hufstetler, M.	J. Goff	Historic Bridges in ND 2004 Revision	10128
2006	Nicholson, B.	D. Wiseman et al.	Changing Opportunities and Challenges: Human Environmental Interaction in the Canadian Prairies Ecozone	--
2007	Morrison, J.		Construction Monitoring and Remote Sensing of the First Lutheran Church Cemetery, Ward Co., ND	10117

Upstream along the Souris in southeastern Saskatchewan, archeologists from the Saskatchewan Research Council have conducted inventories, site evaluations, and mitigating excavations in the areas of the proposed Rafferty and Alameda dams and reservoirs and several associated proposed coal fired electric generating plants. The inventories recorded hundreds of historic and prehistoric sites. The sample is dominated by upland prehistoric stone circle sites, but there are also a number of other sorts of prehistoric “heritage resources” in alluvial bottomland settings. Souris River floodplain sediments have been demonstrated to contain deeply buried, stratified columns of artifact deposits dating back perhaps 4,000 years into prehistory. Reports of results are available as publications of the Saskatchewan Research Council in Saskatoon (Finnigan 1986; Finnigan and Klimko 1987; and Finnigan 1988b).

A 2006 *Plains Anthropologist* volume (Nicholson et al. 2006), titled “Changing Opportunities and Challenges: Human-Environmental Interaction in the Canadian Prairies Ecozone,” is devoted to an inter-disciplinary project north of the Souris River Study Unit. Integrated research in archeology, ethnohistory, geoarcheology, geomatics, landscape analysis, oral traditions, paleoenvironmental studies, soils science, and zooarcheology is the focus of the Study of Cultural Adaptations in the Canadian Prairie Ecozone (SCAPE) funded by the Social Sciences and Humanities Research Center in

Canada (ibid.:231). The six goals of the project, as stated by Nicholson et al. (ibid.:232), are:

- 1) to reconstruct the “natural” and “cultural” landscapes of selected locales at ca. 9000 BP; 6,000 BP; 3,000 BP; 1,500 BP; and 500 BP;
- 2) to recover data on landscape use by human groups in dune field, riverine and upland environments through time and to compare our results with published works on other ecologically diverse localities in the Canadian Prairie Ecozone;
- 3) to understand the perceptions and cultural responses of groups, at particular times and places, to ecologically diverse localities within the Canadian Prairie Ecozone;
- 4) to characterize areas of high biodiversity within the larger Canadian Prairie Ecozone biome through collection of geoarchaeological data;
- 5) to identify ways in which human groups intentionally modified their environment through practices such as fire ecology and selective hunting;
- 6) to model human adaptive strategies to areas of high biodiversity in the context of the Canadian Prairies Ecozone using Geographical Information Systems technology.

The program is enhanced by the use of current technology and information from native oral traditions. Two subsequent volumes are planned that will expound on researchers’ theories and models, and cultural patterns in an environmental context of the region.

Paleo-Indian Period

The Paleo-Indian cultural tradition dominated a 4,000 year span from 9500-5500 BC. This cultural tradition (or lifeway) represents the adaptation of native aboriginal groups during the initial peopling of the Study Unit following the recession of terminal Wisconsinan glaciation. Paleo-Indian lifeways involved hunting and gathering adaptations to early Holocene climates, animals, and plants.

Paleo-Environmental Modeling

A late glacial chronology applicable to the Study Unit has been presented by Clayton and Moran (1982). About 14,000 years ago, a major glacial re-advance occurred covering most of north-central North Dakota. During the following 3,000 years, the glacial ice retreated, re-advanced, and stagnated several times creating the hummocky pothole terrain of the Missouri Coteau. During a final glacial re-advance into Dakota territory about 11,800 years ago, two blocks of ice (termed the Souris Lobe and the Leeds Lobe) covered the Study Unit (Boettger 1986:Figure 5). Following the final retreat of glaciation, both the Souris River and the Des Lacs River acted as spillways carrying

torrents of meltwater from Glacial Lake Souris which resulted from the wasting of the Souris Lobe (Kehew 1982; Kehew and Clayton 1983; Kehew and Lord 1986; Lord 1984) (Figure 11.3).

Climatic conditions during terminal glacial times were those of the Boreal climatic episode. After the ice retreated, spruce-aspen forests and marshy terrain came to characterize much of the landscape. Boettger (1986:113) found organic peat deposits containing woody stems deeply buried within Souris valley alluvium. Two radiocarbon dates obtained from this horizon are 9440 ± 100 years BP and 8840 ± 100 years BP. Over the next several thousand years, prairie vegetation succeeded the boreal forests, the Paleo-Indian period ended, and Early Plains Archaic period began. What was the duration of this period of transition?

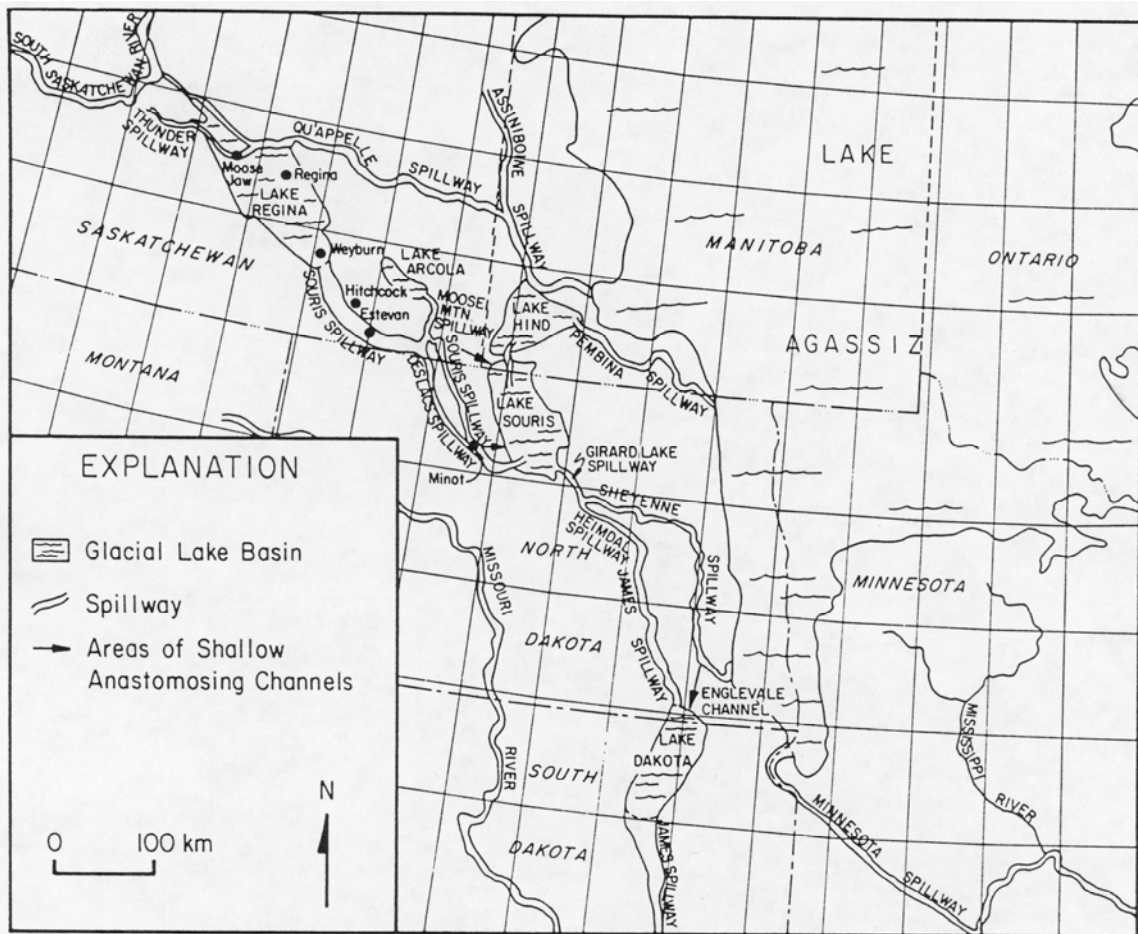
The environmental model can be refined by contributions of new information concerning variations in environmental conditions across the entire basin at different points in time. Was the entire Study Unit covered with boreal forest until at least 7000 BC? How long did boreal forest conditions persist in some localities? What were the floral and faunal resources of different parts of the basin at different times within the Paleo-Indian period?

Cultural Chronology

The Paleo-Indian cultural chronology for the Des Lacs-Souris basin is based upon typological cross-dating of projectile points. Schneider (1982:33) reports that the SHSND collections contain 14 Paleo specimens acquired from the Souris basin by Hecker during the late 1930s to early 1940s. These specimens were accessioned on 28 September 1942. While the exact find locations are apparently not part of the accession records, it is quite possible that locational information for some or all of these specimens can be derived from the Hecker archival materials in the SHSND library (Series 226, various boxes). Scanning through those archives, it is evident that Hecker observed artifacts from most or all of the Paleo-Indian complexes that are recognized today: Folsom, Hell Gap-Agate Basin, Cody, and Parallel Oblique Flaked. (He used the term "Yuma" for the Parallel Oblique Flaked materials.) He also may have used the term Folsom for at least one possible Clovis specimen. In a letter dated May 10, 1937 to Edward W. Milligan, Field Supervisor Western Area, W.P.A. Project #1083, Hecker mentioned a number of Folsom specimens that he had seen in collections from the Study Unit. He specifically mentioned one specimen found near Columbus, North Dakota, and another from near Enniskillen, Saskatchewan. He included a sketch of another specimen found by a fellow working his garden in Renville County north of Tolley. Based on the outline profile and the fluting, this appears to be a Clovis point. Hecker may not have been able to identify the piece as a Clovis point because he may not have been aware of the discovery in New Mexico of Clovis fluted materials predating Folsom. The first professional reports concerning Clovis were in 1937 in Pennsylvania publications which would probably have been rather "obscure" from a North Dakota perspective. Hecker mentioned that "Folsom type" points occur as "casual finds in the Souris Basin," and that while he had never been fortunate enough to find a complete one

himself, he had found “more than a few broken pieces” (SHSND archives, Series 226, Box 17).

Figure 11.3: Map of a portion of the northern Great Plains showing locations of proglacial lakes and spillways (from Kehew and Lord 1986:Figure 1).



More recently, Miller (1992) examined private surface collections from Bottineau County. Of the 119 Paleo-Indian projectile points, there were 103 complete specimens and 16 fragments (*ibid.*:29). The spatial distribution of the artifacts includes 72 points collected in the Glacial Lake Souris Plain and 25 from the Glacial Till Plain (*ibid.*:36). The following table adapted from Miller (1992:Table 1) summarizes information from his study regarding Paleo-Indian point and lithic raw material types. The information from Hecker and Miller indicates that Paleo-Indian sites may be as numerous in the Study Unit as in any other part of North Dakota.

Agate Basin, Cody, and Parallel-Oblique Flaked specimens displayed at an artifact show at Minot State University-Bottineau in February 1989 also lend confirmation to the generalization that Paleo-Indian sites are within the Souris River Study Unit (M. Gregg, personal observation). Specimens from all three complexes were reportedly found both within the Souris Loop and outside it. Based on conversations

with the collectors, there were no apparent concentrations of these Paleo finds. Pieces had been found variously in eastern and northern Renville County, central Bottineau County, and northern McHenry County. These specimens in collections indicate a steady presence of people from about 8000 BC to perhaps 5500 BC or so. Points that resemble Pryor Stemmed were also present in several collections. This may be the terminal Paleo-Indian complex in this area contemporary with the Caribou Lake Complex in areas to the east and north.

Table 11.8: Paleo-Indian Point and Lithic Raw Material Types from Private Surface Collections in Bottineau County, North Dakota. Adapted from Miller (1992:Table 1).

Point Type	Raw Material Type									Total
	KRF	Clear Chalcedony	Swan River Chert	Antelope Quarry Chert	Porcellanite	Jasper/Chert	Flattop Chalcedony	Coarse Tongue River	Basaltic	
Clovis			1							1
Folsom	3					1				4
Hell Gap	4									4
Agate Basin	5					1				6
Fragments			2	1						3
Alberta	14						1			15
Scottsbluff	19	2			1				1	23
Eden	17	1				1		1		20
Cody Knife	5									5
Fragments	5									5
Plainview	4					1				5
Milnesand	7									7
Angostura	7	1		1	1	1				11
Frederick	2									2
Fragments	6	2								8
Total	98	6	3	2	2	5	1	1	1	119
	82.4%	5%	2.5%	1.7%	1.7%	4.2%	0.8%	0.8%	0.8%	100%

Settlement Behavior

A geomorphological study of the Souris valley by McFaul (in Whitehurst et al. 1989:Table 11) suggests low potential for archeological deposits older than 12,500 years BP because of the “catastrophic” events associated with the floodwaters draining through the Study Unit. The settlement behavior of the earliest native groups would have been greatly affected by environmental conditions. During the Boreal climatic episode, after the valley was cut by torrents of meltwater, several landforms might have been open to human settlement following final glacial retreat. This would have included terrace and floodplain areas as well as expanses of the upland till plain.

Within the Souris valley, Paleo-Indian cultural deposits should be present (1) on the remnant surfaces of early river terraces, (2) buried within alluvial fans, and (3) more deeply buried in floodplain contexts. Floodplain sites can be expected to be well beneath

the water table in most cases (Boettger 1986; Whitehurst et al. 1989:Table 11). In upland till plain areas, finds of Paleo-Indian artifacts may be more common because extensive areas of this terrain have either witnessed minimal deposition of sediments or have actually lost sediments over the past 10 millennia.

In the letter from Hecker to Milligan cited above, Hecker describes the locations of two of the “Folsom” point finds. He concluded that one find spot had been “in the bed of a small ancient lake that once covered about 3000 acres.” Another was “also in an ancient lake bed.” Perhaps based on these and other finds in similar settings in North Dakota, he planned to “take a couple of days off and look around in Canada in the area covered by Ancient glacial Lake Saskatchewan [for] specimens of Folsom type culture” (SHSND archives, Series 226, Box 17). Whatever his success or lack of it in Saskatchewan, it seems that in the Study Unit, as throughout the Great Plains, Paleo-Indians tended to situate some of their settlements in playa lake settings. There needs to be a study of Paleo-Indian site locations in order to determine the factors that influenced the settlement behavior of those people. Were those factors different than they were for subsequent hunting and gathering peoples?

Native Subsistence Practices

Among the game animals hunted by those earliest Dakotans would likely have been “megafauna” such as mastodons, mammoths, giant bison, and camels. Later in the Holocene, based on evidence from elsewhere in the Plains, the focus shifted entirely to bison. Areas that were spruce-aspen habitat did not support the large herd animals (Schneider 1982). There ought to have been grazing lands sufficient to support the large herd animals in grassland areas adjacent to major waterbodies such as the Souris River after grasslands succeeded boreal forest (cf. Bamforth 1988). A variety of plant resources would have been available throughout the annual cycle.

Whereas a relative great deal is known of the paleoenvironmental conditions of Paleo-Indian times, there are many important questions about correlations between occupations by people who used the different Paleo-Indian artifact complexes and local or regional environmental conditions. For example, Boettger’s work indicates the presence of a deeply entrenched upper Souris valley with boreal forest vegetation in the bottomlands around 7000-6000 BC. This is beyond the time of the Clovis, Goshen, Folsom, and Hell Gap-Agate Basin complexes and into the time of the Cody complex. Yet Folsom and Agate Basin materials are certainly represented in the Study Unit. Adaptations of people with Folsom and Agate Basin material culture in boreal settings are unknown and need to be studied.

Technologies

The few reported finds of Paleo-Indian artifacts in the Des Lacs-Souris basin are limited to stone remains. Based upon ethnographic analogy, the people probably also had bone and wood technologies, but this remains to be demonstrated. None of the Paleo-Indian complexes are adequately described in terms of the technologies that they include.

High-grade stone resources were available in the KRF primary source area immediately to the southwest in Dunn County, North Dakota (Ahler 1986). Knife River flint Agate Basin, Scottsbluff, Cody knife, and Frederick pieces in the collections displayed at Bottineau evince steady reliance upon the KRF quarries as a primary source of high-grade raw material for toolmaking. There is a lack of information regarding possible preferences for use of other materials to fashion into tools other than projectile points. Single component Paleo deposits need to be excavated to quantify variations in raw material use. Locally available lithics such as Swan River chert were probably used for certain purposes.

Artifact Styles

Paleo-Indians made a number of distinctive lanceolate shaped projectile points and blades. Whitehurst et al. (1989:Appendix B) illustrate one possible example from the Emmel collection. Floodman and Friedman (1986:21) report the occurrence of a Scottsbluff point from the Curtis Ones collection. In SHSND collections, there are the points collected by Hecker (Schneider 1982). Private collections from the Souris displayed one day at Bottineau included several Agate Basin pieces, an eared Scottsbluff, a straight stemmed Scottsbluff, a Cody knife, an Eden, a Frederick, and other Parallel-Oblique Flaked forms. Miller (1992) documented Clovis, Folsom, Hell Gap/Agate Basin, Alberta, Scottsbluff, Eden, Plainview, Milnesand, Angostura, Frederick projectile points and a Cody knife, from Bottineau County, held in private collections (Table 11.8).

Sample sizes are potentially large enough here to enable a comparative study of Paleo point styles between the Study Unit and surrounding areas to search for differences that could indicate cultural or temporal differences between peoples with the "same" artifact complexes. This is a special consideration for the Agate Basin type because there are indications that this complex persisted much longer in parkland ecotone between the boreal forest and grasslands than it did in the plains proper.

Regional Interaction

One of the best indicators of regional interaction is the occurrence of artifacts made from nonlocal raw materials. Schneider (1982:Table 2) identified the lithic raw materials from which the Paleo-Indian points he documented in his statewide survey were made. Knife River flint was the most common material represented (77%) followed distantly by porcellanite (7%). A number of the specimens were made from nonlocal cherts and other materials that could not be sourced. The results of Miller's (1992) study of private collections from Bottineau County resemble those of Schneider. That is, 82.4% of Miller's (ibid.:29) assemblage was identified as KRF and the remainder comprised eight other material types, including Antelope Quarry Chert (Table 11.8). Occurrences of non-local lithic materials suggest regional interaction or population movements to distant areas. Several such examples were represented in the collections that were viewed at Minot State University-Bottineau by Gregg in 1989. Arden Tagestad had an Agate Basin point made from a brownish-red chert, possibly Phosphoria chert from the Big Horn Mountains of Wyoming. A flake of similar chert was found in the Paleo-Indian deposits at the Benz site (32DU452) in the KRF quarry area (M. Gregg,

personal observation). It is speculated that people with Agate Basin material culture interacted throughout the Northern Plains and into the boreal forest.

Any study of Paleo-Indian artifacts from the Study Unit should include identification of the stone materials from which they were fashioned and consideration of the directions of regional interaction that are represented. Stylistic studies could also yield information related to this topic.

Historic Preservation Goals, Priorities, and Strategies

There seem to be quite a few Paleo-Indian sites in this Study Unit, perhaps more than any other part of North Dakota outside the KRF quarry heartland. Collectors should be interviewed and the Hecker archival materials reviewed in order to get some of the Paleo-Indian sites and find spots recorded. Then, the locations should be studied with reference to the early Holocene landforms that attracted settlement and use (e.g., glacial lake beach ridges, river terraces, and valley overlooks). Settings with potential to hold Paleo sites should be given special attention in development planning processes.

Plains Archaic Period

The Plains Archaic tradition which dominated the North Dakota cultural scene during the Early, Middle, and Late Plains Archaic periods was based on hunting and gathering adaptations, much like the preceding Paleo-Indian tradition, except the adaptations were to essentially modern resources.

Paleo-Environmental Modeling

Climatic conditions in the Souris basin during the mid- to late Holocene when Plains Archaic lifeways dominated are characterized by three episodes termed the Atlantic, Sub-Boreal, and Sub-Atlantic (see p. B.50). Arid, droughty conditions are thought to have prevailed during much of this time with brief, intervening episodes of a few tens of years or a few centuries of more favorable mesic conditions that would have favored biomass buildup and human settlement. Periods of more favorable conditions are thought to have been more numerous and frequent during the Sub-Boreal and Sub-Atlantic than during the Atlantic. It is posited that much of the fine-grained alluvial fill in the Des Lacs and Souris valleys was deposited during the Atlantic and Sub-Boreal (Whitehurst et al. 1989:173-174).

It is further hypothesized that the rate of valley infilling slowed down considerably during the Sub-Boreal episode. The basis for this proposition is the discovery of artifacts attributable to the Duncan complex on the surface of an alluvial fan along the edge of the Souris valley in Saskatchewan. If there are 3,800 year-old materials on the surface of an alluvial fan, that fan must have attained its essentially contemporary form by that time.

It would also be useful to know what differences there were, if any, in the species compositions of the grasslands of pre-Atlantic and post-Atlantic times.

When range conditions were optimal, were the grazing conditions of the post-Atlantic grasslands better than those of pre-Atlantic times? How many years of drought did it take to impair grazing conditions to the extent that bison populations were adversely affected? Did the Souris River ever dry up completely? Were there times when there was no water whatsoever available in the Study Unit?

Cultural Chronology

It seems quite possible that much of the Souris basin may have been uninhabitable during most of the Atlantic and Sub-Boreal episodes due to severe drought conditions. This proposition appears to be supported by the lack of early, large side-notched points such as Simonsen and Hawken in regional collections. Efforts should be made to test this proposition and determine just how much Early Archaic settlement there actually was and the attributes of the climates under which such settlement occurred.

Any Archaic components that are encountered should be radiocarbon dated and described in detail. Results of radiocarbon dating have been reported for a couple of sites within the Souris River Study Unit. A Late Paleo-Indian/Early Plains Archaic date (9700±120 BP) was obtained from a hearth remnant at 32WD1555 (Morrison 2001b:28). Date ranges of 3985-3830 BP to 1420-1300 BP at two Sigma were documented for 32MH94 (Stine et al. 2001:ii). Diagnostic artifacts recovered from the site complement these results. The Oxbow occupation at the Oxbow Dam site in southeastern Saskatchewan is dated ca. 3250 BC (Wormington and Forbis 1965:49). Oxbow components at the Long Creek site, also in southeastern Saskatchewan, are dated ca. 2650 BC and 2700 BC (Wettlaufer 1960a:52, 59).

Pelican Lake and other unnamed Late Plains Archaic components should be relatively common in comparison to components from earlier cultures. This remains to be demonstrated. DiMv-93 in southeastern Saskatchewan is a stratified site on the Souris floodplain with Pelican Lake, Besant, and other cultural zones associated with paleosols (Finnigan 1988b:167-169). There should be similar sites on the North Dakota side of the international border (cf. Whitehurst et al. 1989).

Settlement Behavior

Early Plains Archaic settlement practices are not well known. Floodman et al. (1985:106) documented an Oxbow component on a terrace along the Souris at 32RV3. During the Middle Plains Archaic period, occupational intensity appears to have increased based on the presence of larger numbers of McKean Lanceolate, Duncan, and Hanna points than earlier forms in private collections (Whitehurst et al. 1989:Appendix B). Late Plains Archaic forms such as Pelican Lake are even better represented. Middle and Late Plains Archaic groups appear to have used Souris basin territory on a fairly regular basis.

The range of settlement types expected to occur includes residential bases, temporary camps, and burial locations. Brink and Baldwin (1985) have reported

preliminary findings concerning Late Plains Archaic burial modes to the northwest of the Study Unit in the Canadian prairies. Some people with Pelican Lake material culture were apparently interred in shallow pits that were capped with cairns. This burial mode can be viewed as somewhat analogous to later Plains Woodland burial modes that involved capping grave pits with earthen mounds. However, the practice of capping interments of the remains of the deceased with rock piles continued from at least as early as Late Plains Archaic times into the Plains Village period in other parts of the state (cf. Gregg et al. 1983b). Hecker's archival documents at the SHSND state that cairn burials were common in the Study Unit, although "nearly all [as of 1937] have been dug into or rifled by relic hunters" (SHSND archives, Series 226, Box 17). Data are missing for determining the ages of cairn burials, and a way should be found to date them.

Native Subsistence Practices

Large ungulates such as bison were undoubtedly of major importance to the diet, although dogs may have played an important role as a supplemental and "storable" food item. It is beginning to appear that dogs may have been relied upon by numerous groups throughout the Plains as a form of storable food surplus (Gregg et al. 1987:486). Wild plant foods were surely gathered throughout the growing season with tuberous roots and berries stored for winter use. Ground stone manos and grinding slabs have been recovered from Late Plains Archaic contexts at the Mondrian Tree site (32MZ58) along the Missouri River south of the western end of the Study Unit (cf. loom 1983e:12.25-12.36).

In 1990 when the State Plan was originally published, there were no hard data pertaining to floral or faunal remains from any Plains Archaic sites in the Souris River Study Unit. This is no longer the case as revealed through data recovery at 32MH94 (see Major Excavation Projects section above). There is still an emphasis on collecting hard data on floral and faunal remains found at Archaic sites in the Study Unit. When Plains Archaic components are test excavated, some sort of fine-mesh waterscreen or flotation sampling should be performed for samples of nonfeature matrix from Plains Archaic cultural zones in attempts to recover floral and faunal remains.

Technologies

Plains Archaic peoples likely made use of a broad array of stone, bone, shell raw materials as well as metal ores such as copper to fashion implements and ornaments. Throughout the Plains, stone is typically the best represented material in artifact assemblages from excavated Plains Archaic components of all periods. Sometimes, however, other materials dominate in certain functional artifact classes. For example, at the Ayers-Frazier Bison Trap Pelican Lake component in eastern Montana, excavated samples indicate more butchering was done with expediently fashioned bone tools than with stone tools (Clark and Wilson 1981). Clearly, when Plains Archaic components are excavated in the Study Unit, bone remains should be closely examined for use-wear.

Copper artifacts do not appear with much regularity in Northern Plains components of any periods other than Late Archaic, Middle Woodland, and Plains

Village. However, copper beads were recovered from the Pelican Lake component at the Mondrian Tree site (32MZ58) immediately south of the Study Unit along the Missouri River (Toom 1983f), and copper materials should be expected in Late Plains Archaic components here. The question remains as to whether Archaic peoples here actually possessed metal working technologies or simply received finished objects by means of direct or indirect exchange with groups to the east in the Lake Superior region who were mining copper and fabricating copper ornaments and implements.

Artifact Styles

Stone projectile points from the Des Lacs-Souris basin appear to span all of the Plains Archaic periods. However, early styles are poorly represented. There is one large side-notched form which may be Early Archaic in the Emmel collection (Whitehurst et al. 1989:Appendix B). Oxbow points are better represented (ibid.). Middle Archaic forms such as McKean Lanceolate, Duncan, and Hanna seem to occur even more frequently with Late Plains Archaic Pelican Lake and other corner-notched forms being most common.

The Study Unit seems to be situated within the ranges of distribution of several different styles of corner-notched dart points. Many are referred to expediently and almost generically as "Pelican Lake." Syms (1980:364-365,370) made a distinction in southwestern Manitoba between two forms of corner-notched dart points, "Archaic Barbed" dating between 1200 and 100 BC and "Plains Middle Woodland Pelican Lake" dating between 400 BC and AD 800. He identified Archaic Barbed points as larger, shallow corner-notched forms, and the Pelican Lake points as smaller, with deep notches (1980:365). Plains Middle Woodland Pelican Lake points were reported by Wettlaufer (1960a) from the Long Creek site in the Souris basin just over the international border into Saskatchewan. They are very thin and delicately made. They have straight to slightly incurvate sides, straight bases, and deep narrow corner notches which create sharply barbed shoulders on the blade element. Differentiating between styles of corner-notched points and accounting for the differences are significant research problems that sites in this Study Unit should yield data to resolve.

Regional Interaction

The Early Plains Archaic period in the Souris basin is so poorly known that there is not much of a data base from which to even speculate about interactions of groups that lived during those times. The same is true for the Middle Plains Archaic period. However, the geographically broad distributions of distinctive point styles such as Simonsen, Hawken, Oxbow, Duncan, Hanna, and Pelican Lake point to extensive networks of human interaction. Regionally available lithic materials, specifically KRF and Swan River chert, appear to predominate in collections of Archaic points from the Souris basin. But a greater reliance on local materials for stone toolmaking is not necessarily an indicator of diminished interaction. Just the opposite may in fact be the case. For example, Middle Woodland groups with Sonota and Besant material culture are renowned for their heavy use of KRF. That means they were quarrying and otherwise collecting KRF to a greater extent than most other peoples in prehistory. They

had an abundance of this high grade trade commodity which facilitated increased, not decreased, exchange interactions during Middle Woodland times. This may also have been the case for some Archaic cultures.

During early historic times, there was very little travel east-west across the middle portion Souris basin: “The main trails used by the Metis and freemen bison hunters circled the area either by an arc along the southwest by way of Long Creek or along the north parallel to the Qu’Appelle Valley” (Russell 1989:51). Is there any archeological evidence in support of the proposition that east-west travel across the basin was avoided in prehistoric times?

Historic Preservation Goals, Priorities, and Strategies

A major deficiency is the lack of descriptions of any Plains Archaic artifact assemblages from this Study Unit. As a top priority, there needs to be a determination of the geomorphic settings in which Plains Archaic site deposits can be expected to be discovered. Then, single component sites need to be identified and sampled by controlled hand excavations. The best opportunities for discovering such deposits of Middle and especially Late Archaic deposits will be along the Souris river where layers of late Holocene soils are detectable above river level in cutbank exposures.

Plains Archaic artifact samples could also come from single component stone circle sites. Finnigan (1988b) noted that the average number of stone circles per site in his southeastern Saskatchewan Souris basin study area is about four. Figuring about eight people per stone circle, he concluded that four stone circles representing dwellings for 32 people was about right for a small band encampment. In other words, stone circle sites with just a few rings are more likely to represent single component encampments than are larger sites with more rings. Yet it is the larger ring sites that tend to be evaluated as significant and receive more attention when adverse effects need to be mitigated by excavation. It is hypothesized that there tend to be richer artifact deposits at the larger ring sites because those sites were occupied a number of times, and additional artifacts enter archeological context with each succeeding occupation. But multiple occupations at stone circle sites do little more than obscure the deposition record of site use. The most valuable ring site deposits are those that can be attributed to a single component or occupation. Those sites tend to have low density artifact deposits, but those deposits have greater potential for yielding information concerning artifact content of specific cultural complexes.

Plains Woodland Period

Plains Woodland adaptations likely shared many similarities with those of the preceding Plains Archaic. The period provides the first indications of lifeways which involved burial mound mortuary practices, some gardening, and the routine production of ceramic vessels for use in cooking. Plains Woodland times, like those of the Plains Archaic, are subdivided into Early, Middle, and Late periods.

Paleo-Environmental Modeling

The climatic conditions of the Sub-Atlantic climatic episode of 1000 BC-AD 400 are thought to have been generally more mesic than the 1980s. Under such conditions, especially around 2,000 years ago, thick rich topsoils developed in many parts of the Northeastern Plains, and biomass should have increased significantly. Increased biomass and thus increased carrying capacity facilitated Middle Woodland population increase and cultural florescence. (There was an early Middle Woodland and a later Village florescence in the Northern Plains just as there was in the Midwest. The Midwestern developments are described by Robert Hall in his "Two Climax Model" of Midwestern prehistory [1980].)

There is a need to specifically document the hypothesized mesic conditions of the Sub-Atlantic in the Souris basin. The best prospects for this are at buried Middle Woodland sites associated with paleosols in alluvial and colluvial settings. The presence of deposits of this age has been documented along the Souris floodplain in Saskatchewan (Finnigan 1988b:167-169). Also in Saskatchewan, a detailed series of stratified, artifact-bearing sediments were revealed at the Long Creek and Mortlach sites by Wettlaufer (1960b:85).

Climatic changes are also posited to have strongly influenced cultural developments in Late Woodland times with the onset of favorable mesic conditions of the Pacific II climatic episode around AD 1500. The Woodland-Plains Village "hybrid" Mortlach complex may represent expansion of Siouan-speaking peoples into a partially depopulated grasslands region at that time (Finnigan 1988b:201).

Cultural Chronology

Any Plains Woodland cultural chronology for this Study Unit must for now be based on chronologies for surrounding regions in combination with cross dating of surface collected materials. With the possible exception of material from testing at 32RV415 that was radiocarbon dated to 720 ± 120 BP, there is a lack of data from excavations that can be used to build a chronology. Woodland pottery has been recovered from sites along the Souris River within the United States (Fox 1982). Additionally, Middle and Late Woodland materials representing Besant, Sonota, Avonlea, Valley, and Blackduck occupations have been recovered from sites in Canadian portions of the basin (cf. Fox 1982; Syms 1977, 1980; Wettlaufer and Mayer-Oakes 1960). A top priority should be to determine ways in which the Woodland chronology of the Study Unit differs from the statewide chronology.

West-central North Dakota and southwestern Manitoba appear to be near the eastern edge of the geographic extent of the Avonlea complex. Avonlea components are present but uncommon in the Souris basin of southeastern Saskatchewan (Finnigan 1988b:199) and in the Garrison Study Unit to the south (Schneider and Kinney 1978). Was occupation of the southern portion of the Souris basin by people with Avonlea material culture also relatively light?

Radiocarbon dates from sites across the international border indicate an enduring Besant/Sonota presence in the basin. A radiocarbon date on a Besant bone bed at the Mullett site (DiMd-7) is 1310±100 BP (SRC 2826) or about AD 650 (Nicholson 1988b:32). The Besant occupation at the nearby Kain site is dated about 400 years earlier (Nicholson 1987:42).

Components with Prairie Side-Notched points and thick walled, often coarse pottery dating between AD 800 and 1300 or so in the plains and parklands of southern Saskatchewan are attributable to the Old Women's phase (Meyer 1988). Meyer suggested that after AD 1300, while Old Women's persisted to the west in Alberta, it was displaced in southern Saskatchewan by the Selkirk and Mortlach complexes. If this is a feature of the chronology of southern Saskatchewan, it should hold for the lower Souris basin, and only Old Women's sites predating 1300 should be expected in northwestern North Dakota.

Settlement Behavior

The occurrence of a few burial mounds in the Study Unit should be an indication that at least some Woodland peoples used part or all of the southern part of the Souris basin as a core area. But burial mound sites do not appear to be at all common in either the North Dakota or Saskatchewan portions of the basin (cf. Finnigan 1986). The settlement behavior of these Plains Woodland groups can be expected to have been similar to that of neighboring populations with residential settlements principally on floodplain and low terrace terrain within the major river valleys. A buried Besant component was identified, at DiMv-93 along the Souris floodplain (Finnigan 1988b:167-169). Riverine bottomland Besant and Blackduck settlements are reported from the Coe site (DiMd-8) and the Mullett site (DiMd-7) along the Souris in nearby southwestern Manitoba (Nicholson 1988b:31-32).

Were there field camps out on the plains around pothole lakes and in valley rim settings as well as in the bottomlands? The Mad Dog site (DgMs-53) is a stone feature site with 48 rings and a cairn in a Souris valley overlook setting in southeastern Saskatchewan (Finnigan 1988b:69-74). Excavation of the cairn yielded fragmentary skeletal remains from bison, canids, fish, birds, and man. A radiocarbon of 1180±80 BP (S-2966) indicates an Avonlea or Old Women's component (ibid.).

Native Subsistence Practices

Bison were hunted in the grasslands and prairie adjacent to the valley, and excavated sites in the Canadian portions of the basin provide no exceptions to the generalization that bison remains are typically the most abundant faunal remains in Plains Woodland refuse deposits (cf. Nicholson 1988b:32). A variety of greens, roots, shoots, fruits, and nuts would have been available seasonally throughout the entirety of the Study Unit. When Woodland components are excavated, it should be a top priority to attempt to identify floral remains from the deposits that may relate to subsistence practices.

Technologies

While the only reports to date of Northern Plains Early Woodland ceramics are from the Naze site (32SN246) south of Jamestown, North Dakota, (Swenson 1987) and possibly Bed H of the Lockport site north of Winnipeg (Brian Lenius, personal communication to M. Gregg, April 1988), there is no reason not to expect the beginnings of ceramic technological experimentation in the Souris River Study Unit in the first several centuries before the origins of Besant/Sonota. Middle Woodland ceramics are represented by Besant/Sonota sherds from the Buffalo Lodge Lake and Towner localities near the Souris in McHenry County (Wood 1962). A globular straight rimmed, cord roughened, undecorated Late Woodland vessel was reported from near Crosby in Divide County, also by Wood (1959). Information is lacking about ceramic and other technological developments through the Woodland periods in the Souris basin. Thorough technological descriptions should be part of any report concerning Woodland ceramics (cf. Johnson 1985; Whitehurst et al. 1989:129-154).

Artifact Styles

Distinctive large and small side-notched dart point/cutting tools classifiable as Besant, Samantha, and Avonlea occur in local collections (Whitehurst et al. 1989:Appendix B). Middle Plains Woodland ceramics attributable to Besant/Sonota should be recognized when additional archeological investigations are carried out.

Small side-notched Avonlea points mark the time of transition from the exclusive use of atlatl weaponry to the introduction of the bow and arrow during the early part of the Late Woodland period. Whitehurst et al. (1989:57; Appendix B) reported the occurrence of Avonlea points in both private collections and from their own surface work at 32RV208 along the upper Souris.

Johnson (1986) noted the ceramic diversity present in a small sample of pottery from the upper Souris basin. Among the possible geographical influences represented, include Blackduck from the east and Mortlach to the north and west. She does not believe (1985:244) that Sandy Lake ware is present as suggested by Fox (1982:100). Comparative materials seem to be sparse for some of the Woodland ceramics that have been recovered. Test excavations through a buried cultural zone at 32RV415 produced net impressed pottery and materials that were radiocarbon dated 720 BP±120 (Floodman and Friedman 1986:550). The presence of net impressed ceramics on time level of about AD 1250 indicates influences emanating from the parklands and boreal forest to the north where such ceramics were more common. What are the sources of stylistic influence seen in Woodland artifact assemblages from the Souris basin?

Regional Interaction

During Middle Plains Woodland times, the pace and expanse of intersocietal exchange grew to include much of the midcontinent. Middle Woodland Besant and Sonata groups were participants in this process. The extent of involvement by Souris basin populations remains to be determined.

In Late Woodland times, and extending to historic contact, native groups in the Study Unit appear to have been in increasing contact with neighboring populations. Evidence to support this thesis includes the incidence of (1) nonlocal or exotic materials in archeological collections dating to this period and (2) blends of ceramic stylistic and technological attributes from different regional cultures. For example, Mortlach ceramics display a mix of Plains Village and Woodland attributes (Johnson 1977:47-48; Joyes 1973:83; Schneider and Kinney 1978:33-36; Syms 1977:125-126; Wettlaufer 1955:19-22). Selkirk traits from the north and northeast on Mortlach pottery are smoothed exterior fabric impressions, cord-wrapped-tool impressed decorations on the lip, and a single row of punctates around the rim exterior (Meyer 1988:62). Old Women's traits from the northwest include the occasional sharply angular and decorated shoulders (ibid.).

Historic Preservation Goals, Priorities, and Strategies

One of the primary historic preservation goals should be directed toward the recording and stewardship of burial mounds which likely remain at a few places along the valley rim of the Souris and its major tributaries. Franke (1975:3-4) reported the destruction of one earthen mound by vandals. While mounds are apparently less common in the southern portion of the Souris basin in the grasslands than in the northern portion in the ecotonal parklands, the few that remain should be preserved. Existing aerial photo collections covering upland rims overlooking the Souris Basin could be studied for indications of earthen mound features. Follow-up informant interviews with property owners coupled with on-the-ground survey could generate information on mound sites that should be protected. Sometimes property owners are interested in collaborating with historic preservationists in stewardship pacts for such sites (e.g., the Anderson Earthworks site along the James River, south of Jamestown, and the Evans site in the Garrison Study Unit).

Perhaps the majority of the stone circle sites in the Souris basin are Plains Woodland manifestations classifiable as Sonota/Besant, Laurel, Avonlea, Blackduck, or Mortlach. Stone circle sites are probably also the most common site type in the basin as shown by the site file data from North Dakota and survey data from Saskatchewan (Finnigan 1986:142). The Hecker archival materials in the SHSND are full of information regarding stone circle sites. This information should be studied for the insights it contains which would enhance understandings and treatments of such sites.

Plains Village Period

The Plains Village tradition, which was the dominant lifeway of the Plains Village period, is suggested to have arisen in the southern portions of the Northeastern Plains perhaps as early as AD 950. It endured until the late 1800s along the Missouri River in western North Dakota. Plains Village influences should have been felt in the Souris basin from AD 1050 or so into the late 1800s.

Paleo-Environmental Modeling

Several dramatic environmental changes are thought to have occurred in the Study Unit during the time of Plains Village influence and occupation. These changes have been documented primarily in areas to the south and remain to be demonstrated for the Souris basin. The expansion northward of horticultural Villagers and Village lifeways corresponded with a time of moister climatic conditions that fostered garden crop productivity. There are hints that peoples in the basin adopted Village lifeways early in the Plains Village period from sites such as Lovstrom in Manitoba based on Nicholson's work out of Brandon University. At the onset of the Pacific climatic episode around AD 1250, droughts may have caused some depopulation of southern Saskatchewan (and the Study Unit). Some Villagers may have abandoned horticulture and taken up nomadic, bison hunting lifeways at that time (Finnigan 1988b:201). By AD 1600 or so, climatic conditions may have shifted again and made Village gardening lifeways possible once more. Paleoclimatic studies should be part of all excavation strategies, especially involving Plains Village sites.

Cultural Chronology

The Plains Village cultural chronology employed here is based upon developments recognized in the Garrison region and the Upper Knife-Heart region of the Middle Missouri subarea located south of the Souris basin. Ancestral populations of the Hidatsa and Mandan were living in semipermanent villages along the Missouri perhaps by AD 1200 (Ahler 1988a:Table 8). Formative Village culture was developing along the Missouri River as early as about AD 950, probably from a Late Plains Woodland base. The Late Woodland base is very poorly known, but it may have involved peoples who made Blackduck ceramics. There are sites with these ceramics in the Souris basin (e.g., Nicholson 1988b:31), and immediately pre-Village cultures should have been utilizing the Study Unit.

Also, it will be interesting to see the extent to which the detailed chronology of the upper Knife-Heart region of the Middle Missouri subarea can be applied in areas to the north. At times when Missouri River Villagers held sway over vast territories, the Knife-Heart chronology may be of great utility for dating Village components in the Study Unit. For the most part, components in the Study Unit may present a blend of cultural elements derived from the Villagers and Woodland peoples to the north. Thus Des Lacs-Souris prehistory should profit from the development of its own chronology. In southeastern Saskatchewan, archeologists have done chronological modeling by application of the Northwestern Plains model of Early, Middle, and Late Prehistoric periods, and supplementing with many of the named complexes identified in the North Dakota statewide model (e.g., Finnigan 1988b).

A top priority is to excavate and radiocarbon date intact Plains Village components. Such deposits have rarely been documented along the Souris, but one was identified at 32RV429 by Floodman and Friedman (1986:551) where the Plains Village cultural zone lies between earlier and later cultural zones. It is Johnson's appraisal that

ceramics from 32RV429 bear close similarities to Extended Middle Missouri wares, with one specimen specifically classifiable as Fort Yates ware (1985:240).

Settlement Behavior

At present, no earthlodge villages are known to occur in the Study Unit. However, discoveries of ceramics with attributes similar to Extended Middle Missouri Fort Yates ware and Riggs ware suggest the possibility of early Plains Village occupations here (Floodman and Friedman 1986; Whitehurst et al. 1989) as well as in more northerly portions of the Souris basin (e.g., Finnigan 1986:26). Plains Villagers undoubtedly crossed expanses of the Des Lacs-Souris basin while hunting, gathering, and trading. Temporary hunting camps and other briefly occupied types of settlements ought to be common in the basin. The actual range of Plains Village site types needs to be defined. Are the petroforms and rock lined depressions of the southern Souris attributable to Plains Village cultures as they are in the upper James River valley (cf. Finnigan 1986:146 vis Wheeler 1963)?

Native Subsistence Practices

Some seasonal movements of bison from the aspen parklands southward into the plains grasslands may have attracted Plains Villagers to sometimes exploit the resources of the Study Unit on a seasonal basis. DhMs-12 in the Souris basin of southeastern Saskatchewan is a bison kill and processing site with check stamped “Middle Missouri influenced” pottery (Finnigan and Klimko 1987:186-189). Very high densities of potsherds, stone tools, flaking debris, and FCR in addition to bone fragments reflect intensive use of the site by a Plains Village or Plains Village “influenced” group. It will take more work to determine if the site occupants were locals or visitors. Are there any distinguishing features of Plains Village subsistence resource procurement or processing activity areas in the Souris basin?

Technologies

Prior to Euro-American contact, Plains Village groups employed a broad range of technologies to produce tools, implements, facilities, and structures. Stone, ceramic, bone, and shell materials, among others, served to fashion the material culture of the lifeway (cf. Gilman and Schneider 1987). There is an abundance of comparative data concerning Plains Village technologies from archeological, ethnohistoric, and ethnographic studies of Missouri Valley Villagers. Were there any technological resources in the Souris basin that were of particular importance to Missouri valley-based Villagers?

Artifact Style

Diagnostic artifact styles have been identified in Plains Village core areas in the Middle Missouri subarea and more southerly portions of the Northeastern Plains. Prominent among these are a variety of ceramic wares and types (cf. Craig Johnson 1980; Michlovic and Swenson 1998). Some of these wares and types may be represented

at sites in the Souris River Study Unit, but the type definitions are so poorly understood that students of Souris basin prehistory typically refer to sherd samples as having “traits resembling” or “attributes similar to” Middle Missouri or Coalescent ceramics. There is a need to identify actual types and wares having distributions from the Middle Missouri and Northeastern Plains subareas into the Study Unit. Johnson (1985) was able to do just this with a collection from 32RV429. She determined that the collection as a whole bore close similarities to Extended Middle Missouri ceramics, and one specimen in particular was classifiable as Fort Yates ware (ibid.:240). With analyses of this sort, it will be possible to differentiate specific Plains Village complexes or phases that are prominent in the archeological record of the Souris basin from complexes and phases for which only occasional traits are represented.

Smooth surfaced sherds from 32RV212 and 32RV229 (Whitehurst et al. 1989:151) with trailed line and tool impressed decorations appear to be attributable to the Northeastern Plains Village complex. Such ceramics are to be expected here because of proximity to Devils Lake-Sourisford mortuary sites where miniature versions of these ceramics are typically found (cf. Swenson and Gregg 1988). These ceramics need to be described in detail and compared with samples of Buchanan Flared Rim ware (Michlovic and Swenson 1998) from sites in the James, Sheyenne, and Red River valleys.

Small, well-made, straight sided triangular projectile points with deep side notches set well up off the base typify the Plains Side-Notched type in many regional collections. This type-style is a positive indicator of components dating to the Plains Village period (Kehoe 1966). Another possibly diagnostic Plains Village chipped stone tool is the long, thin bifacially prepared unilateral cutting tool that was often hafted in a bison rib handle (cf. Lehmer 1971:73). Nicholson (1988b) has illustrated knives of this sort from the Johnas site (DkMd-11) north of the Assiniboine River in Manitoba, and if the distribution of this style extends that far northward, it is surely represented at Plains Village sites and at contemporary Late Woodland sites along the Souris.

Regional Interaction

The Hidatsas and Mandans were descendants of Plains Village groups who had a long history of participating in an intertribal exchange network which encompassed the Northern Plains and adjacent areas (cf. Wood 1972, 1980). Nonlocal stones such as obsidian from sources in the Rockies and red catlinite pipestone from quarries in southwestern Minnesota were among the durable materials that were exchanged. Some of those durable exotic goods were eventually deposited at sites in the Study Unit. Any time that nonlocal materials are identified in Plains Village components in the Souris basin, those materials should be assessed for their information potential with regard to the topic of regional interaction.

Sometimes non-Plains Village objects are found which are known to date to the Plains Village period, but which may have entered archeological context through the hands of either Plains Village or Plains Woodland peoples. Several exotic shell “gorget-faces” with incised “weeping eye” decorations have been found in the southwestern

Manitoba portion of the basin (Syms 1988). These pieces were probably made by people who lived along the Gulf of Mexico and had access to whelk shells that were large enough from which to fashion masks. The interaction networks of people in the Study Unit linked them with these people in the Southeast. Any apparently nonlocal materials from Plains Village deposits ought to be sourced with an eye toward improving understanding of Plains Village exchange relations and the sources from which cultural influences were emanating.

The allure of Euro-American trade goods during protohistoric times lured Plains Village trading parties to travel from the Missouri valley northward through the Souris basin to fur trade posts along the Assiniboine River in Manitoba. The southernmost portion of the Souris Loop lies less than 40 miles from the northeasternmost reach of the Missouri River in McLean County. Explorations for sites along the Indian trails documented by Hecker on his township maps on file in the SHSND archives should yield evidence of temporarily occupied sites used by small groups of Villagers. Some of the trails also led to trading post locations on the US side of the international boundary. Hecker mentions that the area around the former location of a Hudson's Bay Company trading post along the river in McHenry County "yields, along with the artifacts of early occupation, the relics of the various tribes who came to trade, the relics of the Indian employees of the fur traders, and...trade goods such as beads, pipes, gun flints, brass buttons, jewelry, knives, copper and steel tools, weapons, etc." (SHSND archives, Series 226, Box 17).

Historic Preservation Goals, Priorities, and Strategies

There ought to be ways to differentiate between the archeological deposits of (1) resident Plains Village groups, (2) nonresident Villagers who were in the Souris basin, on a temporary basis, and (3) resident and nonresident groups whose material culture represents a mix of Village and Woodland traits. This is certainly not a simple problem. Even in the upper Knife-Heart Region where the most intensive Plains Village archeology in the Plains has been conducted, it has usually been impossible to differentiate the archeological remains of the specific tribal groups.

A top priority ought to be to sample several stratified sites that have Plains Village deposits in the sequences and begin to develop a Plains Village chronology for the Souris region of the Northeastern Plains subarea. A second priority should be to identify specific Middle Missouri and Coalescent ceramic wares and types that occur in the Souris basin so as to be able to distinguish between them and other wares and types that may have been locally produced. Several stratified sites along the banks of the Souris should be identified, and the richest ones in eroding bank areas should be sampled by controlled excavation.

Equestrian/Fur Trade Period

Equestrian lifeways were late developments on the Northern Plains spanning the dawn of recorded history. Horses were probably rare to nonexistent in the Study Unit until sometime between AD 1725 and 1750.

Paleo-Environmental Modeling

Climatic conditions in the Des Lacs-Souris basin during terminal late prehistoric and protohistoric times are thought to have been generally cool and moist with reference to the climate of the 1980s. Paleoclimatologically, this was the Neo-Boreal episode or “Little Ice Age.” Neo-Boreal conditions are posited to have led to a build-up of the regional biomass, most notably the all-important bison herds (Reher and Prison 1980). Regarding this research topic, it is a top priority to actually document the conditions of the lower Souris basin during this time and demonstrate there were significant increases in bison. Evidence for cool and mesic climatic conditions may come from analyses of climatically sensitive microfauna such as land snails from site deposits contained within Neo-Boreal age topsoils.

Cultural Chronology

The only named archeological units of the Equestrian Nomadic tradition of protohistoric times are the One Gun complex. Neither of those is usually considered to have a distribution extending as far eastward as the Souris basin. However, some Equestrian peoples ought to have had core territories somewhere within the Souris basin. The protohistoric Assiniboine are the best candidates (cf. Denig 1961). A high priority is to identify a regional complex based on excavation of sites which yield evidence of this lifeway. Inventory and test excavations at protohistoric sites in the vicinity of fur trade posts would seem to be a good place to start.

Settlement Behavior

Equestrian peoples may not have been any more mobile in a qualitative sense than pre-horse hunting and gathering peoples. But quantitatively, horse-mounted groups were capable of moving much greater distances to establish new residential bases. They could also range further away from residential bases and field camps to hunt, gather, trade, conduct warfare, etc. Many stone circle sites were surely occupied by these peoples (cf. Fox 1980:20), but without the recovery of diagnostic historic era artifacts such as gun flints, glass beads, or actual horse bones, it is difficult to unequivocally attribute stone feature sites to the Equestrian Nomadic tradition. What are the different ways by which Equestrian period sites can be identified?

Some of the most recent burial locations are likely mortuary sites of regional Equestrian peoples. Such burials do (or did) exist in the US portion of the Souris basin. However, Hecker noted that by 1937, “the tree burials, the platform burials, and the surface burials that were cribbed with sticks or logs [and thus inferred to have been no more than a few hundred years old] have all disappeared” (SHSND archives, Series 226, Box 17).

Native Subsistence Practices

The subsistence practices of Equestrian hunter-gatherer populations were directed mainly to bison hunting as were those of hunter-gatherers during the prior

thousands of years. Various prairie flora, especially tuberous roots, were important components of the diet as well. Also, the nomads traditionally traveled to the stockaded villages of the Mandan and Hidatsa to exchange their products of the hunt for garden produce. In order to have meat and hides to trade, the nomads killed and processed more bison meat and hides than they needed for themselves.

For this context it is a high priority to identify reliable samples of subsistence remains from Equestrian period sites. Of course, one first needs to identify those sites and select those with meaningful samples of subsistence remains. While it may be easier to identify Equestrian sites from amongst the relatively common upland stone circle sites, preservation of subsistence remains is notoriously poor at such sites where organic artifacts on the surface are especially susceptible to decomposition. Chances are best at bottomland sites where subsistence remains may have been buried and protected against decomposition by caps of flood deposited sediments.

Technologies

During the protohistoric period, implements that were products of existing native technologies were pitted against those of European derived technologies. The European goods could be gotten by engaging in the fur and hide trades. In the process, aspects of native material culture were often replaced with more durable metal trade goods which resulted in changing technologies (cf. Ahler 1988, 1993; Toom 1979). Sometimes, this process also entailed the refabrication of glass and soft metal trade goods (or fragments thereof) into implements and objects of native design (cf. Hanson 1975). How much technological change took place in native cultures in the Souris basin between 1780 and 1880?

Artifact Styles

Distinctive artifact styles for Equestrian period groups are not well known. One possible source of information would be renderings of various ethnic or tribal groups and individuals by early artists such as Karl Bodmer and George Catlin. An examination of these works may help identify more specific design motifs or modes of ornamentation which may be used to determine ethnicity in the archeological record.

Another source of information may be existing historic records which document the flow of trade goods from various fur trade establishments on the upper Souris and Assiniboine rivers just north of the Study Unit (cf. Ray and Freeman 1978).

Regional Interaction

The movement of goods, ideas, and people through the Des Lacs-Souris basin had been going on for thousands of years by the dawn of historic times. Ethnohistoric and ethnographic accounts indicate that numerous travel routes cut across the Souris basin between the Missouri River and the Assiniboine. The locations of the trails that were traveled can be relocated on the ground by using maps compiled by the original land surveyors supplemented by the maps and notes of Hecker. Hecker in 1937 wrote

that the actual trails “except for a few rods in scattered localities have all been obliterated” (SHSND archives, Series 226, Box 17). Top priorities for this historic context would be to prepare a complete map of the trails of the Souris basin from the original land survey records in combination with a thorough review of the Hecker archival materials.

Historic Preservation Goals, Priorities, and Strategies

A top priority ought to be to intensively survey the area of the confluence of the Wintering River and the Souris in McHenry County for protohistoric period sites. This was a rendezvous and trade area for men who brought trade goods westward from the Great Lakes. They wintered and traded in this area and returned to the Great Lakes country the following summer (SHSND archives, Series 226, Box 17). There ought to be an abundance of Indian sites of this era in this Wintering River confluence locality. A sample of these sites ought to be test excavated in order to collect materials for defining the material characteristics of a regional Equestrian period complex for the southern Souris basin.