

**Little Bighorn Battlefield  
National Monument  
Resources Management Plan**

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## **INTRODUCTION**

### **PURPOSE, SIGNIFICANCE, AND MISSION**

The reasons for which Little Bighorn Battlefield and Custer Battlefield National Cemetery were set aside as national park lands are, collectively, the park purpose. The purpose of a park or program is usually defined in, or derived from, the unit's enabling legislation and other legal documents providing for its establishment. Significance statements are the exceptional resources and values that must be preserved to accomplish the park's purpose. Significance statements are not an inventory of significant resources, but rather describe the importance or distinctiveness of the aggregate of the park and its resources. The mission statement of the park reflects its purpose and significance statements.

#### **Park Purpose**

The purpose of Little Bighorn Battlefield National Monument is to preserve, protect, and interpret the historic, cultural, and natural resources including lands and artifacts pertaining to the Battle of the Little Bighorn. In addition, it serves to provide the visitors with an improved understanding of the events leading up to the battle, the encounter itself, and the historical significance of cultures involved.

#### **Park Significance**

The Battle of the Little Bighorn fought on June 25-26, 1876 symbolized a high water mark in a 400-year struggle between Euro-Americans and Native Americans. The defeat of 12 companies of the Seventh United States Cavalry by Lakota, Cheyenne and the Arapaho warriors has achieved a symbolic dimension from film, theater, art, and other media. Little Bighorn Battlefield National Monument is a special place allowing profound personal reflection on the historic event and the American consciousness.

The site commemorates one of America's most famous battles, the Battle of the Little Bighorn when two culturally divergent forces clashed in a life and death struggle to on one hand, perpetuate national expansion, and on the other, to preserve a nomadic way of life. The nationally significant battle was unquestionably the most dramatic and glorified battle on the Great Plains. A large coalition of Sioux, Northern Cheyenne, and Arapaho gathered because of their rejection of the reservation system and annihilated Lt. Col. George Armstrong Custer's Companies. The battle catapulted Custer's standing as an American hero, and became a rallying point for the military's subjugation of Native Americans in the West. The battle has become an icon in American culture.

#### **Park Mission Statement**

Little Bighorn Battlefield National Monument preserves, protects, and interprets the historic, cultural, and natural resources, including lands pertaining to the Battle of the Little Bighorn. The monument provides visitors with an understanding of the historic events leading up to the battle, the encounter itself, and the consequences by both the military and American Indian contingents for the enjoyment of future generations.

## PRIME RESOURCES

Prime resource lands are defined as those resources that made a direct contribution to establishing the park as a unit of the National Park System and are related to the park's purpose and significance. Other lands within the park are also important; they protect and support the prime resource. The site's primary resources are the cemetery, the battlefield, the archeological remains, and the museum and archival collections. The cultural landscape and historic scene are integral to the site's significance and its interpretation.

### **Battlefield**

Both portions of the monument, Custer Battlefield and Reno-Benteen Battlefield, retain an extremely high degree of visual integrity. Compared with other nationally significant battlefields, this monument has suffered relatively few serious impacts since 1876. Therefore, a related purpose of the monument is to manage and preserve the natural resources as part of the effort to preserve the appearance and historical integrity of the battlefield.

### **National Cemetery**

National cemeteries, in general, are established for the interment of those who have faithfully served in the Armed Forces of the United States. These cemeteries are greatly revered, not only by the families of those interred there, but by patriotic, civic, military, and veterans' organizations.

The first hasty burials on Little Bighorn Battlefield were made three days after the 1876 battle, wherever a body was found. In 1879, the Secretary of War established a national cemetery on the Little Bighorn Battlefield in Montana Territory, for the purpose of protecting these graves. The remains of most of the Custer soldiers were moved to a mass grave in 1881. Five years later, President Grover Cleveland reserved a square mile of the battlefield for what was then called the National Cemetery of Custer's Battlefield Reservation. The reservation was transferred from the war department to the National Park Service (NPS) in 1940 and renamed Custer Battlefield National Monument by Congress in 1946. In 1991, Congress authorized name change from Custer Battlefield National Monument to Little Bighorn Battlefield National Monument, and the cemetery was changed from Custer Battlefield National Cemetery to Custer National Cemetery.

With the 1886 Executive Order, came broader "military purposes." The Indian Wars came to a close. Numerous forts throughout Montana, Wyoming and the Dakotas were abandoned. Most of the Indian campaigns on the northern plains are represented by burials in the national cemetery, including Fetterman, Wagon Box and Hayfield Fights, Big Hole, and Battle of the Bear Paw. The Army removed veterans and their dependents from abandoned post cemeteries to Custer National Cemetery.

These Indian War graves are in the 6.21 acre portion of the monument that is administered and maintained as a national cemetery. The cemetery was officially closed in 1978. The cemetery contains the graves of nearly 5,000 veterans and dependents through the Viet Nam War. Despite the controversy surrounding the 1876 events, the national cemetery has been and should continue to be a place of honor for all Americans. The Service should strive to utilize this as a common ground of understanding.

### **Museum and Archives**

In Fiscal Year (FY) 95, the park's museum collection was estimated to be 119,021 items. The museum collection, including a large and significant archival collection, contains a wide range of items. The primary collections include personal items belonging to Custer, Native American items, U.S. Cavalry accoutrements, documents, rare books, interpretive photographs, and works of art. A "living history" hands-on collection exists for exhibit and interpretive purposes in the visitor center, but is managed separately from the museum collection by the Interpretive Division. Most recently, 114 different plant specimens were acquired, but have not yet been catalogued into the museum collections. Additionally, historic headstones removed and replaced from both the battlefield and cemetery are currently being stored in the non-operational water treatment pump house.

### **Indian Memorial**

In 1991, Congress authorized a name change from Custer Battlefield National Monument to Little

Bighorn Battlefield National Monument and also authorized the Indian Memorial to honor Native American participation in the battle. A final design was chosen in 1996. In the spring of 2002 Interior Appropriations Bill approved 2.3 million to build the Indian Memorial. The site was dedicated in 2003. The discussion continues on the final message to be posted at the memorial.

#### PURPOSE OF THE RESOURCE MANAGEMENT PLAN

The Resource Management Plan is a tiered planning document, supplementing the General Management Plan. It is intended to provide a working foundation that supports the various legal mandates that bear upon resource management actions at Little Bighorn Battlefield NM. This document is intended to be a flexible, dynamic working document that will identify actions necessary for the proper long range management of the cultural and natural resources of the park.

Specifically, the objectives of the Resource Management Plan are to:

1. Provide an overview of the park's natural and cultural resources.
2. Provide an analysis of both the natural and cultural resource management needs. This includes a description of the threats to park resources and an assessment of the status of available baseline information.
  - a. Identify, inventory and assess Little Bighorn's natural and cultural resources and natural processes in order to form the basis for management strategies.
  - b. Identify and evaluate the effects of human-caused impacts to park resources to form the basis for implementing management strategies.
3. Prescribe long-term strategies to address the park's most important resource problems and research needs. This includes a set of proposed actions, including budget estimates, developed into resource management project statements. These project statements are prioritized in order of importance to protect park resources.

## **OVERVIEW OF CURRENT PROGRAM AND NEEDS**

### **MANAGEMENT OBJECTIVES**

- Preserve, protect, and manage all prime resources.
- Preserve the natural and cultural landscape within and outside the park boundary.
- Provide interpretive facilities and programs that enhance the visitors' understanding of the battlefield's primary mission of preserving and protecting resources related to the battle.
- Develop strategies to work with local landowners, the Bureau of Indian Affairs (BIA), and the Crow Tribe that will result in cooperative management relationships.
- Improve facilities by addressing deficiencies related to the museum collections, staffing requirements, storage space, exhibits, parking lots, tour road, etc.

Natural lands are the natural grass prairie and cultural landscape of the Custer and Reno-Benteen Battlefields. In accordance with NPS Natural Resource Management Reference Manual #77, LIBI will manage, conserve, and protect the natural resources. However, management of vegetation within the natural lands will be approached differently than management of vegetation within the developed lands.

Developed lands are buildings, roads, trails, manicured lawns/landscaped areas, including some cultural lands such as the Indian Memorial and the National Cemetery. LIBI will consider public health and safety, fuels management, rain and snow, wildlife, and aesthetic value in the management of developed lands. These lands plus a buffer create a developed zone. (See Figure 1. LIBI Resources Management Zones.) There is an additional buffer zone for wildfire prevention around areas in the developed zone. These areas are either irrigated, mowed, or a combination of the two. Additionally and in accordance with LIBI's Fire Management Plan and the Montana Department of Transportation Maintenance Manual, LIBI will maintain roadside vegetation by mechanical mowing to ensure safe, functional, and healthy roadsides. In accordance with Montana Department of Transportation Maintenance Manual, LIBI will maintain roadside vegetation by chemical treatments to control or prevent the growth of vegetation such as noxious weeds, brush or other vegetation. Landscaped areas will be managed to maintain or improve aesthetics. Such maintenance activities will include mowing, maintaining water systems, fertilizing, weeding, ornamental planting and replacing turf.

National Cemeteries are greatly revered, not only by the families of those interred there, but by patriotic, civic, military, and veterans' organizations. Custer National Cemetery serves as a shrine for the nation's honored dead. Therefore, management ensures beauty, dignity, and preservation of a reverent atmosphere. In accordance with NPS-28 Cultural Resource Management Guideline, new landscape features will be compatible with the original design and character of the cemetery. LIBI will maintain the Kentucky bluegrass turf and the historic spruce and juniper/cedar trees that line the cemetery walks.

No formal cultural landscape management plan has been developed. A cultural landscape plan should consider management of natural areas versus cultural areas and developed areas.

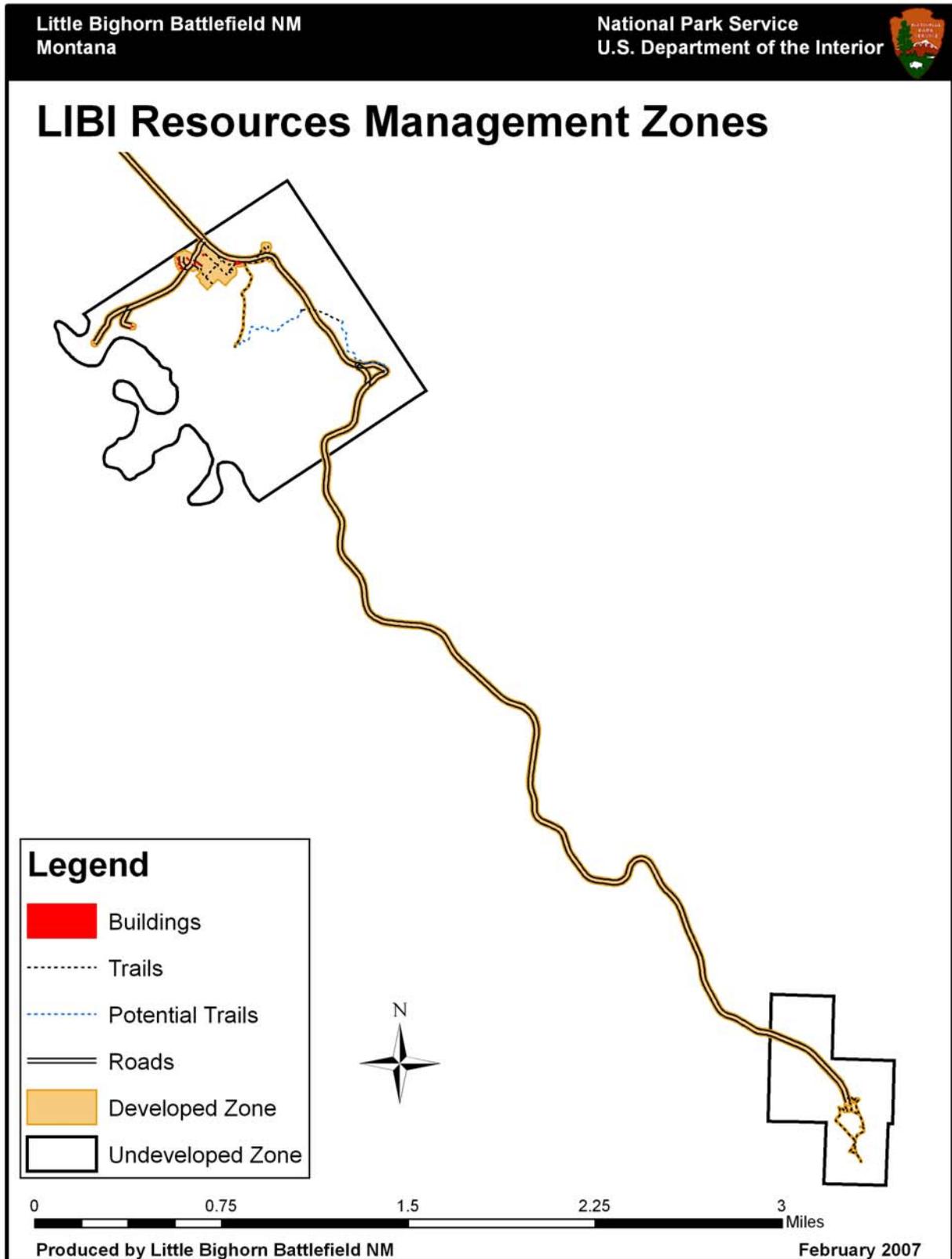


Figure 1. LIBI Resources Management Zones

## CURRENT THREATS

**Safety Concerns with the Park Tour Road** - Little Bighorn Battlefield National Monument's original tour road was dirt built through the monument in 1938. It has since been overlaid with gravel and asphalt. The present road has been widened and has no centerline or shoulders. The use of mass transit into the park proper has been considered. The Rehabilitate Tour Road project plans include widening the road and enlarging parking areas in the near future to accommodate increased traffic and larger vehicles. The Environmental Assessment/Assessment of Effect Rehabilitate Tour Road included two deficiencies 1) necessity to improve poor pavement and 2) visitor inaccessibility.

**Encroachment on the Cultural Landscape** - Little Bighorn Battlefield National Monument is classified as a Historic Zone, consisting of two separate sites: Custer Battlefield proper and the Reno-Benteen area, connected by a 4.1 mile paved road totaling 765.34 acres. The battlefield is surrounded by the Crow Indian Reservation. The majority of these lands are allotted lands, or are under private ownership. Encroachment on the cultural landscape is a major concern. Two private museums have recently been constructed at Garryowen, the site of the opening attack of the battle between the Seventh Cavalry and Lakota, Cheyenne, and Arapahoe. Another landowner installed a well and parking lot adjacent to the Reno-Benteen Battlefield and right-of-way with plans to develop the land for commercial use at the head of Cedar Coulee.

**Interim Visitor Center Expansion** - The project will replace the energy inefficient and obsolete observation room and outdoor interpretive presentation area with an all weather multipurpose room. The multipurpose room will lay on the same foot print as the current building and expand into the area impacted by visitor presentations. This room will also be expanded towards the parking lot covering the patio area to the sidewalk. The space will house additional interpretive displays, serve as a seminar space during the off-season, include a lobby to reduce overcrowding of the existing museum exhibit area, and improve visitor circulation through the building. The park theater will meet fire code and be handicap accessible. Irreplaceable artifacts of national significance will be protected from the adverse impacts of ultraviolet rays and extreme temperature shifts of the energy-inefficient building. However, this will be an adverse affect on the landscape.

**Pedestrian Safety and Access to Cultural Resources** – Many visitors choose to walk the Tour Road to Calhoun Hill (the loop), approximately 1.5 miles, as a means of alternative transportation in the appreciation of the Battlefield's resources. High-volume traffic, lack of a pedestrian/bike lane, and other safety concerns listed above are hazards especially to pedestrian visitors. Two potential trails, described years ago, will prevent danger to pedestrians. Together, they will provide access to a number of 7<sup>th</sup> Cavalry and Indian markers that are inaccessible or out of view from the Tour Road. (See Figure 2. LIBI Potential Trails.)

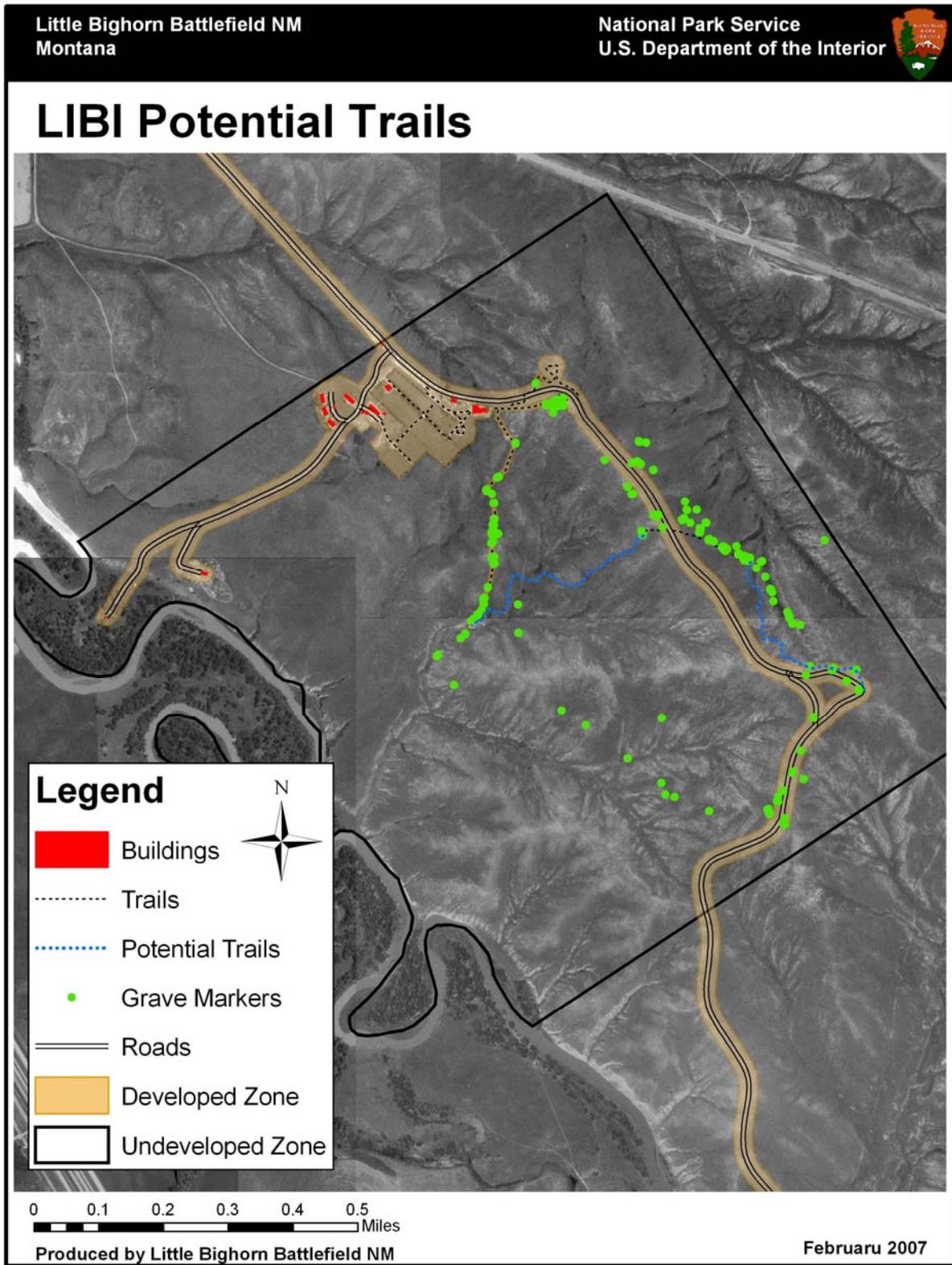


Figure 2. LIBI Potential Trails

**Other Issues**

- Exotics and non-native plants – Expand the baseline survey to include a broader range of species and include the riparian area of the park. Develop an Invasive Plant Management Plan for the entire park.
- Ethnobotany - Research the uses and significance of the surrounding vegetation to past and present inhabitants.
- Vegetation management and fire - Research the history of fire and its role in maintaining the native plant communities and the historic scene.
- Expand inventories of natural resources (air, water, flora, fauna, and geology/soils).

## **BASELINE RESOURCE INFORMATION**

### **Cultural Resources**

#### **Sites**

*Definition:* Sites are distinguished pieces of ground where some historic or prehistoric human activity occurred or which are significantly associated with historic or prehistoric events, persons, or cultures.

The primary resource administered by the NPS consists of the two battlefield localities presently within the Little Bighorn Battlefield National Monument boundaries.

Relics of the battle have been of interest to the general public since the end of the battle. Such artifacts were first collected immediately after the battle (DuMont 1974; Hutchins 1976). Prior to the establishment of the monument, relic collecting was a favorite past-time within the park boundaries as well as across the entire battlefield and associated Native American campsite. Relic collecting continues to be a favorite past-time on adjacent private lands. One collector has published his interpretation of the battle from his personal findings (Weibert 1985). A major attempt to compile the data collected by private individuals was conducted by Historian Jerome Greene (1973). He analyzed and plotted the distributional patterns of battlefield related artifacts from several private collections. His investigations formed a basic foundation for later professional archeological investigations.

The first systematic investigations of the battlefield occurred when the park historian, Don Rickey, conducted limited metal detecting investigations on and around the battlefield (Rickey 1958). He provided an accurate record of his findings and collected his finds. These materials were placed in the park collection.

The first formal archeological investigations of the monument occurred in 1958 when an archeological project was initiated in response to the proposed construction of a visitor footpath at the Reno-Benteen Defense site (Bray 1958). Bray mapped several of Rickey's finds and excavated several test trenches. The combined efforts of the two investigators resulted in the confirmation of the defense perimeter, the field hospital location, and identification of several individual rifle pits. Three incomplete soldier burials were also recovered. These remains were reinterred at the national cemetery in August 1958. The remains were again exhumed in 1986 (Comer 1986) in preparation for reburial of an additional soldier's remains that had been discovered since that time. A small archeological survey was conducted in 1977 for a waterline alignment at Reno-Benteen; however, no cultural resources were identified (Bennett 1977).

No further baseline data was produced until 1983 when a range fire burned off the vegetation at the monument. The subsequent archeological investigation (Fox 1983) resulted in the identification of battle related artifacts and several natural features. The archeologist recommended that a full-scale inventory project be implemented.

Between 1984 and 1985, Midwest Archeological Center (MWAC) staff and volunteers conducted a survey using a metal detector and traditional archeological survey methods over the entire monument (Scott and Fox 1987; Scott et al. 1989). The data produced from the surveys revealed new information regarding troop and warrior positions and glimpses of the course of the battle itself. Although the surveys recovered some 6,000 battle-related artifacts, they amount to an estimated 30% of the total items deposited upon the two battlefield localities within the monument.

One of the objectives of this survey was to determine whether or not the headstone markers, particularly the paired markers, actually denoted original soldier graves. Since only 210 soldiers were presumed to have died on the Custer field, it has long been speculated that approximately 43 markers were spurious in nature. Of the 253 markers on the Custer field, only 37 were examined. Of these, 11 were paired (22 markers). This sample revealed that during the reburial in 1877-1879 and 1881, numerous remains were left on both battlefields. In addition to small bones and partially articulated remains, one nearly-complete skeleton was discovered in a very shallow burial on the Custer field.

During these investigations, a number of prehistoric sites and isolated projectile points were also identified. These are documented in an inventory report (Scott 1987). Two prehistoric sites were evaluated by testing in 1989 and found to be not eligible to the National Register of Historic Places (Scott 1989).

No Native American dead were buried on the field, as it was customary for families and friends to remove the bodies for burial elsewhere. However, a few casualty locations have been handed down through Native American oral tradition or were marked with rock cairns erected within a few years of the battle; these are documented in the park files. The park, in conjunction with tribes, will mark Native American casualties with markers of red granite which will be placed behind the original rock cairns. The park anticipates dedication on Memorial Day of 1999.

Another archeological project was undertaken in 1989 (Scott 1991). This project focused upon the suspected location of a military equipment disposal area near the Reno-Bentzen defensive position. The result was confirmation of a dump, but it yielded fewer artifacts of lesser importance for research purposes than had been anticipated. Other such disposal sites may exist outside the monument boundaries. The 1989 season not only saw the excavation of the dump, but also mitigated excavation at Marker 7 on the Custer battlefield. A chance find of some human remains on private land at the Reno Retreat crossing was added to the project as well.

In 1992, MWAC archaeologists conducted additional archeological investigations at the monument. One project concerned the proposal to exhume seven graves in the Custer Battlefield National Cemetery that purported to contain soldier remains found on the battlefield between 1903 and the 1940s (Scott 1992a). A second project was the field investigations related to a small re-inventory project conducted during the cemetery exhumation project (Scott 1992b). The location of the planned Deep Ravine overlook adjacent to the Custer National Cemetery was re-inventoried with negative results.

In FY 1992, at the request of the park, the bulk of the archeological collection was returned to the park from the Midwest Archeological Center (MWAC) in Lincoln, NE where it had undergone analysis, and treatment for long-term storage. The park requested the material back from MWAC in order to make these items and their related archival records more accessible to researchers. The park also wanted to utilize some of the archeological items in the new exhibits. In FY 96, at the request of the park, the remaining 6,800 archeological items still in storage at MWAC were returned to the park along with the remaining field notes, photographs, videos, and other assorted archival materials. Of these collections 800 items are catalogued and 6,000 are not catalogued.

An important resource consideration, which affects the categories of Sites and Objects, is the archeological resources that still lie outside the present monument boundaries. For many decades, these lands have been considered essentially as "fair game" by relic hunters. Many artifacts and much data have already been lost. It cannot be overemphasized that these resources must be considered as an integral part of the larger battlefield resources, regardless of property lines. Given the many unknowns about this engagement, which contribute largely to the universal attraction of this place, the Service cannot afford to ignore relic hunting and other detrimental activities on adjacent lands. MWAC staff has recently started to explore the adjacent lands with the permission of private property owners. Work in 1993 focused on mapping relic find locations at the site of the Native American camp, the Reno Attack, and the Reno Retreat Line. This work was on private lands and the mapping project was intended to record find locations outside of the monument to increase the available interpretive and management data bases on the field of battle (Scott 1993). Archeological investigations outside of the present monument boundaries continued in 1994 and 1995 (Scott 1994, 1995).

One of the enduring mysteries of the battlefield is the whereabouts of approximately 28 members of Company E. It is supposed their remains lie in or near Deep Ravine. The archeological projects of the 1980s did not reveal the location of the probable mass burial, though the work did produce useful negative evidence. It still seems probable that these remains lie near the head of Deep Ravine, but erosion has deposited at least 8 feet of overburden on them. In the summer of 1996, MACTEC and Coleman Research Corporation conducted a ground-penetrating radar investigation of the Deep Ravine. Results of this investigation revealed anomalies which may warrant further study.

## **Structures**

*Definition:* Structures are works of humans, consciously constructed to serve some form of human activity. See Appendix G for List of Historic Structures.

Battlefield. There are no structures directly related to the 1876 Battle of the Little Bighorn except earthen rifle pits discussed under Cultural Landscapes. Two monuments, the Custer Memorial (1881, HS-0031) and the Reno-Benteen Memorial (1930, HS-0032), and approximately 250 white marble headstones (HS-0033), one representing each soldier, were placed on the battlefield in 1890.

National Cemetery. Structures associated with the National Cemetery include the Superintendent's House (HS-0001), an army-pattern quarters constructed for the Cemetery superintendent in 1893-1894. The two story stone building is in good condition and the exterior retains a high degree of integrity despite minor modifications. The interior has been modified for adaptive use. Original plans and specifications exist for this building, as well as a 1977 NPS Historic Structures Report. In 1998, the Superintendent's house was restored/rehabilitated into the park library and historians office. The project was primarily a restoration, using original colors. Except for the first floor, all the original walls remain.

A turn-of-the-century U.S. Army flagpole, originally a ship's mast (HS-0036), was erected in 1908 and still stands within the approximate center of the cemetery. Few historical documents exist for this structure.

A number of stone monuments, including the Fort C.F. Smith Memorial (HS-03 16B) and the Bear Paw Monument (HS-1236B), along with larger headstone markers and smaller white marble grave markers exist in the national cemetery.

## **Museum and Archives**

Collections. In 1997, the Collection Management Report (CMR) for the Little Bighorn Battlefield National Monument (LIBI) estimated the total size of the park's museum collection to be 119,021 items. The museum collection, including a large and significant archival collection, contains a wide range of items composed of various materials including paper, fabric, leather, fur, feathers, horn, bead and quill work, metal, ceramics, stone, paint, and wood.

The first collection category includes personal items that belonged to Lieutenant Colonel George Armstrong Custer. His wife, Elizabeth (or Libbie), donated many of her husband's belongings at the time of her death "to the Public Museum or Memorial which may be erected on the battlefield of the Little Bighorn in Montana." The Custer collection includes: uniforms, weapons, insignia, miscellaneous military accoutrements, documents, books, photographs and personal items dating from Custer's early military career to his death in 1876.

The second collection category is unfortunately small, but concentrates on Native American items, primarily material culture items from the Northern Plains tribes who participated in the Battle of the Little Bighorn. Artifacts include clothing, weapons, horse equipment, jewelry, and ceremonial items. However, this category also contains a few items which either belonged to family members of the participants, who were located nearby in the Indian Camp during the battle, or were retrieved by them after the battle had ended. An important sub-category of the Native American materials, identified by the park staff, but not currently represented in the park's collection, are materials relating to the role of the Indian (Crow and Arikara) scouts in the battle. The overall lack of Native American artifacts, particularly the gaps in the collection in the area of Indian camp and scouts materials has been identified in the park's 1988 Scope of Collections Statement (SOCS) as a future area for research and new acquisitions.

The third collection category includes U.S. Cavalry accoutrements, primarily firearms, military equipment, horse tack, uniforms, insignia, as well as the personal belongings of the military and civilians who participated in the battle. This category, with the exception of horse equipment and enlisted men's uniforms, is well represented.

The fourth collection category consists of archives and manuscripts which includes documents, historic photographs, rare books, maps, oral histories, ledger drawings, and ephemeral materials relating to the battle and participants from both sides of the conflict; the establishment of the national military cemetery; the significance and consequences of the Northern Plains Indian Wars to American Indian and Euro-American cultures, and the park's own unique history.

The fifth collection category is comprised of works of art which includes eight framed oil paintings (two of very large size), prints, watercolors, and numerous bronze sculptures.

The park also maintains a collection of items for interpretive purposes including two detailed battlefield dioramas, a three dimensional battlefield map, and a significant and growing hands-on living history collection of reproduction items representing both sides of the conflict. The living history collection is used exclusively for exhibit demonstrations, or interpretive consumptive use purposes. This living history collection is managed by the park's interpretive staff as an educational collection and is carried on a separate property list. The living history collection is also funded, inventoried, stored, and managed separately from the existing museum collections.

The park's total catalogued museum collection includes 30,899 artifacts, from four major disciplines including: archeology, ethnology, history, and archives. The largest portion of the collection is the archival resource, comprised of 110,338 items. Archeological materials recovered from the battlefield make up the second largest percentage of the collection, followed by historic and ethnographic materials. The park also had one paleontological specimen, a portion of a Plesiosaur (marine reptile), which was excavated from the national cemetery in 1977 and transferred as an undocumented loan to Dinosaur National Monument (DINO) in Vernal, Utah. In 1980, the specimen was transferred by DINO to the Department of Paleobiology at the Smithsonian Institution in Washington, D.C.

Under the biology discipline, the park acquired 114 different plant specimens that have been accessioned (LIBI A. 749), but not cataloged into the museum collection. The purpose, use, and storage requirements pertaining to this herbarium collection has been added to the park's 1998 Scope of Collection Statement (SOCS). The park's Museum Scope of Collection Statement was updated in 2000 to include natural history collections in three disciplines: biology, geology, and paleontology. No catalogue numbers have been assigned for the plant specimens. The plant specimens were collected from the native prairie within the boundaries of the national monument by Little Bighorn College students during the June 1996 Summer Field School.

Additionally, a series of historic headstones (markers) removed from both the battlefield and the adjacent military cemetery during the US. Army's and the NPS' management of the site, are currently in storage in the park's old sewer treatment system pump house.

As of 1999, all the museum collection materials had been accessioned with only 30,899 (26%) of the collection catalogued into the NPS, Automated National Catalog System (ANCS) database. As of 1999, a cataloging backlog of 88,122 items (74%), consisting mostly of archival materials remained to be catalogued.

### **Landscapes**

*Definition:* Cultural landscapes are complex resources that range from large rural tracts covering several thousand acres to formal gardens of less than an acre. Natural features such as landforms, soils, and vegetation are not only part of the cultural landscape; they provide the framework within which it evolves. In the broadest sense, a cultural landscape is a reflection of human adaptation and use of natural resources. The character of a cultural landscape is defined both by physical materials and by use, reflecting cultural values and traditions.

The Cultural Landscape Inventory (CLI) is the tool used to determine what significant (Register eligible) cultural landscapes are present at Little Bighorn. The Cultural Landscape Report (CLR) is the primary guide to treatment and use of a cultural landscape. Currently, no cultural landscape work has been done in Little Bighorn National Monument.

Battlefield. The Custer Battlefield, Reno-Benteen Battlefield and ridges between these areas, the Indian village site and primary viewshed surrounding the monument are all important elements associated with the Battlefield cultural landscape. Many of the surrounding lands also contain artifacts and sites related to the battle. These lands should be preserved and protected from activities that would adversely affect their historic and interpretive values.

The only structures presently identified on the Battlefield land are the Earthen Fortification/Rifle Pits (HS-0034). Most of these pits were examined, defined, and restored as part of the 1958 archeology project. However, terrain played a key role in determining the tactical movements during the battle, and additional structural features (such as observation points, fields, roads, and watercourses, etc.) may be located during the Cultural Landscape Inventory (CLI) of the Battlefield.

National Cemetery. The cemetery is divided into eight sections. Elements contributing to the significance of the cemetery landscape include the monuments, flag poles, grave markers, walks, drives, entrance gate and fence, trees and other plant materials, the Superintendent's House, and associated features.

### **Ethnography/Ethnohistory**

The battle of Little Bighorn has generated multiple views regarding its significance. From the standpoint of the nineteenth century immigrant, the battle was a pivotal event in a long series of clashes with American Indian people. This crushing defeat in battle proved to be a serious incentive for the U.S. military to end American Indian resistance to immigrant settlement throughout the west. For American Indians, the battle was (and continues to be) seen as a major victory (albeit a temporary one) for a way of life which had witnessed continuous, and often unacceptable pressures from immigrant settlers moving permanently onto the Great Plains and intermountain west. From an ethnographic perspective, the battle became, and remains to this day, a significant symbolic event for two major cultural groups (Indian and non-Indian) seeking to maintain their respective values and life ways in the face of cross-cultural contact and conflict.

Ethnographic resources related to the battlefield are not well documented. From a contemporary cultural anthropological perspective there is a need to determine the extent to which the battle plays a role in the worldview of Indian and non-Indian alike. That this defeat for the U.S. military remains an importance event historically and symbolically for non-Indian people is evidenced by the hundreds of books published to date which tell and re-tell the story of the battle.

Little Bighorn enthusiasts are known for their ongoing efforts to preserve the site and the memory of the valorous defeat of the 7<sup>th</sup> Cavalry at the hands of the Sioux and Cheyenne. On the other side, descendants of tribal peoples who participated in the battle continue to refer to the event as a heroic and proud defense of their homeland from the encroachment of non-Indian immigrants. There can be little doubt that the battle of the Little Bighorn has found a permanent place in the contemporary legends and mythologies of both Indian and non-Indian peoples.

American Indians affiliated with the site are those tribes whose ancestors participated in the battle. These include the Northern Cheyenne, Lakota, Arapahoe, Arikara, and the Crow tribes. Other tribal groups, though not affiliated through some historic participation in the battle, have themselves come to view the conflict as a uniquely important event that helped to bolster Indian pride in the face of continuous efforts to remove them from their homelands. Little is known of these contemporary Indian interpretations of the site and the event itself. The non-Indian Custer enthusiasts and the local and regional non-Indian communities continue to view the battle as an integral event shaping their own history and character.

From an ethnographic perspective, these non-Indian groups should also be viewed as having a significant cultural affiliation with the park. In many ways, the battle of the Little Bighorn was a battle between vastly different cultural traditions and worldviews-and these views for both groups need to be documented as ethnographic resources. The cultural differences between these groups have obviously lessened over the years, but differences persist. Future ethnographic work for the battlefield should focus on documenting contemporary attitudes and perceptions of the importance of the battle and the battle site from the perspective of Indian and non-Indian peoples alike.

## **NAGPRA**

In compliance with Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, the park completed the required NAGPRA Summary in 1993 and NAGPRA Inventory in 1995.

The 1993 service-wide NAGPRA summary for LIB1 included a list of approximately 95 potential items that fall under NAGPRA categories. The items include medicine bundles or bags, charms, rattles, pipes, and other items. In August 1994, these objects were videotaped under contract by the University of Arizona, administered by WACC. The purpose of the videotapes is to assist with tribal consultation concerning NAGPRA items in the park's collections. The cultural affiliation of all items has not been determined and the affiliation of many items on the summary remains unknown.

On August 21, 1996, representatives from Lakota Oglala from Pine Ridge Indian Reservation in South Dakota visited the park to examine collections affiliated with their individual tribe and/or band. On August 20, 1996, and again from October 28-29, 1996, the park sponsored NAGPRA consultation meetings in Billings, MT to discuss NAGPRA issues and the repatriation of human remains. The human remains were not part of the park's museum collection, but had been turned over to the park (1996) as the result of a NAGPWARPA investigation associated with the park and a separate return to the park by the relatives of a former historic period collector from the Little Bighorn Valley.

Following the results of a non-destructive analysis and examination by physical anthropologist at University of California, Chico, who attempted to identify the remains for possible cultural affiliation, the park chose to consult with the various potentially affiliated tribes and repatriated all the human remains under the category of inadvertent discoveries to the Crow Tribe of Indians.

LIBI completed a Memorandum of Agreement with historically affiliated tribes in October 1996 and April 1997 that deals specifically with repatriation of American Indian human remains. In August 1998, LIBI consulted with affiliated tribes. LIBI has a park policy that addresses NAGPRA-related items left at the site of the Indian Memorial.

## BASELINE RESOURCE INFORMATION

### Natural Resources

#### Vegetation

The battlefield is located along the banks of the Little Bighorn River in a northern high plains environment. Natural resources at the battlefield are heavily influenced by climate and topography. Moderate precipitation with abundant sunshine, low relative humidity, and clay soils combine to produce a suitable environment for middle to tall grass prairies. Two community types found in Little Bighorn were identified by Bock et al. (1987) as the Northern Mixed Grass Prairie with sections of sagebrush-dominated shrub steppe. Cottonwood and sedge riparian areas exist along the Little Bighorn River.

Grazing has been excluded from the battlefield since 1891 and the Reno-Benteen Battlefield since 1954. However, horses and reenactments were used for several decades after the battle. Grazing continues within the park's legal boundary along the Little Bighorn River outside the park fence. The Battlefield's grasslands are in good condition overall, and certain areas represent outstanding examples of regional grassland communities (Bock and Bock, 2006), because of this protection from grazing.

A threat is the alteration of the natural fire regime (Bock and Bock, 2006). A fire in 1983 removed vegetation from 90 percent of the area. This presented a unique opportunity to determine post-fire responses of a high plains ecosystem protected from livestock grazing. Other fires burned over the entire Reno-Benteen site and the east side of Battle Ridge on the battlefield. Fire at the Custer Battlefield, because of the virtual 100% mortality of big sagebrush (*Artemisia tridentata*), converted what appeared to be a shrub-steppe ecosystem into a grassland. Sagebrush mortality was the single most dramatic result of the 1983 fire (Bock et al. 1987) with a return to native and non-native grasses.

Mixed-grass prairie is typically dominated by Bluebunch wheatgrass (*Agropyron spicatum*) which makes up about one-third of the vegetation at Little Bighorn. Presently, *Bouteloua-Stipa-Agropyron* is the dominant cover type on the battlefield. Other grasses include Idaho fescue (*Festuca idahohensis*), western wheatgrass (*Agropyron smithii*), green needlegrass (*Stipa viridula*), prairie junegrass (*Koeleria cristata*), and blue grama (*Bouteloua gracilis*). The main shrubs are hawthorn (*Crataegus* sp.), chokeberry (*Prunus* sp.), silver sage and big sagebrush (*Artemisia* spp.). Spruce trees, used for landscaping, line the sidewalks in the national cemetery. Cottonwood trees are prominent in areas along the Little Bighorn River, very little of which lies within the present monument boundary. Native willows (*Salix* spp.) appear to have declined since the time of the Battle, and these are candidates for judicious re-introductions into riparian bottomlands (Bock and Bock, 2006). Willows are deserving of special attention at LIBI not only for their intrinsic value as part of the native flora, but also because of their particular significance to native peoples (Bock and Bock, 2006).

Following construction of the Indian Memorial in 2003, the site was hydro seeded by a contractor. In the summer of 2003, additional seed was planted by staff of Bighorn Canyon National Recreation Area (BICA) using a drill seeder. Fee Demonstration funding has allowed for the management of this site.

Vegetation encroachment of the Reno-Benteen Tour Road led to a Regular Cyclic Maintenance project to remove vegetation encroachment of the tour road. Facility Management and a contractor performed the removal of *Yucca* and trees in 2003. Since 2004, the vegetation encroachment has been minimized by bi-annual roadside mowing by Facility Management. Seasonal chemical control by Natural Resource Management has been supplemental due to intermittent funding. No formal Standard Operating Procedure for vegetation management on roadsides has been developed.

In accordance with LIBI's Fire Management Plan and the Montana Department of Transportation Maintenance Manual, LIBI will maintain roadside vegetation by mechanical mowing to ensure safe, functional, and healthy roadsides.

"The ultimate goal of roadside vegetation management is to produce and maintain healthy, low-maintenance, self-sustaining roadsides by encouraging beneficial vegetation. Proper roadside vegetation management should be based not on a timetable, but on the current vegetation type and condition of the roadside community." (Department of Transportation, Montana, 2002)

In accordance with Montana Department of Transportation Maintenance Manual, LIBI will maintain roadside vegetation by chemical treatments to control or prevent the growth of vegetation such as noxious weeds, brush or other vegetation. Chemical spraying should be done by or under the supervision of a licensed chemical applicator. Chemical spraying may be a contracted service.

“The purpose of this activity includes the chemical control against the spread of noxious weeds, to inhibit the growth of vegetation around structures such as signs and guardrails, improve aesthetics, improve sight distance, reduce fire hazards, reduce snow drifting and to help with drainage problems in areas where mowing is not practical.” (Department of Transportation, Montana, 2002)

Designated as developed lands, landscaped areas will be managed to maintain or improve aesthetics. Such maintenance activities may include mowing, maintaining water systems, fertilizing, weeding, ornamental planting and replacing turf.

The Fee Demonstration project “Restore Historic Viewshed For Visitor Enhancement And Photography” including the removal of the Quonset Hut building and restoring 3 acres led to the removal of surplus equipment, supplies, gravel/dirt piles, and road loop network at the Quonset hut site in 2006. In preparation for restoring the site to the original historic and natural landscape of 1876, the site was contoured using historical maps, photographs, and early Twentieth century aerial photography. Native seed was planted in 2007, restoring 2 acres. Future management of the restoration site will include reseeded as needed and funding permitting. The remaining one acre will be restored upon removal of the Quonset Hut building. Removal was postponed until other storage facilities could be arranged.

The NPS’ Vital Signs Inventory and Monitoring (I&M) Program was established as part of the Natural Resource Challenge, which called for the NPS to substantially increase the role of science in decision making, revitalize and expand natural resource programs, gather baseline data on resource conditions, strengthen partnerships with the scientific community, and share knowledge with educational institutions and the public. The purpose of the Vital Signs Program is to provide scientifically credible, long-term ecological information for natural resource protection and management through natural resource inventories and monitoring of vital signs of ecosystem health. The required data for a suite of resources in all parks identified as having significant natural resources have been defined in terms of 12 datasets to be developed at the federal, regional, network, and park levels. These “elements” include: Natural resource bibliography, Base cartographic data, Geology map and report, Soils map and report, Weather data, Air quality, Location of air quality monitoring stations, Water body location and classification, Water quality data, Vegetation map and report, Documented species list of vertebrates and vascular plants, and Species distribution and status of vertebrates and vascular plants. Having this information will allow park managers and scientists to assess the efficacy of management practices and restoration efforts and receive early warning of impending threats to the resources and systems that the NPS was created to protect. In this way, the I&M Program helps the NPS to fulfill its mission “to conserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment of this and future generations.”

The Rocky Mountain Network (ROMN) is one of 32 vital signs monitoring networks across the NPS. Six units comprise the ROMN: Glacier National Park (GLAC), Grant-Kohrs Ranch National Historic Site (GRKO), and Little Bighorn Battlefield National Monument (LIBI), Montana; and Florissant Fossil Beds National Monument (FLFO), Great Sand Dunes National Park and Preserve (GRSA), and Rocky Mountain National Park (ROMO), Colorado. The six ROMN parks are located in the central and southern Rocky Mountain Cordillera, roughly along a NNW–SSE axis that follows the Continental Divide. Although this is an extremely diverse region, all six ROMN parks share ecological similarities. These units also have a tradition of working together and are within the same NPS region. The ROMN includes core staff who conduct the day-to-day activities of the ROMN, a Technical Committee that makes recommendations and advises the ROMN, a Board of Directors responsible for program accountability, scientific and technical partners, and Intermountain Region (IMR) and Washington Office (WASO) I&M staff.

The ROMN completed the Vital Signs Monitoring Plan in December 2006 for the I&M Program. The Vital Signs Monitoring Plan describes the rationale and basis for the ROMN vital signs monitoring program. The

plan was developed during a three-year planning effort that included park staff and scientific partners from numerous organizations. The ROMN also worked with other networks and utilized guidance and advice from the IMR and WASO, so their results will provide important, comparable information beyond the ROMN parks and network. The ROMN long-term ecological monitoring program is designed to complement, not replace, existing park and other agency monitoring programs. The Vital Signs Monitoring Plan focuses on 12 vital signs: Wet and Dry Deposition; Weather and Climate; Water Chemistry; Surface Water Dynamics; Freshwater Communities; Invasive/Exotic Aquatic Biota; Groundwater Dynamics; Wetland Communities; Invasive/Exotic Plants; Vegetation Composition, Structure, and Soils; four Focal Species (Beaver, Elk, Grizzly Bear, and GRSA Endemic Insects); and Landscape Dynamics. To monitor these 12 vital signs, the ROMN is developing 10 monitoring protocols: Stream Ecological Integrity; Wetland Ecological Integrity; Vegetation Composition, Structure, and Soils for Alpine and for Grassland/Shrubland ecosystems (two similar, but separate, protocols); Alpine Lake Ecological Integrity; Weather and Climate; Snow Chemistry; National Atmospheric Deposition Program/National Trends Network (NADP/NTN), Invasive Plants – Early Detection; and Landscapes Dynamics. Six of the protocols will be performed at LIBI. Currently, the ROMN is developing the Grassland/Shrubland Vegetation Composition, Structure, and Soils protocol. The ROMN will begin implementing vital signs monitoring in 2008.

As part of the Documented Species List of Vertebrates and Vascular Plants and Species Distribution and Status of Vertebrates and Vascular Plants Elements of the I&M Program, the ROMN has inventoried several vascular plant species occurring in the park. The data was gathered from existing data and plant surveys conducted at the park. Vegetation Survey Related to Effects of Fire at the Battlefield by Bock et al. was published in 1987. A vegetation survey was completed in 2001 by Sara Simonson of the University of Montana Missoula (U of M). Species documented by these surveys were certified December 22, 2003 by professional botanist Dr. Leila M. Schultz of Utah State University. The data is stored and managed by the ROMN using the service-wide database NPSpecies. The NPSpecies database was created as part of the Vital Signs Program. A vascular plant survey was completed in 2006 by Jane and Carl Bock of Colorado State University Boulder (CSU).

114 plant specimens were collected from the native prairie by Little Bighorn College students, during the summer of 1996. The students spent a week collecting, identifying, pressing, and mounting the plant specimens. 110 of the specimens were collected within the boundaries of the monument. 87 were identified to species. No professional botanist has reviewed the samples for official identification for cataloging purposes. Under a current task agreement with Colorado State University Boulder, the remaining 23 specimens will be identified and all 110 specimens certified by professional botanist Dr. Jane H. Bock. Additions to NPSpecies are not expected because the students selected specimens based on the NPSpecies list at that time. Certainly if any new plants are found, certified species will be added to the database by the ROMN staff. Following certification, LIBI will manage the collection according to the NPS Museum Handbook. The specimens will be labeled with official NPS specimen labels, and then entered into ANCS as part of the museum collection. If approved, the Fee Demonstration project “Protect and Interpret Resources for Park Visitors' Enjoyment and Education” will facilitate these actions.

During the summer of 2006 a seasonal Biotech documented several plant field observations, most of which are not on the current NPSpecies list. Pending certification, the list will be added to NPSpecies. Under the same task agreement and project described above, Dr. Bock will certify the list. ROMN staff will enter any new plants into NPSpecies.

The WASO I&M Program/Vegetation Mapping Program and the United States Geological Survey (USGS) Biological Resources Division are the responsible organizations for the Vegetation Map and Report Element of the I&M Program. Generally, the USGS funds and oversees the vegetation mapping, but the ROMN aided in funding LIBI's Vegetation Mapping Project in 2006. The ROMN worked with park staff to coordinate the project. Completion and products are anticipated in 2007.

No formal vegetation management plan has been developed for LIBI. No formal cultural landscape management plan has been developed. A cultural landscape plan should consider management of natural areas versus cultural areas and developed areas.

### Non-Native Plants

Informal surveys have found several non-native species including Kentucky bluegrass (*Poa pratensis*), Yellow sweetclover (*Melilotus officinalis*), Prickly lettuce (*Lactuca serriola*), flixweed (*Descurainia sophia*), tumble mustard (*Sisymbrium altissimum*), curly dock (*Rumex crispus*), Dandelion (*Taraxacum officinale*), and Western salsify (*Tragopogon dubius*). Formal surveys have documented several other non-native species including Japanese brome (*Bromus japonicus*), smooth brome, (*Bromus inermis*), cheatgrass (*Bromus tectorum*), bulbous bluegrass (*Poa bulbosa*), field bindweed (*Convolvulus arvensis*), St. Johnswort (*Hypericum perforatum*), knapweeds, thistles, houndstongue (*Cynoglossum officinale*), whitetop (*Cardaria draba*), and Dalmatian toadflax (*Linaria dalmatica*). These non-natives tend to occur along roadsides and in previously disturbed areas. Because there is limited visitor use disturbance (i.e. trampling) away from roads and trails due to visitor restrictions from overland foot or vehicle travel, the park lands remain relatively weed free.

Other non-natives include ornamental trees planted in the cemetery and Tatarian honeysuckle (*Lonicera tartarica*), Canada thistle (*Cirsium arvense*), Russian olive (*Elaeagnus angustifolia*), and salt cedar (*Tamarix ramosissima*) in the riparian area of the Battlefield. Montana State University Bozeman (MSU) completed the Non-Native Plant Survey at Little Bighorn Battlefield National Monument in 2005 as a baseline inventory of weeds in the park. The invasive species were added to the NPSpecies database in 2007. The survey area did not include the riparian area, approximately 25 acres. Under the Fee Demonstration project “Restore Cultural And Natural Landscape Through Eradication Of Non-Native Vegetation,” seasonal park staff mapped three weed species including Russian olive, salt cedar, and Tatarian honeysuckle in the riparian area. No formal comprehensive survey has been done on exotics in the riparian area of the Battlefield which is outside the park fence, but within the park boundary. A scattered infestation of Canada thistle is known to occur within the riparian area.

Some sporadic chemical control and manual pulling by park employees occurred before 2004. Typically, the Exotic Plant Management Team (EPMT) visits once per year to monitor and treat weed infestations as well as provide recommendations to park management. 16 Exotic Plant Management Teams have been set up service wide, each tailored to a specific region. These teams assist parks with on-going efforts to remove invasive plants and provide management guidance for invasive plant control in individual parks. The Northern Rocky Mountain Exotic Plant Management Team (NRM-EPMT) was established to augment invasive species control efforts at fifteen National Parks, including LIBI and others. There are three crews stationed throughout the region: Glacier National Park (GLAC), Craters of the Moon National Monument and Preserve (CRMO), and Yellowstone National Park (YELL). YELL is the host park for the NRM-EPMT.

Since 2004, Fee-Demonstration Projects have funded staffing and supplies for the control of exotics throughout the park’s road and trail system, building network, and restoration sites. Methods of control include mechanical (tools and hand pulling) and chemical (herbicide use). The EPMT (GLAC crew) visits LIBI once per year to chemically treat weeds, usually along the roadsides where there has been an infestation of field bindweed since the Tour road was resurfaced and widened in 2001. In 2005 the YELL crew also visited LIBI to provide assistance. Native seed collected inside the park is cultivated in the disturbed areas. Species collected include green needlegrass (*Nassella viridula*), bluebunch wheatgrass (*Pseudoroegneria spicata*), blue grama (*Bouteloua gracilis*), and sideoats grama (*Bouteloua curtipendula*). Education is provided to the seasonal staff and to the public. A standard operation procedure (SOP) addressing park responsibilities and procedures for weed management at LIBI is in development.

The Federal Lands Highway Program (FLHP) project Road Construction of Tour Road, pending approval, is scheduled to begin FY 2008. In preparation for this project, native seed was collected in the park in 2005 and shipped to the Natural Resources Conservation Service (NRCS) lab in North Dakota. NRCS is producing large quantities of seed for the restoration of the roadsides following the road construction.

No formal exotics control plan has been developed. An exotics plan should be consistent with a vegetation management plan. The ROMN will begin developing the Invasive Plants – Early Detection protocol in 2007 for the long-term Vital Signs Monitoring Program. An NRM-EPMT project was approved in 2007 to create Exotic Vegetation Management Plans and associated Environmental Assessments for Grant Kohrs Ranch National Historic Site (GRKO) and LIBI. The project will begin in FY 2009.

### **Soils/Geology**

Soils range from deep to very shallow, and from clay to loamy fine sands. The features, such as steepness of slope, are more decisive in determining land classification and range sites than are the soil characteristics. The lower slopes and shales have deep soils, which are prone to both wind and water erosion. The effect is a soil that is easily eroded by both natural and human factors (see Visitor Use section).

The monument presently has some data concerning the geology and soils types represented in the park. The WASO Geologic Resources Division (GRD) is the responsible organization for the Soils Map and Geology Map Elements of the I&M Program. The GRD Soil map and database is on file. The ROMN provided a Soil geodatabase with data acquired from NRCS. It is unclear which data is the most accurate. The GRD data extends to the park boundary only. From a management perspective, it is preferred to have data coverage extending beyond the park boundary like a buffer. A technical assistance request from the IMR Geographic Resource Information Management (GRIM) Team was submitted in 2007 to consolidate and document the data to provide a user-friendly management tool. The LIBI Geology geodatabase is on file. It was completed as a component of the Geologic Resources Evaluation (GRE) program. The GRE program is funded as part of the I&M program. Currently, the ROMN is developing the Grassland/Shrubland Vegetation Composition, Structure, and Soils protocol.

Natural erosion processes are occurring along the Little Bighorn River on the monument boundary. Concerns for loss of artifacts during major flooding events may require some type of stabilization to preserve potential collection sites.

### **Wildlife**

Mammals such as whitetail deer, cottontail rabbits, porcupines, skunks, coyotes, and foxes are represented in the monument. A growing village of prairie dogs lies approximately a thousand yards outside the north-west boundary of the Custer Battlefield. Rattlesnakes and bull snakes represent 95% of the reptile population; bull snakes alone accounts for about 3/4 of all sightings. Birds frequently seen within the monument are western meadowlarks, robins, sparrows, sharp tail grouse, and magpies.

As part of the Documented Species List of Vertebrates and Vascular Plants and Species Distribution and Status of Vertebrates and Vascular Plants Elements of the I&M Program, the ROMN has inventoried several vertebrate species occurring in the park including: amphibians and reptiles, small mammals, fish, and birds. An amphibian and reptile survey targeting 90% census of the amphibian and reptile inventory was completed in 2002 by the USGS Northern Rocky Mountain Science Center. The survey yielded only a partial list of species present, due to the absence of standing water in the riparian corridor. LIBI staff should be trained to document amphibians in order to capture data at the opportune time, following a rainy season. A small mammal survey targeting 90% census of the small mammal inventory was completed by Dean Pearson of USDA Forest Service Rocky Mountain Research Station in 2003. Although the survey yielded only a 40% census of the small mammal species, it contributed to the reptile species inventory by adding three new species. A fish survey was completed by the University of Montana Missoula in 2002 concluding the Little Bighorn River consisted primarily of native species and the species diversity represented considerable native biodiversity conservation value (Bramblett and Zale, 2002). A bat survey was performed by Michael Wolfe of Utah State University in 2006. A final report is expected. A bird survey was completed in 2006 by Jane and Carl Bock, however, they recommended survey work continue in the riparian area.

Small mammal and fish specimens collected during research are to be catalogued in the museum collection and made available for visitor education. All species inventoried have been added to the NPSpecies database. The amphibian and reptile park species lists were certified February 16, 2005 by Blake Hossack. The mammal list was certified February 22, 2007 by Dean Pearson and Michael Wolfe. The fish park species list was certified April 27, 2005 by Robert Bramblett. The bird list was certified September 07, 2006 by Carl Bock.

In 2006 the National Park Service prepared for the possibility of an outbreak of the avian influenza virus H5N1 in the United States. Because the H5N1 virus strain is highly pathogenic, there is the possibility that one or more mutations of the virus could lead to the possibility of human-to-human transmission and a

possible influenza pandemic (world-wide outbreak of disease). In response to NPS preparations, LIBI completed the Pandemic Influenza Preparation and Response Level One Action Plan and the Pandemic Disease Communications Plan on November 30, 2006. Under the recommendations of Intermountain Regional staff, LIBI initiated the Highly Pathogenic Avian Influenza in Wildlife Preparedness and Communication Plan. It is a working document dated February 13, 2007.

### **Integrated Pest Management (IPM)**

The monument area suffers an annual infestation of box elder bugs in the fall season. Miller moths occur in the summer, but can become an infestation on cyclic years. Field mice are also prevalent and frequently inhabit the visitor center. Infestations of clothing moths, centipedes, and carpet beetles occur in the museum collections. Insect data is collected when traps are changed in the museum. Spider mite infestations were increasing in the ornamental cemetery trees during the late 1990's. No monitoring of the infestation has been done since that time. The death of several cemetery spruce trees of unknown origin (mostly likely from nursery stock) could be attributed to age, drought, and spider mite infestation. In 2006, new trees replaced 22 standing dead trees that were removed, as part of the on-going Facility Management Fee Demonstration project "Rehabilitate Custer National Cemetery Flagpole, Ornamental Trees and Monuments." Prairie dog colonies appear to be increasing adjacent to the park. There was a threat of prairie dog encroachment on park resources, around the 1960's. Rattlesnakes have been found at the entrance and inside the theatre, a major concern to visitor safety, and rabbits, pigeons, and mice have been found inside storage areas. Moles have been found digging in the National Cemetery.

In FY 2006, Regional IPM Coordinator Gerald McCrea provided IPM guidance on pest-proofing buildings for rodents and box elder bugs. Recommendations, including a NPS video on rodent-proofing buildings, are on file.

Two Technical Assistance Calls were submitted FY 2006 to assist LIBI in developing a Canine Management Plan and in developing a Rattlesnake Management Plan. Linda Drees, WASO NRPC Branch Chief Exotic Species is developing a Canine Management Plan. Regional IPM Coordinators Carol DiSalvo and Gerald McCrea are helping LIBI to develop a Rattlesnake Management Plan. No formal comprehensive Integrated Pest Management plan has been developed for the monument.

### **Paleontology**

The park has one paleontological specimen, a portion of a Plesiosaur (marine reptile), which was excavated from the national cemetery in 1977 and transferred as an undocumented loan to Dinosaur National Monument in Vernal, Utah. In 1980, this specimen was transferred to the Smithsonian Institution in Washington, D.C. The fossil remains include a nine foot section of backbone, containing 50-60 separate vertebrae, a rib, and a portion of the pelvis. The specimen has not been accessioned or catalogued in the museum. However, the park's Museum Scope of Collection Statement was updated in 2000 to include natural history collections in three disciplines: biology, geology, and paleontology.

### **Air/Viewshed**

LIBI is a Class II air quality area and receives protection under the Clean Air Act. Baseline air quality data is available for the monument at a weather monitoring station with the BIA. We are under contract with the National Atmospheric Disposition Program (NADP) to monitor contaminants in the rain. Monitoring began in 1984. Our on-site station is MT00 and is supported by the USGS.

The WASO Air Resources Division (ARD) is the responsible organization for the Air Quality and Location of Air Quality Monitoring Stations Elements of the I&M program. The ARD final report "Air Quality and Air Quality Related Values Monitoring Considerations for the Rocky Mountain Network" was completed March 2005. An air quality related value (AQRV) is a resource that may be adversely affected by a change in air quality. AQRVs include visibility and specific scenic, cultural, physical, biological, ecological, or recreational resources. Research has identified certain AQRVs as sensitive, such as lakes with low acid-buffering capacity and plant species that display injury symptoms at ambient ozone concentrations. The ARD has determined that LIBI has three AQRVs known to be, or likely to be, sensitive to air pollution: visibility, vegetation, fish and wildlife. Ozone-sensitive plants that occur at the monument include *Apocynum androsaemifolium*, *Artemisia ludoviciana*, *Asclepias syriaca*, *Fraxinus pennsylvanica*, *Prunus virginiana*, and

*Rhus trilobata*. There is not enough park-specific information available to determine if the surface waters and soils within the monument are sensitive.

The FY 2004 Annual Performance Report for NPS Government Performance and Results Act (GPRA), Air Quality Goal Ia3, shows trend data from 1994-2003. LIBI trends include sulfate concentrations are decreasing, nitrate concentrations have no trend, and ammonium concentrations are increasing. Ozone concentrations are increasing in the Rocky Mountain Network.

In 2007, the ROMN will begin developing the Weather and Climate and NADP/NTN protocols for the long-term Vital Signs Monitoring Program. Reporting data and information is already being collected. In regards to visibility, the Bureau of Land Management (BLM) is responsible for smoke management.

### **Water**

The technical report “Baseline Water Quality Data Inventory and Analysis” was completed in 1997 by the WASO Water Resources Division (WRD) for the Water Quality Data Element of the I&M program. The WASO WRD is also responsible for the Water Body Location and Classification Element of the I&M program. Apparently, this element was completed as part of the Base Cartographic Data Element. The ROMN currently is developing the Stream Ecological Integrity protocol and associated water quality database for the long-term Vital Signs Monitoring Program.

In accordance with the Montana Compact, the NPS Water Rights Branch (WRB) established a stream gauging station (453400107263001) on the northwest corner of the Custer unit on the Little Bighorn River, November 1999. WRB is a unit of WASO WRD that monitors and enforces water rights. WRB provides funding for Park Facility Management staff to perform biweekly site visits consisting of filling out a form by reading a cantilever gage and data logger as well as downloading data from the data logger. The forms and data are mailed to WRB in Fort Collins, Colorado. WRB maintains the stream gauging station and data workup, reporting the daily mean discharge by water year to the State of Montana and LIBI. For the last two years, the USGS has collected discharge measurements for WRB. WRB also collects water and internal air temperature. WRB does not collect water quality data other than what is listed. LIBI has been notified by WRB that funding for the operation and data management of the stream gauging station will cease October 1, 2007.

The Montana Code was annotated in 2005 regarding water rights for Little Bighorn Battlefield NM and Bighorn Canyon NRA. The National Park Service 85-20-401 Montana Compact Act, entered May 12, 1993 and executed January 31, 1994, was ratified. This Compact is the final agreement regarding the water rights attributable to these two NPS Units.

### **Wetlands**

Salt flats are a type of wetland. They are known to occur within the park. No formal comprehensive survey has been done on wetlands. The salt flats will not be monitored as part of the ROMN Wetland Ecological Integrity protocol for long-term Vital Signs Monitoring Program.

### **Lands**

All land within the monument boundaries is classified as a Historic Zone and is entirely under Federal ownership. The original 602.89-acre parcel has been fenced to exclude livestock since 1891. Adjustment to the western fence of the Custer unit in 2000-2001 included movement of up to fifty feet towards the Little Bighorn River. The Reno-Benteen unit was fenced in 1954.

The land area of the monument is comprised of two disconnected plots: Custer Battlefield proper and the Reno-Benteen Battlefield. The latter is located 4.1 miles south along the east side of the river. The area between the two battlefields is non-Indian lands, Indian allotted lands, or Crow tribal lands. Most lands on the east bank are used for livestock grazing, while lands on the west bank are used primarily for farming.

A boundary expansion of more than 11,000 acres is proposed in the 1995 updated General Management Plan. The Custer Battlefield Preservation Committee has acquired more than 1,100 acres. The Land

Preservation Committee has an additional 1,000 acres under contract. However, the Crow tribe has gone on record as opposing any expansion of the battlefield citing loss of land base within the reservation.

### **Fire Management**

Natural fire is recognized as a prime factor in the evolution and continuation of grassland ecosystems. For the preservation of these natural grasslands and the suppression of invasive weeds, fire, natural or prescribed, can be used as a tool.

The maintenance of the cultural landscapes would involve fire, since unburned grassland becomes a shrub dominated community over time. As seen with the 1983 fire, most sagebrush was eliminated and the native grasses returned. Minimal exotics were detected.

Considerations for future prescribed burns are to understand the natural fire regime for these community types, and fire frequency, size, and intensity. Also, the ethnographic values of the area should be considered. For example, did the Native Americans burn the area for hunting and warfare purposes. Complete information on natural and unnatural fire regimes is not known at this time.

A Wildland Fire Management Plan was completed in 2005. The scope includes wildland fire management at Little Bighorn Battlefield National Monument will be conducted to support the natural, cultural and historic resource management and protection programs of the area. The program includes wildland fire suppression and mechanical fuels management. The 1999 in-park memo regarding the SOP plan for natural disasters is still in effect and has not been updated. However, the Fire Management Plan replaces the wildland fire SOP where applicable.

### **Endangered Species**

No formal survey by the Fish and Wildlife Service and the Montana Heritage Program has been done at the monument for flora or fauna T&E species. However, there are comprehensive inventories of flora completed (Bock et al. 1987), a vegetation survey (Simonson 2001), and a survey of vascular plants and birds (Bock and Bock 2006). No T&E species have been identified.

An informal survey was performed for the bald eagle in 2004 by Cassity Bromley of BICA. There were negative findings. No formal comprehensive survey has been done on T&E species, such as migratory waterfowl. Historically, the whooping crane and bald eagle have been monitored in the Performance Management Data Systems database for Goals, Performance and Results Act. There are no bald eagle nests on the Little Bighorn River (Hanebury, pers. corr.), yet the species is monitored in all Intermountain Region parks. The black-footed ferret was added to the database in 2006 (Fish and Wildlife Service 2006). Although it is unlikely that the black-footed ferret would inhabit the 17-acre prairie dog town adjacent to the park, the Fish and Wildlife Service currently is working with the Crow to manage a future release of ferrets in Big Horn County (Hanebury, pers. corr.). More information on T&E species can be found in Little Bighorn Battlefield National Monument Rehabilitate Route 10 Environmental Assessment dated November 2004.

### **Visitor Impacts/Trails**

No formal comprehensive baseline or monitoring program is in place at the monument, even though the staff has noticed an increase in “social trails” throughout the monument where no maintained trails exist, especially on Last Stand Hill. This impact is especially apparent by the Indian Memorial, 7th Cavalry Memorial, 7th Cavalry Horse Cemetery, and the Crazy Horse/Keogh trail. Several of these side trails have developed on small pull-off areas along the park road. Even with the dense grass coverage, these trails appear quite rapidly and begin to attract others to walk on them. Off trail hiking is not encouraged by the monument due to the easy disturbance of the soils and grasses. The park finished an environmental assessment before the opening of two trail sites- Deep Ravine and Crazy Horse/Keogh. Social trailing at the Deep Ravine trail has decreased dramatically since it was improved. Currently, the problem is being addressed by which revegetation and weed eradication are the target project areas. Reintroducing native Yucca and cactus at problem visitor use areas within LIBI would help to minimize unauthorized visitor trails/shortcuts.

## **Data/Information Management**

The Government Performance and Results Act of 1993 (GPRA) requires every federal agency to adopt performance management. The law requires Strategic Plans, Annual Performance Plans and Annual Performance Reports. The Annual Performance Plan is a part of and follows the schedule of the budget process. The Performance Management Data System (PMDS) is part of the National Park Service's business system. The focus of PMDS is on performance. The Chief of Resource Management or designee manages the Natural Resources GPRA goals. Currently, LIBI Natural Resources GPRA goals include 07 Invasive Plants acres maintained, T&E species, and Invasive animals. The first goal is a contributing goal, funded by project dollars. The latter two goals are tracking goals only, due to lack of funding.

The National Environmental Policy Act of 1969 (NEPA) is the landmark legislation that established environmental policies. PEPC (Planning, Environment and Public Comment) is an online collaborative tool dedicated to facilitating the NEPA process in conservation planning, environmental impact analysis and informed decision-making. PEPC allows parks to improve efficiency and implement guidelines defined in Director's Order #12. This tool supports the NPS' project planning, compliance tracking, comment analysis and response, as well as public communication efforts. The Chief of Resource Management or designee manages LIBI environmental compliance. One PEPC Coordinator supports both LIBI and BICA.

Project Management Information System (PMIS) is a service wide intranet application to manage information about requests for project funding. It enables parks and NPS offices to submit project proposals to be reviewed, approved and prioritized at park units, regional directorates, and the Washington Office (WASO). The Chief of Resource Management or designee manages Natural Resources projects using PMIS. Project management includes submitting project proposals, tracking projects in progress, and closing out finished projects.

Research is tracked through the Research Permit and Reporting System (RPRS) database. The Chief of Resource Management or designee manages the database and associated Investigator Annual Reports (IAR) as well as coordinates the research in the park. Research permits are approved by the Superintendent, designee Chief Ranger, or the Chief Ranger's designee.

Geographic Information Systems (GIS) programs have been installed at the park. In 2003, some training was provided to resource staff by the Intermountain Region GIS team (now the GRIM team). Official park base data including boundaries and grave sites is available from the NPS Metadata and Data Store. The NPS Metadata and Data Store application (NPS Data Store) manages and shares NPS metadata and data generated by the Natural Resource and Service wide GIS Programs. To facilitate data dissemination to the public and throughout the NPS, the NPS Data Store application posts information to the federal Geospatial One-Stop. Park data deemed sensitive material is not posted to the NPS Data Store. Cultural and archeological surveys have been completed in the park, but they need to be converted into an ArcGIS format. It has come to the attention of park staff that there are several errors within LIBI base GIS data. The park should address this and update the park map.

As part of the Base Cartographic Data Element of the I&M program, the GIS group in Fort Collins inventoried cartographic data for LIBI, including: Digital Line Graphs (DLG), Hypsography DLGs, Boundaries DLGs, Digital Elevation Models (DEM), Digital Orthophoto Quadrangles (DOQ), and Digital Raster Graphics. A copy of this base data to be kept on file at the park is on order from Natural Resources GIS in Fort Collins. Updates to this data are expected to be available on the NPS Metadata and Data Store over the next two years. Additionally, there is an on-going ROMN project that will yield excellent digital imagery throughout history. Currently, the park is using two sets of imagery: one produced by the IMR GRIM Team; one provided by the ROMN.

Developed for the Vital Signs Program, the NPSpecies and NatureBib databases are used service wide. NPSpecies is a relational database that provides certified, documented lists of species and sub-specific organisms for each NPS unit. The documentation includes voucher (specimen) and observation records stored directly in NPSpecies, and references (reports, journal articles, etc.), and GIS and non-GIS data set

citations stored in NatureBib that are dynamically linked to NPSpecies. The NPSpecies standard is the Integrated Taxonomic Information System (ITIS) taxonomy. Currently, the database is capable of tracking 16 specie categories including some invertebrate specie categories, but the Vital Signs Program only called for documenting vertebrates and vascular plants. Therefore, only 6 specie categories are being tracked at this time: Mammal, Bird, Fish, Reptile, Amphibian, and Vascular Plant. NatureBib is the NPS bibliography of natural resource information. NatureBib serves as the searchable cataloging system for biodiversity and other natural resource products. Citation records in NatureBib are directly linked to the lists of species and sub specific organisms in NPSpecies. The ROMN manages the databases, but they can be managed by park personnel as well. Currently, neither database is accessible to the public.

Currently, the ROMN is developing a Data and Information Management Plan for the network that could be used as a template for LIBI in the future. Some data exists on file at LIBI that could be used in the groundwork of such a plan. A Data and Information Management Plan references more detailed documents called standard operating procedures that address park responsibilities and procedures. A standard operation procedure for weed management at LIBI is in development.

**RESOURCES MANAGEMENT PROGRAM**

**SCOPE OF RESOURCE MANAGEMENT CAPABILITIES**

**Cultural Staffing, Organization, and Funding**

The park's museum and archival collections are currently managed by a GS-1015-09 Museum Curator and intermittent staff (available from three to six month periods) from Volunteers-In-Parks (VIP), Student Conservation Association (SCA), and student interns from Colleges and universities. Additionally, the park staff is assisted periodically by professional curators, archivists, archaeologists, and conservators from the IMSO, Western Archeological & Conservation Center (WACC), Midwest Archeological Center (MWAC), Museum Management Program, CSD Washington Office (MMP-WASO) and Harper's Ferry Center (HFC).

**Natural Staffing, Organization, and Funding**

The natural resource responsibilities are incorporated into the GS-0025- 11 Chief Ranger position at Little Bighorn Battlefield National Monument. Only a minimal amount of time (50%) can be spent on natural resource management. At this time, additional FTE's are needed to fully meet the demands of natural resource project needs. Additional training in both natural and cultural management is necessary for this position to fulfill job requirements. Minimal responsibilities involving natural resources would include maintaining Resource Management Plan, RPRS database, and PMIS database with annual updates; coordination of research (and associated permits and compliance) and Investigator's Annual Reports; managing environmental compliance for all park projects; writing proposals for Natural Resource funding calls; managing and implementing an Integrated Pest Management program; maintaining the Natural Resource Bibliography and National Park Species databases; and information management. Currently, the Resource Specialists positions perform much of these duties, but they are not park base funded. Therefore, Resource Specialists FTEs represented here can be misleading.

Type of NPS Employee	FTEs - Resources Work		
	Natural	Cultural	Total
Research Scientist	0	0	0
Resource Specialists	1.3	2.2	3.5
Park Rangers Resource Management	0.25	0.25	0.5
Park Rangers Resource Protection	0.1	0.2	0.3
Park Rangers Resource Interpretation	0.1	3.5	3.6
Maintenance Personnel	0.2	1	1.2
<b>Total Resource Personnel</b>	<b>1.95</b>	<b>7.15</b>	<b>9.1</b>
Total Park FTE:	19		
Total PERCENT:	48%	10%	38%

**FIVE YEAR PROGRAM STRATEGY**

Natural and cultural resources and associated values are protected, restored and maintained in good condition and managed within their broader context.

**Long-term goals (GPRA):**

- By September 30, 2011, 3 (100%) of 3 of Little Bighorn Battlefield National Monument archeological sites are in good condition.

- By September 30, 2011, 0 canopy acres (0% of 77 canopy acres) of Little Bighorn Battlefield National Monument lands infested with invasive (non-native) plants are controlled.
- By September 30, 2011, 1 population (33% of 3) of Little Bighorn Battlefield threatened and endangered species is making progress towards recovery.
- By September 30, 2011, 0 populations (0% of 1) of Little Bighorn Battlefield National Monument invasive animal species populations are controlled.
- By September 30, 2011, 44 (68%) of 65 of Little Bighorn Battlefield National Monument historic structures are (maintained) in good condition.
- By September 30, 2011, 103 (71.03%) of 145 applicable preservation and protection standards for Little Bighorn Battlefield National Monument's museum collections are met.
- By September 30, 2011, 96% of visitors to LIBI are satisfied with appropriate park facilities, services, and recreational opportunities.
- By September 30, 2008, 71% of park visitors are satisfied with commercial in the park (as measured by VCS card).
- By September 30, 2011, 78% of LIBI visitors understand the significance of the park

## **FIVE YEAR PROGRAM HISTORY**

### **Natural Resources**

#### 2003

Projects included reseeding of the Indian Memorial by BICA staff; limited weed efforts by LIBI Ranger staff Jennifer Johnson and Dennis Milligan; weed control (Canada thistle) by BICA staff coordinated by Ranger Johnson; weed control (St. Johnswort and spotted knapweed) by Craig McClure (YELL) and Ranger Johnson; a site visit from the GLAC EPMT where Crew Lead Gary Ludwig provided expertise, recommendations, and the Weeds of the West; a site visit from Scott Bockness, Weed Coordinator for Yellowstone and Big Horn counties, who provided expertise, recommendations, informational materials and prairie grass seed; and a site visit from Jane Bock (University of Colorado Boulder) who agreed to send a botanical inventory of the Battlefield including a full listing of introduced and noxious species. The EPMT funded park weed control efforts. Two Fee Demonstration projects for weed control and restoration were submitted in PMIS.

#### 2004

Fee Demonstration project funding began. As a result, 47 acres of weeds were treated, contributing to the Invasive Plant GPRA goal. Seasonal biotech Joanna Welch was hired, herbicide application materials were purchased, and assistance provided by BICA weed crew. The YELL and GLAC EPMT crews each visited to assist in weed control. MSU completed the Non-Native Plant Survey as a baseline inventory for the Invasive Plant GPRA goal. Baseline information includes 84 cumulative infested acres and 77 canopy acres.

#### 2005

Project funding continued. Weed control efforts continued with a term biotech Melana Rapp and seasonal hire Matthew Brightwings. The YELL and GLAC EPMT crews each returned to assist in weed control treating 15 acres. LIBI contributed 23 acres to the Invasive Plant GPRA goal. Melana coordinated weed control efforts at the BICA North District. Much of the summer was spent collecting native seed in the park for the Road Rehabilitation project. All park staff from both LIBI and BICA was invited to participate in this effort. Staff successfully collected 8.5 lbs. of seed including species green

needlegrass, bluebunch wheatgrass, and blue grama. A proposal to restore 3 acres at the Quonset Hut and a weed follow-up proposal was submitted in PMIS.

#### 2006

Project funding continued, funding Melana Stichman and Matthew Brightwings. Weed control and restoration efforts continued. LIBI contributed 28 acres to the Invasive Plant GPRA goal. The GLAC EPMT crew returned to assist in weed control treating 13 acres. Melana coordinated weed control efforts at the BICA North District. Blue grama seed was collected October 2005. Three weed species including Russian olive, salt cedar, and Tatarian honeysuckle were mapped in the riparian area and added to the baseline weed inventory. Approximately 60 new plants were identified for addition to the LIBI Vascular Plant List. All treated weeds in the natural zone were mapped for closeout of one Fee Demonstration project. GIS at Region assisted in correcting baseline GIS data for LIBI.

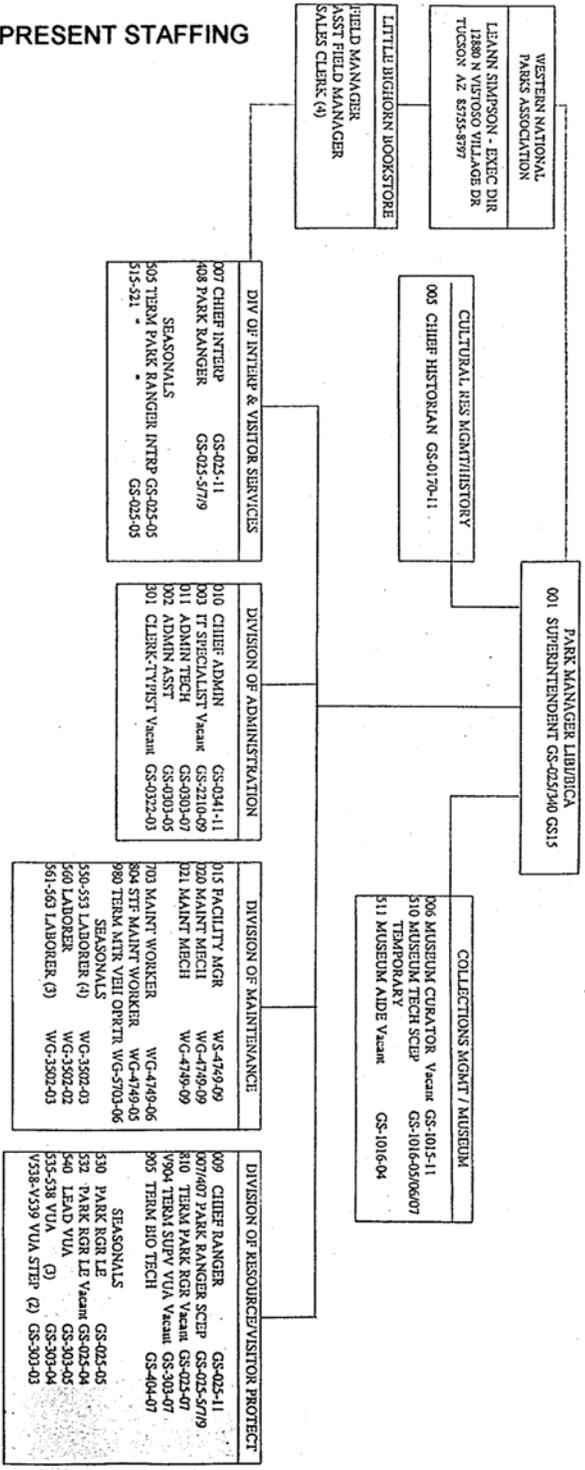
The Quonset Hut project to restore 3 acres began. John Doerner and Melana coordinated cultural and natural compliance. Rodd Wheaton was contracted to complete a Determination of Eligibility for the Quonset Hut building. Seasonal biotech Bob Pollock was hired and restoration materials purchased. BICA staff assisted with clearing and contouring the site in preparation for native seeding. A very dry spring yielded little native seed to be collected. 25 lbs. of native seed was purchased. A very dry fall caused the native seed planting to be rescheduled for spring 2007. Wintering the site included hydro seeding and mulching with a cover crop.

#### 2007

Project funding continued, funding Melana Stichman and Matthew Brightwings. A proposal to produce park species checklists and a new park mark for the Visitor Center was submitted in PMIS. Michael Stops and Melana led the update of the Resources Management Plan. The Quonset Hut site was cultivated and planted with native seed, restoring 2 acres. John Doerner and Melana coordinated cultural and natural compliance for two research requests. Melana assisted the ROMN with grassland monitoring for the long-term Vital Signs I&M Program. Chris Lea (NPS) led the accuracy assessment for the Vegetation Map (final expected 2007). Chris, Jane and Carl Bock (University of Colorado Boulder), Melana, and Matthew completed the fieldwork for the uplands Vegetation Map. The riparian fieldwork was postponed due to flooding of the Little Bighorn River. Jane Bock completed an assessment of the herbarium and certified the specimens as well as the 60 species that were identified in 2006.

Weed control and restoration efforts continues. Contributing acres to the Invasive Plant GPRA goal will be reported at the end of FY 2007. The GLAC EPMT crew returned to assist in weed control. Treated weeds in the natural zone are being mapped in preparation for the closeout of one Fee Demonstration project. Melana continues to coordinated weed control efforts at the BICA North District.

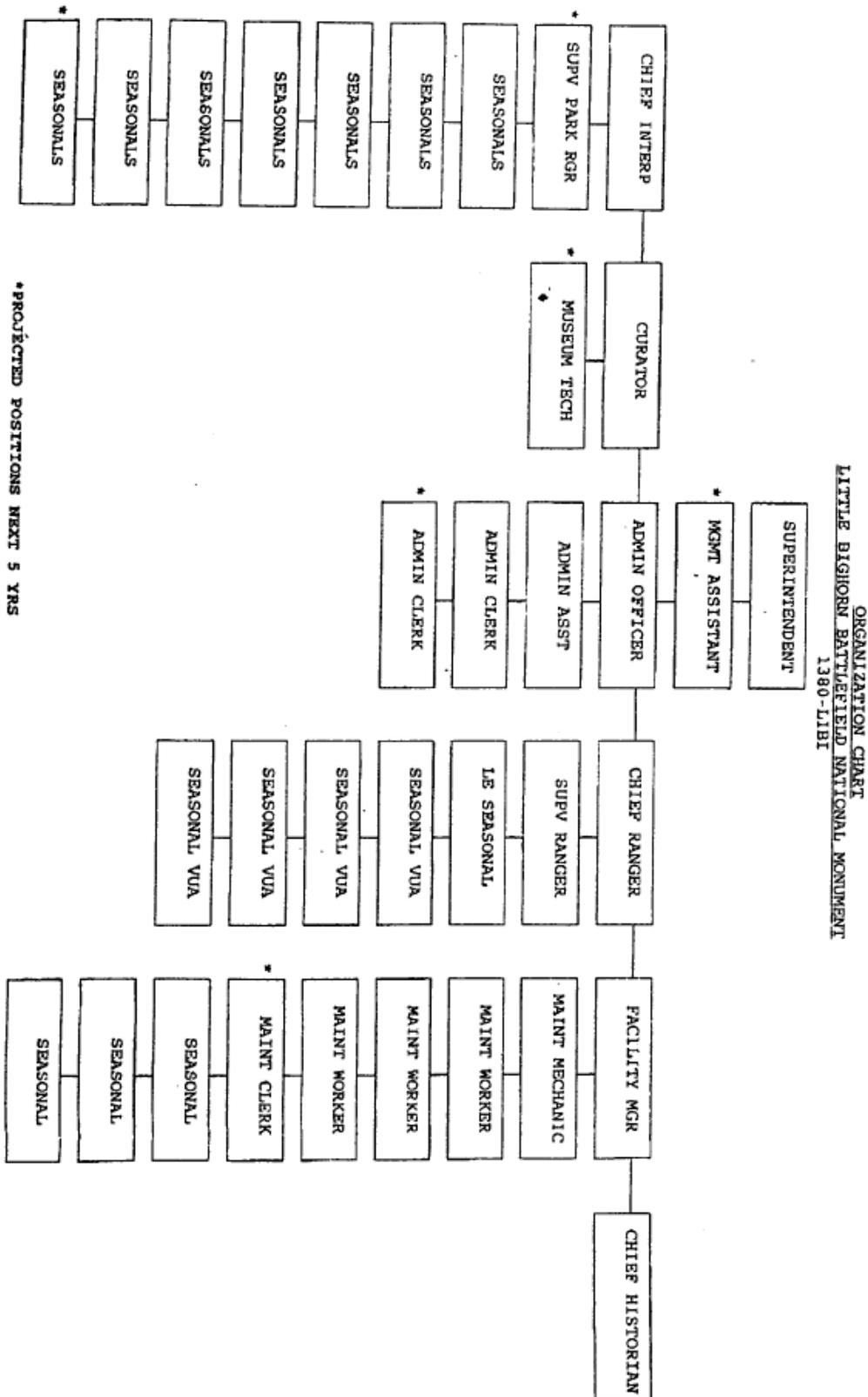
APPENDIX A. PRESENT STAFFING



LITTLE BIGHORN BATTLEFIELD NATIONAL MONUMENT  
1380- LIBI

APPROVED: *Samuel Clark*  
SUPERINTENDENT  
DATE: 4/19/06

APPENDIX A. LONG-TERM STAFFING NEEDS



**Appendix B. CULTURAL RESOURCES TABLES**

Cultural Resources Tables were last updated in 1999.

**Cultural Resource Documentation Checklist**

Place an X in the appropriate column. Leave columns blank if document is not required for the park. Remember that items in the first section, Planning Documents, may also apply to natural resources. See NPS-28, Chapter 2 for description of each inventory or study.

<b>CULTURAL RESOURCE DOCUMENTATION CHECKLIST</b>			
<b>TITLE</b>	<b>CURRENT AND APPROVED</b>	<b>INCOMPLETE; NEEDS REVISION OR UPDATING</b>	<b>NEEDED</b>
<b>PLANNING DOCUMENTS</b>			
Preauthorization and Authorization			
Statement of Management (SFM)		1990	
Outline of Planning Requirements (OPR)		1992	
General Management Plan (GMP)	1986/1995		
Development Concept Plan (DCP)	1995		
Resources Management Plan (RMP)	1996 (interim)		
Comprehensive Interpretive Plan (CIP)			X
<b>SERVICEWIDE INVENTORIES LIST, CATALOGS AND REGISTERS</b>			
Cultural Resources Bibliography (CRBIB)		X	
Cultural Sites Inventory (CSI)	X		
List of Classified Structures (LCS)	X		

<b>CULTURAL RESOURCE DOCUMENTATION CHECKLIST</b>			
<b>TITLE</b>	<b>CURRENT AND APPROVED</b>	<b>INCOMPLETE; NEEDS REVISION OR UPDATING</b>	<b>NEEDED</b>
National Catalog of Museum Objects		X	
National Register of Historic Places	1966, 1987		
<b>BASIC CULTURAL RESOURCE DOCUMENTS</b>			
Archeological Overview and Assessment			X
Archeological Identification Studies		1984/85	
Archeological Evaluation Studies			X
Ethnographic Overview and Assessment			X
Ethnographic Oral Histories and Life Histories		1987	
Ethnographic Program			X
Historical Base Map			X
Historic Resource Study (HRS)			X
Park Administrative History		1958, 1980	
Scope of Collection Statement		1985	X
<b>SPECIAL RESOURCE STUDIES AND PLANS</b>			
Archeological and Ethnographic Collections Studies	Archeo. Collection done		
Archeological Data Recovery Studies	Done as needed.		

<b>CULTURAL RESOURCE DOCUMENTATION CHECKLIST</b>			
<b>TITLE</b>	<b>CURRENT AND APPROVED</b>	<b>INCOMPLETE; NEEDS REVISION OR UPDATING</b>	<b>NEEDED</b>
Collection Management Plan			X
Collection Storage Plan		1992 (minimum)	
Collection Condition Survey	94 Textile Collec.; 95 Ethnog. Collec.	1997 Archival Collec.	Archeo. Collec.; Hist. Collec.; Archival Collec.
Cultural Landscape Report (CLR)			X
Ethnohistory			X
Exhibit Plan		Phase I , II, & III 1994	
Historic Furnishing Report	Not Applicable		
Historic Structure Preservation Guide (HSPG)			X
Historic Structure Report	Superintendent's Lodge (HS-1)		
Social Impact Study			X
Special History Study			X
Traditional Use Study			X
Museum Housekeeping Plan (Preventive Conservation)			X
Emergency Disaster Plan			X
Integrated Pest Management Plan			X
Fire Protection and Security Survey			X

**Appendix C. NATURAL RESOURCES BASELINE INFORMATION**

Current and approved, incomplete and needs revision or updating, or does not meet the recommended minimal set of natural resource information listed in Appendix A of NPS-75.

<b>NATURAL RESOURCES BASELINE INFORMATION</b>			
<b>INVENTORY COMPONENT</b>	<b>CURRENT AND APPROVED</b>	<b>INCOMPLETE; NEEDS REVISION OR UPDATING</b>	<b>NEEDED</b>
Historical Data Base		X	
Species Information:			
Species List	X		
Biologic Survey	X		
Species Distribution	X		
Digital Vegetation Map	anticipated 2007		
Digital Cartographic Map		X	
Digital Soils Map		X	
Digital Geology Map	X		
Water Resources Inventory	X		
Water Quality Data		X	
Air Quality Station	X		
Air Quality Data	X		
Precip/Meterological Data	X		

## Appendix D. PROJECT STATEMENTS

Project Statements were last updated in 1999. For Natural Resources updates, go to the end of this appendix.

### **FY2000 SEPA PROJECTS**

1. Repoint Stone House Basement \$12,000
2. Museum Exhibit Object Treatment \$20,000
3. Museum Collection (Paper) Conservation Treatment \$20,000
4. Painting Conservation Treatment \$17,800
5. Oral History \$30,000
6. Prepare Rapid Ethnographic Overview \$15,000
7. Administrative History \$60,000
8. Conduct Cultural Landscape Inventory \$5,000
9. Improve Museum Collection Workspace \$66,100
10. Convert Historic Photograph Collection to CD-ROM
11. NAGPRA Consultation \$40,000
12. Archeology/Markers \$20,000
13. Archeology/Geophysical, Reno-Benteen \$30,000
14. Prepare/Restore Deep Ravine Trail \$25,000
15. Museum Exhibit Upgrade \$25,000
16. Parks As Classrooms \$10,000
17. Asphalt VIP Trailer Pad \$8,000
18. Replace Cushman \$11,000
19. Replace Quarters, Siding/Windows \$84,000
20. Update NR Inventory \$50,000
21. Construct Detached Restrooms \$80,000

**Total: \$609,100+**

### **FY1999 Projects Funded**

1. CRPP/Reassemble/Recatalog LBH Archive Collections \$21,600
2. BC/Catalog LBH Archives \$51,100
3. MC/Improve Archives Storage \$60,700
4. ARPA Equipment/Per \$3,000

### **Projects - Other Funding: Sources**

1. Clean Cemetery Headstones \$6,000
2. Repaint Exterior Visitor Center \$14,000
3. Recarpet visitor Center \$11,000
4. Install Pesticides Trees \$2,000
5. Rehab Cemetery Irrigation system \$25,000
6. Rebuild Cemetery Street \$23,000
7. Wheelchair Lift \$40,000 (Repair/Rehab)
8. Reburials Other Military Posts \$5,000
9. Aerial Inventory Battlefield \$10,000
10. Replace Boundary Fence \$40,000 (Repair/Rehab)
11. Prepare NHL Form for LIB1 \$20,000

**Total: \$196,000**

### **Future Projects**

1. Conduct History Collection Condition Survey \$20,000
2. Complete Collection Management Plan \$10,000
3. Upgrade ANCA \$30,000
4. Photograph Museum Collection

### **Potential Project Statements**

## **CULTURAL**

### **Archeology**

- LIBI-C-100.001 Update Cultural Sites Inventory
- LIBI-C-101.001 Archeological Survey: Private Lands Outside the Monument Boundary
- LIBI-C-104.001 Archeological/Geophysical Investigations of Marker Sites
- LIBI-C-105.001 Archeological/Geophysical Investigations of Rifle Pits

### **Battlefield and National Cemetery**

- LIBI-C-200.001 Amend National Register Nomination
- LIBI-C-201.001 Identify Location of American Indian Casualties and Place Markers
- LIBI-C-201.002 Verify and Plot (GIS) Original and Replacement Markers

### **Museum and Archives**

- LIBI-C-300.001 Manage/Upgrade ANCS Museum Database
- LIBI-C-300.002 Upgrade Museum Property Accountability
- LIBI-C-300.003 Conduct Appraisal of Museum Property
- LIBI-C-300.004 Improve Archives Storage
- LIBI-C-300.005 Catalog Archives (Backlog)
- LIBI-C-300.006 Conduct Collection Condition Surveys -Archives, History & Archeology Collections
- LIBI-C-300.007 Complete Collection Management Plan (CMP)
- LIBI-C-300.008 Museum Collections Conservation/Treatment/Stabilization-Artifacts on Exhibit & Storage
- LIBI-C-300.009 Complete Collection Storage Plan (CSP)
- LIBI-C-300.010 Develop/Implement Environmental Monitoring Program
- LIBI-C-300.011 Upgrade Exhibits -Complete Phase I11
- LIBI-C-300.012 Photograph Museum Collection
- LIBI-C-300.013 Update Scope of Collection Statement
- LIBI-C-300.014 Improve Museum Collections Storage and Curatorial Workspace Areas

### **Cultural Landscapes**

- LIBI-C-400.001 Conduct Cultural Landscape Inventory (CLI)
- LIBI-C-400.002 Prepare Cultural Landscape Management Plan

### **NAGPRA**

- LIBI-C-500.001 NAGPRA Consultation, Museum Deaccession and Repatriation

### **Ethnography**

- LIBI-C-550.001 Interviews with Indian and Non-Indian Groups Affiliated with the Little Bighorn Battle
- LIBI-C-550.002 Research Ethnobotany for the Tribal Lands

### **Historic Resources**

- LIBI-C-600.001 Update Administrative History
- LIBI-C-601.001 Prepare Environmental History
- LIBI-C-603.001 Historic Resource Study: Reburials from Other Western Forts
- LIBI-C-604.001 Repointing of Basement Walls in Superintendent's House

### **Indian Memorial**

- LIBI-C-700.01 Prepare Indian Memorial Management Guidelines

## **NATURAL**

### **I&M (Inventory and Monitoring)**

- LIBI-N-100.001 Natural Resources Baseline Information Assessment/Evaluation
- LIBI-N-101.001 Complete Minimum Level Baseline Information for Natural Resources
- LIBI-N-102.001 Prepare A Long-Term Monitoring Plan for Natural Resources
- LIBI-N-104.001 Aerial Inventory of Battlefield

**IPM (Integrated Pest Management)**

- LIBI-N-200.001 Prepare IPM Plan for Little Bighorn BNM
- LIBI-N-201.001 Pest Control in Museum Collections
- LIBI-N- 107.001 Spider Mite Control in Trees at Custer National Cemetery
- LIBI-N-105.001 Prepare Weed (Exotics) Management Plan

**Air and Water**

- LIBI-N- 106.001 Control Erosion Along Deep Ravine (Little Bighorn River)

**Flora and Fauna**

- LIBI-N-400.01 Survey Park Lands for T&E Species

**Geology, Soils, and Cartography**

- LIBI-N-500.001 Provide Training to Staff On Use of GIS/GPS Systems

**Fire**

- LIBI-N-103.001 Prepare Fire Management Plan

**Information Management**

- LIBI-1-700.00 1 Develop Management GIS Capability: ARCVIEW

**General**

- LIBI-N-801.001 Replace Boundary Fencing

**THE FOLLOWING PROJECT STATEMENTS WERE UPDATED IN 2007 FOR NATURAL RESOURCES.**

**FY2006 Projects Funded**

1. Restore Native Vegetation(NR) \$22,800
2. Restore Cultural and Natural Landscape through Eradication of Non-Native Vegetation \$27,400
3. Restore Historic Viewshed For Visitor Enhancement And Photography \$42,276

**FY2007 Projects Funded**

1. Restore Native Vegetation(NR) \$22,500
2. Restore Historic Viewshed For Visitor Enhancement And Photography \$16,700

**Projects - Other Funding: Sources**

1. Create Exotic Vegetation Management Plans For Two Small Parks: Grant Kohrs Ranch and Little Bighorn \$20,000

**Future Projects**

1. Restore Cultural And Natural Landscape Through Eradication Of Non-Native Vegetation \$217,000
2. Protect and Interpret Resources for Park Visitors' Enjoyment and Education \$221,000

**Potential Project Statements**

**NATURAL**

**I&M (Inventory and Monitoring)**

- LIBI-N-100.001 Natural Resources Baseline Information Assessment/Evaluation
- LIBI-N-101.001 Complete Minimum Level Baseline Information for Natural Resources
- LIBI-N-102.001 Prepare A Long-Term Monitoring Plan for Natural Resources
- LIBI-N-104.001 Aerial Inventory of Battlefield  
Threatened and Endangered Species Baseline Information Assessment/Evaluation

**IPM (Integrated Pest Management)**

- Prepare IPM Plan for Little Bighorn BNM

Pest Control in Museum Collections  
Prepare Weed (Exotics) Management Plan  
Pest Control in Historic Structures  
Box Elder Bug Control in Public and Office Buildings  
Rodent Control in Public and Office Buildings  
Prepare Standard Operating Procedure (SOP) for Weed Management Operation  
Weed (Exotics) Control along the Little Bighorn River  
Improve Chemicals and Supplies Storage and IPM Workspace Areas

**Air and Water and Sound**

Control Erosion Along Deep Ravine (Little Bighorn River)  
Examine Nitrogen Deposition on Landscape  
Examine Interstate 90 and Airtravel on Soundscape

**Flora and Fauna**

Survey Park Lands for T&E Species  
Prepare Rattlesnake Management Plan  
Provide Training to Staff On Rattlesnake Handling  
Prepare Canine Management Plan  
Prepare Standard Operating Procedure (SOP) for Revegetation Operation  
Complete Plant Collection for Museum Collection  
Create a Working Herbarium  
Prepare Vegetation Management Plan  
Prepare Standard Operating Procedure (SOP) for Vegetation Management on Roadsides and Trailsides

**Geology, Soils, and Cartography**

LIBI-N-500.001 Provide Training to Staff On Use of GIS/GPS Systems  
Update Park GIS Base Data  
Prepare GIS Fire History  
Prepare Standard Operating Procedure (SOP) for GPS Operation Standards

**Fire**

Prepare Fire History  
Update Fire Management Plan  
Prepare Standard Operating Procedure (SOP) for Fuels and Fire Management

**Information Management**

Prepare Information and Data Management Plan  
Prepare Standard Operating Procedure (SOP) for Geospatial Information Management  
Prepare Standard Operating Procedure (SOP) for Park Research Permit Administration Operation  
Prepare Standard Operating Procedure (SOP) for Planning and Compliance Operation  
Prepare Standard Operating Procedure (SOP) for Directory Structure

**General**

LIBI-N-801.001 Replace Boundary Fencing

## **Appendix E. RESOURCE ENVIRONMENTAL LAWS AND GUIDELINES**

The National Park Service is mandated to carry out management with respect to a variety of federal environmental laws and guidelines including, but not limited to, the following:

### **Natural Resources:**

Bald and Golden Eagles Protection Act of 1940 as Amended in 1962 and 1973 (16 USC 668)  
Clean Air Act as Amended in 1991 (42 USC 7401)  
Clean Water Act (33 USC 1251 et seq.)  
Endangered Species Act of 1973 (16 USC 1531)  
Executive Order 11988 (Floodplains)  
Executive Order 11990 (Wetlands)  
Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 135)  
Federal Environmental Pesticide Control Act of 1972  
Federal Fire Prevention and Control Act of 1974 (88 Stat. 1535; 15 U.S.C. 2201 et seq.)  
Federal Lands Recreation Enhancement Act (REA)  
Federal Noxious Weed Act  
Fish and Wildlife Act of 1956  
Fish and Wildlife Conservation Act ("Nongame Act"; 16 U.S.C. 2901-2911; 94 Stat. 1322)  
Fish and Wildlife Coordination Act (16 USC 661)  
Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 7421; 92 Stat. 3110)  
Forest and Rangeland Renewable Resources Planning Acts of 1974 and 1976  
Land and Water Conservation Fund Act of 1965 (16 USC 460d)  
Land Remote Sensing Policy Act  
Migratory Bird Treaty Act of 1918 (16 USC 703)  
Mining in the National Parks Act of 1976 (16 USC 1901)  
National Environmental Policy Act of 1969 (42 USC 4321)  
Resource Conservation and Recovery Act (42 USC 6901)  
Safe Drinking Water Act of 1968 (42 USC 300f)  
Water Resources Planning and Standards Act of 1965 (42 USC 1962)  
Watershed Protection and Flood Prevention Act (16 USC 1001)  
Wilderness Act of 1964 (16 USC 1131)  
Youth Conservation Corps Act

### **Cultural Resources:**

Antiquities Act of 1906 (16 USC 1)  
Organic Act of 1916 (16 USC 416-467)  
Historic Sites Act of 1935 (16 USC 431-433)  
National Trust Act of 1949 (Public Law)  
National Historic Preservation Act of 1966 (16 USC 470) and Federal Agency Responsibilities under Section 110 of the national Historic Preservation Act (FR 53:4727-46), Amended 1980, 1992  
National Environmental Policy Act of 1969 (42 USC 4321)  
Executive Order 11593(1971) (36F.R. 8921)  
Archeological and Historical Preservation Act of 1974 (88 Stat. 174)  
American Indian Religious Freedom Act (42 USC 1996)  
Archeological Resources Protection Act of 1979(16 USC 470)  
National Historic Preservation Act of 1980 (94 Stat. 2997)  
Museum Properties Management Act of 1955 (16 USC 18f)  
Native American Graves Protection and Repatriation Act of 1990 (43 CFR 10)  
Protection of Historic Properties (36 CFR 800)  
Standards and Guidelines for Archeology and Historic Preservation (FR 48:44716-40)  
Standards and Guidelines for Rehabilitation of Historic Structures (36 CFR 67)

### **Legislative History**

August 1, 1879- The battlefield was officially recognized and designated as a national cemetery of the Fourth class by General Order No. 78.Headquarters of the Army.

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December 7, 1886- Executive Order No. 337443, established the boundary, approximately 1 mile square, for the National Cemetery of Custer's Battlefield Reservation.

Act of April 14, 1926-The Reno-Benteen Battlefield was acquired and the Army was ordered to take charge of the site in August 1930 (44 Stat. 168).

Act of April 15, 1930- All rights, titles, and interests of Crow Indians from whose reservation the battlefield was carved were granted to the United States (46 Stat. 168).

Custer Battlefield Deed No. 8, 1937, granted to the United States government a right-of-way extending from the Custer Battlefield to the Reno-Benteen Battlefield through Crow Indian (allotted) land.

August 10, 1939- A public historical museum was authorized (53 Stat. 1337).

June 3, 1940- Executive Order No. 8428, transferred management of the area to the National Park Service, Department of the Interior, effective July 1, 1940.

Act of March 22, 1946 (P.L. 79-332)- Custer Battlefield National Cemetery was redesignated Custer Battlefield National Monument.

On May 1, 1987, Last Stand Hill Site, Reno-Benteen Site, and the Custer Battlefield National Cemetery were listed on the National Register of Historic Places.

Act of January 3, 1991 (H.R. 848)- Custer Battlefield National Monument redesignated Little Bighorn Battlefield National Monument. An Indian memorial to honor native American Participants in the battle was authorized. Custer Battlefield National Cemetery was designated.

## Appendix F. INTERPRETIVE THEMES

### **Context/Theme**

*Definition:* A cultural context is the framework for evaluating the significance of resources as related to ethnographic, historic or prehistoric themes.

In 1994, the National Park Service History Division revised the Service's thematic framework. The following themes from the framework could be applied to the monument:

- I. Peopling Places
  - 1. Family and the life cycle
  - 3. Migration from within and without
  - 5. Ethnic homelands
  - 6. Encounters, conflicts and colonization
- III. Expressing Cultural Values
  - 6. Popular and traditional culture
- IV. Shaping the Political Landscape
  - 2. Governmental institutions
  - 3. Military institutions and activities
  - 4. Political ideas, cultures and theories

Because the new thematic categories are so broad and conceptual, historians acknowledge that the 7 older framework is still useful for comparative purposes. *History and Prehistory in the National Park System and the National Historic Landmarks Program*, 1987, assigned the following theme to the monument:

- X. Westward Expansion of the British Colonies and the United States, 1763-1898
  - C. Military-Aboriginal American Contact and Conflict
    - 3. The Northern Plains

In a broader interpretation, additional themes from that publication apply to the monument:

- I. Cultural Developments: Indigenous American Populations
  - 1. Native Cultural Adaptations at Contact
    - h. Native Adaptations to Plains Environments
  - 2. Establishing Intercultural Relations
    - c. Military Scouts
    - e. Defending Native Homelands
    - h. New Native Military Alliances
  - 3. Varieties of Early Conflict, Conquest, or Accommodation
    - a. Transfer of Technology to Native Peoples
    - b. Forced and Voluntary Population Movements
    - d. Changing Settlement Types
  - 5. Becoming Native American
  - 6. The Myth of the Vanishing Native
    - e. Contemporary Reservations and Villages
- XXXIII. Historic Preservation
  - G. The Federal Government Enters the Movement, 1884- 1949
    - 1. Battlefield Preservation
      - 4. The National Park Service and the New Deal

**Appendix G. HISTORIC STRUCTURES**

IDLCS	PARK	STRUCTURE NUMBER	HISTORIC NAME OF THE RESOURCE	NR STATUS	NR DATE
11525	LIBI	HS-0001	Superintendent's House (National Cemetery)	1	5/ 1/1987
11530	LIBI	HS-0002B	Bear Paw Battle Monument (National Cemetery)	1	5/ 1/1987
23057	LIBI	HS-0003A	Mary Shilling Headstone	1	5/ 1/1987
23058	LIBI	HS-0004B	John Mcvey Headstone - National Cemetery Sect. B	1	5/ 1/1987
23059	LIBI	HS-0026A	Francis Hubner Headstone - National Cemetery Sec. A	1	5/ 1/1987
11520	LIBI	HS-0031	Custer Memorial	1	5/ 1/1987
11521	LIBI	HS-0032	Reno-Benteen Memorial (Reno-Benteen Battlefield)	1	5/ 1/1987
11522	LIBI	HS-0033	Stone Markers (Custer Battlefield)	1	5/ 1/1987
11523	LIBI	HS-0034	Earthen Fortifications (Reno-Benteen Battlefield)	1	5/ 1/1987
11526	LIBI	HS-0036	Iron Flagpole (National Cemetery)	1	5/ 1/1987
23060	LIBI	HS-0037	Historical Graves "Civil War" Style	1	5/ 1/1987
23061	LIBI	HS-0038	Historic Graves "Spanish American War" Style	1	5/ 1/1987
23062	LIBI	HS-0039	Grave Stones "General Type"	1	5/ 1/1987
23063	LIBI	HS-0102B	William Hale Low Headstone - Nat. Cemetery, Sect. B	1	5/ 1/1987
23064	LIBI	HS-0126A	Charles H Raymond Headstone - Nat. Cemetery, Sec. A.	1	5/ 1/1987
23065	LIBI	HS-0136A	Margaret J. Littlejohn Headstone, Nat. Cem. Sec. A.	1	5/ 1/1987
23066	LIBI	HS-0194B	Charles O Bradley Headstone, National Cem., Sec. B	1	5/ 1/1987
23067	LIBI	HS-0290A	Richard And Lena Mercer Headstone, Nat. Cem., Sec. A	1	5/ 1/1987
23068	LIBI	HS-0296A	Sylvia Wyatt And Geo. Morrison, Nat. Cem., Sec. A	1	5/ 1/1987
23069	LIBI	HS-0316B	Ft. C. F. Smith Memorial, National Cemetery, Sec. B	1	5/ 1/1987
23070	LIBI	HS-0370A	George Fleury Headstone, National Cemetery, Sec. A.	1	5/ 1/1987
23071	LIBI	HS-0372A	Aquila Coonrad Headstone, National Cemetery, Sec. A	1	5/ 1/1987
23072	LIBI	HS-0375A	James Birch Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23073	LIBI	HS-0381B	John A. Manley Headstone, National Cemetery, Sec. B	1	5/ 1/1987

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IDLCS	PARK	STRUCTURE NUMBER	HISTORIC NAME OF THE RESOURCE	NR STATUS	NR DATE
23074	LIBI	HS-0387B	Hattie Rehberg Headstone, National Cemetery, Sec. B	1	5/ 1/1987
23075	LIBI	HS-0398A	Margaret & Theodore Smith Headstone, Nat. Cem. Sec. A	1	5/ 1/1987
23076	LIBI	HS-0460A	White Swan Headstone, National Cemetery, Sec. A.	1	5/ 1/1987
23077	LIBI	HS-0480B	James Brown Headstone	1	5/ 1/1987
23078	LIBI	HS-0483B	Ben Cornelius Jones Headstone, Nat. Cemetery Sec. B	1	5/ 1/1987
23079	LIBI	HS-0487B	Roy Turner Headstone	1	5/ 1/1987
23080	LIBI	HS-0545A	Michael Cornwall Headstone, Nat. Cemetery, Sect. A	1	5/ 1/1987
23081	LIBI	HS-0546A	William Phillips/Newton Scott, Nat. Cem. Sect. A	1	5/ 1/1987
23082	LIBI	HS-0570A	John Dalton Headstone, Nat. Cem., Sec. A	1	5/ 1/1987
23083	LIBI	HS-0573B	Geo C. Booth Headstone, National Cemetery, Sec. B	1	5/ 1/1987
23084	LIBI	HS-0577B	Thomas & William Donaldson Headstone, Nat. Cem. Sec. B	1	5/ 1/1987
23086	LIBI	HS-0671B	William James Daly Headstone, Nat. Cemetery, Sec. B	1	5/ 1/1987
23087	LIBI	HS-0686A	Patrick Quigg Headstone	1	5/ 1/1987
23088	LIBI	HS-0697A	Annie H Tyrell Headstone, National Cemetery, Sec A	1	5/ 1/1987
23112	LIBI	HS-0701A	Florence Tyler Headstone, National Cemetery, Sec. A	1	5/ 1/1987
23089	LIBI	HS-0714A	A.H. Mayer Headstone, National Cemetery, Sec. A	1	5/ 1/1987
23090	LIBI	HS-0744A	Emily Van Orsdale & Arthur Logan Headstone, Sec. A	1	5/ 1/1987
23091	LIBI	HS-0745A	Capt. Wm. Logan & John Van Orsdale, Nat. Cem. Sect. A	1	5/ 1/1987
23092	LIBI	HS-0746A	Capt. Gerhard Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23093	LIBI	HS-0765B	Bella Ross Headstone, National Cemetery, Section B	1	5/ 1/1987
23094	LIBI	HS-0767B	Mary Glen Headstone, National Cemetery, Section B	1	5/ 1/1987
23095	LIBI	HS-0768B	Mary A. & Matilda Lov, National Cemetery, Sect. B	1	5/ 1/1987
23096	LIBI	HS-0789A	John Kirley Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23097	LIBI	HS-0792A	Hartwill G. Jones Headstone, Nat. Cem., Sec. A	1	5/ 1/1987
23098	LIBI	HS-0814A	Harry Newton Hazlett, National Cemetery, Section A	1	5/ 1/1987

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IDLCS	PARK	STRUCTURE NUMBER	HISTORIC NAME OF THE RESOURCE	NR STATUS	NR DATE
23099	LIBI	HS-0820A	Raymond Leary Headstone, National Cem, Section A	1	5/ 1/1987
23100	LIBI	HS-0821A	John Leary Headstone, National Cemetery, Section A	1	5/ 1/1987
23101	LIBI	HS-0835A	Minnie & John Grover Headstone, Nat. Cemetery, Sec. A	1	5/ 1/1987
23102	LIBI	HS-0876A	Robert Timpany Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23103	LIBI	HS-0952A	William Walker Headstone, National Cemetery, Sec. A	1	5/ 1/1987
23104	LIBI	HS-0957B	William Haigler Headstone, National Cemetery, Sec. B	1	5/ 1/1987
23105	LIBI	HS-0960A	James N Davis Headstone, National Cemetery, Sec. A	1	5/ 1/1987
23106	LIBI	HS-0965A	John Cruis Headstone, National Cemetery, Section A	1	5/ 1/1987
23107	LIBI	HS-1040A	John Coale Headstone, National Cemetery, Section A	1	5/ 1/1987
23108	LIBI	HS-1045A	James Pryor Headstone, National Cemetery, Sec. A.	1	5/ 1/1987
23109	LIBI	HS-1053A	Thomas Logan Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23110	LIBI	HS-1057A	Clifford Ross Headstone, National Cemetery, Sect. A	1	5/ 1/1987
23111	LIBI	HS-1141B	Lewis Rains Paul Headstone, Nat. Cemetery, Sect. B	1	5/ 1/1987
11529	LIBI	HS-1236B	Bear Paw Monument (National Cemetery)	1	5/ 1/1987
23085	LIBI	HS-601AA	John J Crittenden Headstone, Nat. Cemetery Sec. B	1	5/ 1/1987

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## **SCOPING PROCESS AND LIST OF PREPARERS**

Little Bighorn Battlefield National Monument staff met December 12, 2006. The purpose of the scoping session was to initiate update of the 1999 resource management plan. Staff identified needed revisions, and identified resource management issues. Participants in the scoping session, reviewers, and final preparers are listed below:

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