

Fossil Butte National Monument Museum Management Planning Team

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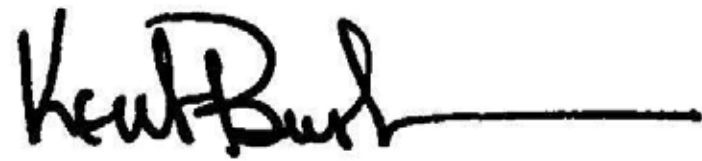
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Museum Management Plan Fossil Butte National Monument

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Executive Summary

The *Fossil Butte National Monument Museum Management Plan* outlines issues facing the park concerning management and use of museum collections, and recommends corresponding actions to address those issues. The collections are growing as a result of partnerships and active scientific research in and around the monument. The museum objects are central to the park's operation and are used by researchers and park staff for research and public interpretation.

The legislative mandate creating Fossil Butte National Monument requires that the park exhibit and interpret scientific specimens from paleontological sites and related geological phenomena. The sediments of Eocene Epoch Fossil Lake encompass more than 930 square miles (595,200 acres). Consisting of 13 square miles (8,198 acres), Fossil Butte National Monument is near the center of the ancient Fossil Lake. Fossil fish are common in shallow and deep-water deposits, while extremely rare terrestrial vertebrate fossils are more frequently found in near-shore deposits. The landforms and fossil deposits within the monument contain only a tiny fraction of the ancient lake's paleontological resources, and almost none of the geological phenomena (deltas, beach deposits, tidal flats, etc.), that are within the monument's legislatively mandated area of interest. In order to comply with the authorizing legislation, the monument must adopt innovative measures to collect and interpret the necessary resources.

By their nature, fossil parks are rich in museum collections and associated data. In few other types of parks is the primary resource so closely tied to the scientific community. There is a great need for reference center services that serve the needs of the monument as well as other federal and state agencies and the general public.

The recovery, preparation, and documentation of fossils requires a dedicated workspace, an extensive research library, and a fossil study area. The limited infrastructure available for these functions prevents full compliance with the monument's enabling legislation. There is an immediate need for more space, more staff, and more funding to support the monument's core mission.

The reference center at Fossil Butte National Monument is presently in a developmental stage; it requires refinement of park management philosophy, and creation of the physical space, staff and budget required to manage and interpret monument resources. This plan offers recommendations that will help the monument move forward with these requirements in a proactive and responsible manner.

Key Recommendations

- Develop the reference center concept required to support the resource management and interpretive needs of the monument, federal and state agencies, and the general public.
- Begin an aggressive program to design and construct an integrated preparation, storage, and study area dedicated to preserving and using the monument's archives, collections, and library.
- Promote and foster partnerships with other federal and state agencies and the commercial quarry interests to provide reference resources and repository services for fossil resources where possible.
- Continue efforts to raise funding and staffing to the levels required to adequately protect, manage, and interpret the monument's unique resources.

The following sections of this plan contain detailed recommendations and actions that the monument is considering to improve existing programs and create new program initiatives.

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Inside front cover	Map showing visitor center, facilities, and trails within Fossil Butte National Monument. Map courtesy of the National Park Service.
Page 34	Floor plan concept for future museum facility at Fossil Butte National Monument.
Inside back cover	Left image: Geologic time scale. Right image: Significant geologic and paleontologic sites in Fossil Basin.
Back cover	Artistic renditions of five fossils from Fossil Lake. Left to right: <i>Icaronycteris index</i> , <i>Boavus idelmani</i> , <i>Priscacara liops</i> , <i>Sabalites</i> sp., and <i>Heliobatus radians</i> .

Introduction

The museum management plan (MMP) replaces the collections management plan (CMP) referred to in the National Park Service publications, *Outline for Planning Requirements*, *Cultural Resource Management Guidelines*, and *NPS Museum Handbook, Part I*. The CMP process generally followed an Operations Evaluation format and concentrated on the technical aspects of museum operations, including a full review of accession files, status of catalog, adherence to guidelines, and making very specific recommendations for corrections and improvements. As a new approach to museum management planning, the MMP seeks to evaluate all aspects of museum-related programs within a park, and makes broad recommendations to guide development of park-specific programs that address the identified needs of the park.

The MMP recognizes that specific directions for the technical aspects of archival and collections management exist within the *NPS Museum Handbook* series; therefore, this MMP does not attempt to duplicate that type of information. Instead, the MMP serves to place museum operations in a more holistic context within park operations by focusing on how various collections may be used by park staff to support the goals of this particular park. This approach recognizes that there are many different ways that archives, libraries and museum collections may be organized, linked and used within individual parks, and seeks to provide park-specific advice on how this can be accomplished.

At Fossil Butte National Monument, the MMP was requested to assist the park in developing a viable and multifaceted program — related to Fossil Basin as a whole — to support park programs. Many elements of this plan are therefore developmental in nature and designed to guide the park through the initial steps in creating workable concepts and systems that support all aspects of park operations.

To help with this process, the park staff identified opinions and concerns related to management of the archival and museum collections, the library, and various related services needed by the staff. The information collected allowed the team to make a quick evaluation of numerous factors affecting museum operations, and also provided valuable insights into how a well-designed museum management program will address the needs of park staff.

The benefits of a well-organized and administered archival and museum collections management program are often not well understood by parks. For this reason, a program's potential may be overlooked and undersupported. Stated in the most basic terms: *The museum management program should be designed to collect and preserve park-specific data, and make that information available to park staff and the public in the most efficient manner possible.*

Considered in this light, it is easier to understand how different types of resources in collections might be administered in different ways, depending upon the local needs for documentation, preservation and use. The need for a unique, park-specific approach to managing these resources is what the MMP process seeks to provide.

This MMP was developed over a nine-day period from August 20 - 29, 2001. The team became familiar with park resources and operations and then developed, organized, and recorded the central issues and the necessary supporting information that comprises the plan. An out-briefing was conducted with the superintendent and park staff on August 29, 2001.

This plan is the result of team and park collaboration, including discussion and consensus regarding all issues and recommendations. Individual contributors to the plan include Arvid Aase, Kent Bush, Linda Clement, Ann Elder, Lynn Mitchell and Matthew Wilson. The appendices were gathered from a body of suggested methodologies and reference materials generated over time by various NPS curators for other planning documents as well as original material developed for this specific plan.

The MMP team thanks the staff of Fossil Butte National Monument for the courtesy, consideration, and cooperation extended during this planning effort. Their time, effort, and involvement were very much appreciated, and have served to make our job much easier. It is apparent that these individuals are dedicated and committed to preserving park resources and interpreting those resources for the public. It was a pleasure to work with such professionals.

History of the Park Museum Program

The Researchers

1800s

During the 1840s, missionaries and explorers such as John C. Fremont documented the discovery of fossil invertebrates in the Green River Formation. In 1856, geologist John Evans made the first recorded discovery of a Green River fish fossil near what is now the town of Green River, Wyoming. He sent his discovery to Joseph Leidy, a professor of anatomy at the University of Pennsylvania. This fish fossil eventually became known as *Knightsia*, now Wyoming's state fossil and the most abundant complete vertebrate fossil found in the world.

As the railroads moved west, enormous amounts of soil and rock were excavated and new fossil localities were uncovered. In the late 1860s, Union Pacific workers uncovered the first major fossil fish beds of the Green River Formation (Lake Gosiute) near Green River, Wyoming. The workers turned a number of these fossils over to Professor Ferdinand Hayden, director of the Geologic and Geographic Survey of the Territories. In 1879, a member of the survey, mineralogist A. C. Peale, was the first to record a description of Fossil Butte itself.

The fossils from Green River, Wyoming, were eventually studied and identified by another famous member of that survey, Professor Edward Drinker Cope, who collected in the Fossil Butte area during the 1870s. He identified a number of specimens not yet described.

1900s

After the publication of Cope's research in 1884, few scientific papers were presented on the fossil fishes of Fossil Basin and the greater Green River Formation until after World War II. From the 1920s to the 1960s Dr. Wilmot Bradley, a geologist with the U.S. Geological Survey, produced a considerable amount of information on the geology of the Green River Formation. In one of these publications he described, "the beautifully preserved fish, with delicate fins, tail rays and scales, all virtually undisturbed, are entombed here in thinly levered sediments recording the abundant life and ecology of an ancient subtropical lake."

During the 1920s and 1930s, Dr. R. W. Brown, also of the U.S. Geological Survey, extensively described the plant life of the Green River Formation. During the 1950s and 1960s, Dr. Lewis Gazin of the Smithsonian Institution studied the mammalian faunas of southwestern Wyoming, and noted individual animals from the Green River and Wasatch formations, such as primates and early horses. Although found in Fossil Basin during the 1930s, the early bat, *Icaronycteris*, was not described until 1966 by Dr. Glenn L. Jepsen of Princeton University. Dr. Paul O. McGrew, of the University of Wyoming conducted substantial research in Fossil Basin throughout the 1960s and 1970s. He coauthored with Dr. Michael Casilliano, also of the University of Wyoming, *The Geologic History of Fossil Butte National Monument and Fossil Basin*. Dr. McGrew also provided considerable scientific input to the developers of Fossil Butte National Monument.

The 1974 publication, *The Geologic History of Fossil Butte National Monument and Fossil Basin*, contains a detailed discussion of the plant and animal fossils found in Fossil Basin, as well as paleoecology and taphonomy. Paleoecology is simply the study of the ecology of an ancient environment, in this case that of Fossil Lake.

Taphonomy is a relatively recent scientific discipline studying what happens to organisms after death. Fossil Butte National Monument exists in recognition of the remarkably preserved and diverse fossils found in the area.

Sediments of Fossil Lake contain numerous well-preserved fossils, a rare occurrence on earth known amongst paleontologists as a *lagerstatten*. This German word, meaning mother lode, describes sites that are so well preserved that entire paleoecosystems can be examined from the variety of fossils found there. It has been said that Fossil Basin contains possibly the world's best paleontological record of aquatic communities since the Age of

the Dinosaurs to the Ice Age. In addition to *The Geologic History of Fossil Butte National Monument and Fossil Basin*, Dr. McGrew also discussed the taphonomy of Fossil Basin fish in the Field Museum of Natural History, Chicago, publication, *Fieldiana*. And in 1974, Michael Nelson of Kansas State University described numerous rodents from the southern part of Fossil Basin in sediments somewhat younger than those of the Green River Formation of Fossil Basin.

In 1975 William W. Rubey, Steven S. Oriel, and Joshua I. Tracey, Jr. produced a paper for the U.S. Geological Survey describing the geology of the Sage and Kemmerer area. Dr. Rubey died in 1974, prior to publication of their paper. Prow Point, a prominent geographic feature of Fossil Butte National Monument, was renamed Rubey Point after him. He and his coauthors produced a detailed geologic map and structure sections depicting the geometry of Fossil Basin and a portion of the western Wyoming thrust belt.

In 1976, Paul Edwards published the results of his study of fish coprolites from Fossil Butte. Coprolites are fossilized animal droppings, and can provide evidence about the diet and environment in which animals lived. Edwards noted that the occurrence and preservation of these fossils are unique in the fossil record. In that same year Robert M. West of the Milwaukee Public Museum described the condylarths of Fossil Basin. Condylarths are an extinct group of mammals, some of which may be close ancestors to modern even-toed ungulates. Fossils of these animals are found in the channel and stream deposits of the Wasatch Formation in and around Fossil Butte National Monument. In 1977, Storrs L. Olson of the Smithsonian Institution described a frigatebird from Fossil Basin. An interesting contrast between early frigatebirds and their modern representatives is that the modern birds live in a wholly marine coastal environment while their fossil predecessors clearly flew in the skies above the inland fresh waters of Fossil Lake.

In 1978, Hans Eugster of Johns Hopkins University studied the depositional environment of the Green River Formation in Fossil Basin. He described a modern lake in Israel that seemed a near analog to ancient Fossil Lake. Researchers continue to ponder modern lake environments when studying the fossil and sedimentological evidence within Fossil Basin. Such comparisons provide insight into possible explanations for the mass mortalities of fishes, and the remarkable degree of preservation of the fossils here.

Dr. Lance Grande, of Chicago's Field Museum, began his studies of the paleontology of Fossil Basin in the 1970s, and has maintained an association with Fossil Butte National Monument for many years. Although the bulk of his research takes place beyond the boundaries of the monument, his contributions to our understanding of this unique paleoenvironment have enabled the staff to present an increasingly more detailed picture of the past to visitors. He studies in Fossil Basin almost annually, and his work has made the Field Museum of Natural History one of the world's most complete repositories of Green River Fossils.

Dr. Grande's work includes the initial description of *Eohiodon* (mooneye) in Fossil Basin, revisions to the fossil genus *Knightia* (a herring-like fish), and monographs on the evolution and descriptions of paddlefish and bowfins (Amiid fishes). His work currently emphasizes the study of fossil gars and their relationship to their modern descendants. Dr. Grande's best-known work is the Geological Survey of Wyoming's Bulletin 63, *Paleontology of the Green River Formation, with a Review of the Fish Fauna*.

Dr. Paul Buchheim, of Loma Linda University in California, is another regular researcher at Fossil Butte National Monument. Having studied Fossil Basin for over 25 years, he has contributed enormously to the interpretive story of the monument. Dr. Buchheim is a sedimentologist and stratigrapher and his inquiry over the years has led to a picture of Fossil Lake quite different from the one believed to be accurate at the time Congress designated the monument.

In 1980, Dr. Buchheim generated a computerized diagram of the type-section of the Fossil Butte Member of the Green River Formation. A type-section depicts the typical sequence of rocks for a specific part of a formation. This type section is on Fossil Butte itself. This information permits an accurate relative dating for tuff (lithified volcanic ash) beds and the establishment of population dynamics. It also enables observation of biologic, geologic, and environmental change through long periods and to reconstruct a model of the environment as it existed 50 million years ago.

Dr. Buchheim has studied fluctuations in Fossil Lake's size, shape, and depth, in addition to its geochemistry, salinity, and depositional environment. Perhaps his most significant contribution to our understanding of Fossil Lake is a study of the thin layers of limestone stacked one on top of the other that form most of the Fossil Lake deposits. For over 40 years it was accepted that a pair of these layers (one lighter limestone, one dark, organic shale)

represented a one-year period; hence, by studying a stack of these "couplets," one could determine the period represented by the stack: 6,000 pairs of layers equals 6,000 years. Through the painstaking and wide-ranging sampling and collection of information, Dr. Buchheim, his colleagues and students were able to present evidence that counting layers to represent years is imprecise and inaccurate. It is now believed that the layers represent not only annual events, but increased seasonal events such as spring floods as well as isolated catastrophic events, rather than a regular, predictable deposition of sediment year after year.

The paleobotany of Fossil Basin has been largely ignored by scientists due to the great abundance of vertebrate fossils and the relative rarity of fossil leaves. A recent discovery of a leaf locality south of the monument may provide an adequate number of specimens to complete initial research on the plant communities around the lake.

Recently, Bill Bartels and Greg Gunnell, of Albion College in Michigan, have completed a detailed study of the Wasatch Formation in and around the monument. The deposition of this formation preceded Fossil Lake sediments, surrounded it, and continued after the lake disappeared. Although the Wasatch Formation is extensive at lower elevations in the monument, there are only scant erosional remnants atop the Green River Formation. After studying the contact between the Wasatch and the Green River formations, Bartels and Gunnell concluded the age of Fossil Lake could be more precisely constrained than at present.

Scientific research on Green River Formation continues today. Since its inception, Fossil Butte National Monument has supported this research in a variety of ways: from National Park Service funding sources, scientific support from the park paleontologist, logistical support from monument staff, as well as functioning as an informal base of operations. Through such efforts, researchers are better able to interpret this remarkable resource for not only other scientists, but for the thousands of people from around the world who visit Fossil Butte National Monument annually.

The paleontology of Fossil Basin tells a story of change, not only of change in the paleoenvironment, but of many changes in our understanding of Fossil Lake. From the evidence, it appears that Fossil Lake was not the very deep and completely fresh-water lake it was once believed to be, but a fairly shallow, and at times, very saline environment. While it was once believed the deepest parts of the lake were represented by Fossil Butte itself, it is now

accepted that the perennial lake center is south of the monument. This story of change is ongoing as scientists continue their study of Fossil Basin. Fossil Butte National Monument strives to present the most up-to-date information obtained by these researchers to visitors.

The Collectors

Commercial fossil collectors such as Samuel C. Small began operating in earnest in the 1880s. They sold fossils to laymen and to institutions around the world. Often they would donate a particularly significant scientific specimen for additional study or display.

In 1897, Robert Lee Craig began a 40-year tenure of fossil collecting in Fossil Basin. Although Craig lost a leg in a mining accident three years earlier, he nevertheless made a 275-foot climb daily to his quarry on Fossil Ridge, just south of Fossil Butte, to "fish" for fossils. He then trundled the fossils down by wheelbarrow to prepare them with a knife blade.

In 1918, David Haddenham began collecting fossils. Haddenham and his family continued the practice for over half a century. He dug fossils in the summer and prepared them in the winter. His primitive A-frame cabin still stands in the monument.

During the late 1940s, Carl and Shirley Ulrich began a commercial collecting enterprise, near the old town of Fossil, which continues to this day. In the 1950s, other collectors began employing the popular 19th-century practice of dynamiting. In 1958, the Ulrichs contacted the Department of the Interior, the Service's parent agency, seeking to protect an increasingly threatened resource by establishing a national monument.

Commercial collecting of fossils continues on private and state lands around Fossil Butte National Monument. At its peak in the mid-1990s, there were over 20 quarries operated by approximately 12 quarriers.

The Museum

After the creation of Fossil Butte National Monument in 1972, development came slowly. Dinosaur National Monument prepared the feasibility study for the monument, which was later administered by Grand Teton National Park with no on-site staff. The monument's first visitor center was a single-wide

trailer placed at the base of Fossil Butte in 1974. The administrative offices were then transferred from the Grand Teton to rented space in Kemmerer, 15 miles to the east of the monument.

It was not until 1979 that Ted Fremd was hired as the monument's paleontologist and first staff member with museum responsibilities. At this time the museum did not exist. In an effort to build the research and interpretive collections, Fremd purchased several specimens for accessioning into the monument's collections. Fremd transferred to John Day Fossil Beds in 1984, a few years before the monument developed plans for permanent facilities in 1986. The monument's paleontological and geological exhibits were developed by Harpers Ferry, which contracted with Drs. Lance Grande (of Chicago's Field Museum) and Paul Buchheim (of Loma Linda University) for technical assistance. Additional fossil specimens were purchased and many donated in an effort to present the variety of organisms present in Fossil Lake. Field museum staff were consulted to furnish a small room in the visitor center with appropriate fossil preparation equipment. Without the guidance of museum staff, planned facilities did not include museum storage or workspace.

Not until 1991, when the maintenance facilities were being planned, that the newly hired museum specialist, Rachel Benton, raised the issue of museum storage. A small room was added to the facility where museum storage has been maintained to date. Benton hired a museum technician, Nancy Swartos, from spring 1992 through spring 1993. Swartos clarified many of the museum records and consolidated objects into the museum storage room in the newly constructed maintenance facility. Benton facilitated the acquisition of a reference collection of mammal teeth casts of the Eocene from the American Museum of Natural History. Benton transferred to Badlands National Park in 1994.

Peter Ambrose was museum specialist from June 1994 to February 1998. During Ambrose's tenure, hundreds of photo archives were accessioned into the collection, creating the core of the current photo archive collection. Ambrose transferred to the U.S. Forest Service in 1998.

Arvid Aase was hired as museum specialist in 1998. During his tenure to date, the monument collections have doubled. This has resulted from increased photo archives, 800 new herbarium specimens, 400 extant insects, 400 archeological objects, numerous fossils acquired through donation and field collection, and identification of a significant number of archival materials

(park resource management records). The paleobotanical collections of William D. Tidwell of Brigham Young University were donated to the park and cataloged into the collection. Additional space was created for new specimens by trimming excess matrix from cataloged fossils and by rearranging the room to accommodate additional cabinetry (2 standard, 1 herbarium, 1 wet specimen, 1 entomology, and narrow open shelving for petrified wood donated by Tidwell). New equipment was also acquired, including a dedicated computer, scanner, and X-ray machine. The X-ray machine permits cataloging and data collection without the physical preparation of each fossil, a time-consuming and potentially damaging activity.

The monument's collections are expected to grow as relationships with collectors and hobbyists are fostered and additional donations are offered. The photo archives are a top priority of the staff. The monument's research/interpretive quarry will continue to produce specimens at an average rate of 200 per year. The research library has grown rapidly over the past four years and currently has holdings in excess of 1,700 articles and books, and is anticipated to double over the next three years. The archeological collection is also expected to grow, because much of the monument has never been surveyed for prehistoric or historic sites.

The monument currently holds 6,548 museum objects and specimens. There are an estimated 3,000 additional specimens to add from the 2001 field season, plus an estimated 41,600 individual items (26 linear feet) to be added to the park archives. The total collections at this time are an estimated 49,000 individual items.

Issue A — Scientific Research and Partnerships

Issue Statement

Accomplish the mission described in the monument's enabling legislation through scientific research and partnerships supporting the acquisition and exhibition of specimens to preserve and interpret Fossil Basin resources.

Background

The monument's enabling legislation mandates that it display and interpret scientific specimens for present and future generations. The Statement for Management (June 1996) states that the monument will interpret “one of the world’s best known, preserved and accessible examples of an ancient lake and associated deposits.”

Fossil Butte National Monument is located near the center of a large fossil lake, appropriately named Fossil Lake. The lake was about 50 miles long and 20 miles wide at its maximum, of which the monument covers about 13 square miles. The fossils found in the monument represent flora and fauna found only in deep-water deposits. The majority of the Fossil Lake story is contained outside the monument’s boundaries. The shallow areas of the lake represent a different environment, holding materials and specimens not present in deeper water deposits. Therefore, the rocks and fossils found in the park represent a very small piece of the Fossil Lake ecosystem.

Discussion

To properly interpret the story of Fossil Lake, it is necessary to look outside the monument's current boundaries. The shore and shallow water deposits of Fossil Lake are richer in terrestrial fossil animals than deeper water deposits. The mammals, crocodiles, turtles, lizards, amphibians, and birds that lived near the lake were more likely to be deposited near shore rather than float 10 miles to the center lake deposits. The shallow and deep areas of the lake were an integrated environment; therefore, the natural processes in each cannot be interpreted independently. By studying and interpreting the entire Fossil Lake, the monument opens the door for the public to understand the story of the whole ecosystem.

There are many stakeholders in Fossil Basin. The Bureau of Land Management, the National Park Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service are federal agencies that have an interest in this area. The state of Wyoming, including the Wyoming Game and Fish Department, the Wyoming Department of Transportation, and the State Land Commission are also involved in managing the Fossil Basin resources. Local ranches, stockman's associations and P&M coal mine also have interests in Fossil Basin. There are several privately operated fossil quarries found on both private and state lands. For a fee, some of the private quarries allow the public to excavate for fossils. These quarriers sell fossils in local shops and national fossil and gem shows.

The monument is interested in taking a proactive role in interpreting the Fossil Lake ecosystem. To fully comply with the legislative mandate, the park must provide the region with a reference center. A library, including reprints of scientific papers, would be available for use by the public and local stakeholders. This facility will serve as a repository for specimens for research and exhibit to the public. The exhibits would concentrate on the Green River Formation ecosystems and the Fossil Lake ecosystem in particular, during the Paleocene to middle Eocene. The monument is developing good working relationships with the local quarries. One aspect of this relationship involves identifying unusual fossils and geologic features found in the quarries. When made available, these newly identified specimens are temporarily exhibited at the monument, which keeps the public informed about the Eocene biota being found in Fossil Lake.

Fossil Butte National Monument operates a research quarry in the park. During the summer, a staff member in the quarry demonstrates how fossils are excavated and data is collected. This staff member also supervises visitors as they excavate fossils. As fossils are identified and removed from the quarry for accession into park collections, their location and associated data are carefully documented. The monument is attempting to collect a comprehensive data set that will lead to a three-dimensional diagram showing specimen position and species distribution. These data will provide a more accurate assessment of fossil density, population diversity, and makeup.

The quarry also gives the monument the opportunity to present a preservation message that fossils are a nonrenewable resource: there's not an endless supply of fossils to be quarried. Once the fossil-bearing formation is excavated, there is not another formation to excavate that also holds these fossils. The specimens that are removed from the quarry in the monument are cataloged into the museum collection. The data set and any additional reports resulting from this research will enter the monument's archival collections. These specimens and archival materials are available for research.

Museum specimens are acquired in several different ways. Some are obtained through excavation or field collection within the boundaries of the monument, under permit on Bureau of Land Management land, and obtained through donation or purchase. If the monument is to interpret the entire Fossil Lake, specimens collected outside monument boundaries must be obtained. Because there is a market for fossils from the Green River Formation, and private quarries make their living excavating and selling fossils, it is financially difficult to obtain a good representative of rare specimens. The monument is open to donation of specimens and has on occasion purchased them. Currently, there is limited funding for the purchase of fossil specimens, though additional funds can be generated through donations targeted for fossil acquisition. Any specimen added to the museum collection must meet the criteria defined in Fossil Butte National Monument's Scope of Collection Statement (April 2000).

In 1999, discussions were held with one of the local quarriers regarding purchase of a collection of 36 fossil birds. The quarry owner wanted the fossil birds to stay in the local area and be in the public domain. Having so many fossil birds in one location for comparative analysis was a unique opportunity. Nonetheless, the quarry owner had worked hard to excavate these specimens and wanted financial compensation. The owner believed that the specimens were being offered to the monument for a bargain price; if

sold individually the specimens would command a much larger sum of money and end up in private collections. Some National Park Service personnel believed they should not support the purchase of fossils because sometimes fossils are obtained illegally, and purchasing them may perpetuate illegal acquisitions. On the other hand, a rare opportunity to purchase a very special collection of legally quarried fossil birds had been offered to the NPS. NPS policy 4.8.2.1 states that fossils may be purchased if certain criteria are met. This policy is supported by the bylaws of the Society of Vertebrate Paleontology, which forbids barter of vertebrate fossils except when purchase brings them into the scientific domain.

A proposal by the monument to purchase the collection was submitted to the Saving America's Treasures campaign sponsored by the National Park Foundation. Unfortunately, this rare bird collection was not purchased due to other priorities. The Smithsonian Institution and The Field Museum were solicited to purchase the collection before Fossil Butte knew of their availability. Both institutions turned away the offer, citing lack of funds. However, due to a successful public fundraising campaign, The Field Museum purchased the bird collection along with two lizards, a mammal, and the only fossil frog known from Fossil Basin. All are now in the public domain, can be described, and are available for future research.

As new fossils are found and new theories are developed, the exhibit text in the visitor center must be updated to reflect the new information. Temporary exhibits should be used to disseminate information about current research and recent discoveries.

In 1994, the monument's lead interpreter, Marcia Fagnant received the Regional Freeman Tilden Award for developing a traveling fossil education kit for school groups to learn about fossils. Fagnant believes it is time to review the themes and materials in these kits to ensure that they reflect current knowledge and to replace materials that are inaccurate or worn out. The Smithsonian Institute and other granting agencies may offer educational grants for development and maintenance of traveling exhibits. This could also be an opportunity to explore the possibility of expanding the audience by lending the traveling trunk exhibits to international audiences, particularly Canadian schools.

A Comprehensive Interpretive Plan will refine the park's interpretive goals and allow the park to take a more proactive role in interpreting the entire Fossil Lake. This plan will refine the role of the monument and the direction of the interpretive message. The NPS initiative to inventory and monitor specific biota in each NPS area will increase the monument's knowledge of the extant flora and fauna within the park. Having a data set of present-day species will help the monument manage NPS lands and add more information for comparative analysis when viewing the present ecosystem with the environment that existed 50 million years ago. With assistance from the monument's partners, a solid interpretive plan can be developed and a more comprehensive message of Fossil Lake delivered to the public.

Recommendations

- Continue developing partnerships with local stakeholders so the complete story of Fossil Lake is told.
- Review the research quarry operation to ensure that it continues to meet the goals of the monument and the needs of the public.
- Write a Comprehensive Interpretive Plan with the assistance of local partners and include a listing of the resources located outside the monument's boundaries.
- Apply to the Smithsonian Institution and other granting agencies for an educational grant to update the monument's traveling kits to reflect new theories and replace worn components. Explore opportunities to expand to an international audience, particularly with Canadian schools.
- The monument must follow NPS policy relative to fossil acquisition.

Issue B — Reference Center

Issue Statement

Develop a reference center focusing on paleontology and geology to enable the monument to facilitate scientific activities related to the Eocene Greater Green River paleoecosystem.

Background

Fossil Butte National Monument was established to “preserve outstanding paleontological sites and related geological phenomena, and to interpret scientific specimens.” The monument has interpreted the paleontological sites and geological phenomena to include the Green River, Wasatch, Evanston, and Bridger Formations. In this way, a more holistic view is obtained in which Fossil Basin can be interpreted.

Many of those involved in the monument’s designation and members of the local community presumed that this directed Fossil Butte to open a quarry on monument land, prepare specimens from that quarry in the visitor center preparation laboratory, and display those specimens in park exhibits. This concept was also included in the monument’s Developmental Concept Plans and Interpretive Prospectus. Comparisons were made between Fossil Butte National Monument and Dinosaur National Monument that further propagated the assumption that an active, scientific quarry on park land, which the public could visit, was the proper way for the National Park Service to interpret fossil resources.

During the development associated with construction of the present-day visitor center, Fossil Butte opened a small research quarry on monument land. The purpose was twofold. First, the quarry was to produce exhibit-

quality, scientific specimens and associated data. Second, the quarry was to provide a place where visitors could view scientific specimens in the ground. In 1993, the quarry was closed due to weathering and vandalism. After a brief inactive period the quarry was reactivated in 1996. But because the quarry is accessible only to those who are able-bodied, many visitors interested in attending the monument's most popular program are excluded.

Although excavating in the quarry is a popular and educational visitor activity, the number of exhibit-quality, scientifically significant specimens produced by the quarry have not met the monument's expectation or needs. To accomplish the mandate of interpreting scientific specimens, additional fossils representing the latest discoveries from throughout the entire paleoecosystem of the Green River Formation are needed. In hopes of developing additional quarries from which to collect the needed specimens, Fossil Butte commissioned a study of alternative quarry sites both within and outside the monument (*1995 Quarry Study Report for the National Park Service, Fossil Butte National Monument*). Though potential sites were identified on Wyoming State lands and Bureau of Land Management lands, Fossil Butte has not been able to establish additional quarries for political and logistical reasons.

Recently, Fossil Butte successfully acquired specimens by developing relationships with local commercial quarriers and university researchers. Acquisitions have been in the form of loans or gifts. As a way of fostering this networking process, Fossil Butte began developing a scientific reference library that is available for use by outside researchers and quarriers. The park also visits both commercial and research quarries to open lines of communication, provide technical assistance, disseminate information, and learn about interesting geologic and paleontologic discoveries.

Discussion

Developing a reference center focused on Eocene paleontology and geology of the Greater Green River Lakes paleoecosystem would meet a number of the monument's needs. As envisioned, the Fossil Butte Reference Center would consist of a facility large enough to store the growing museum collection, archives, and scientific reference library, and provide a well-equipped work area for research activities. A lab would also be available where rock slabs containing fossils could be cut to size, and specimens prepared. Because the facility would be a reference center (as opposed to a

research center), Fossil Butte staff would not conduct research per se, but rather use professional contacts to network and facilitate the scientific process. Through these contacts, and by offering services of a well-equipped work area, the monument will likely increase the number of exhibit-quality and scientifically significant specimens it has the opportunity to acquire through loan or gift.

Even though the fossils of the Eocene Green River Lakes are an internationally significant resource, no dedicated reference center currently exists. Fossil Butte National Monument is located in the heart of the Green River Formation with more than 10 active quarries within its immediate vicinity, on state, federal and private lands. Researchers regularly utilize park resources with 9 to 15 research requests annually. (A need for a storage repository was demonstrated when Loma Linda University, home of one of the most active Green River Formation research programs, recently returned its collection to Fossil Butte because its own storage facility was inadequate.) The State of Wyoming receives all rare fossils from state-leased quarries. The Wyoming Geological Survey receives these fossils and currently houses them in two lab rooms where proper storage is inadequate and they have become covered with dust from lab activities. The Bureau of Land Management designates repositories for specimens when research permits are issued. Specimens are therefore housed at universities nationwide. The BLM may also be interested in repository partnerships that would consolidate collections for research and accountability.

By developing a reference center, the monument has the opportunity to satisfy several needs. First, the additional space will allow proper storage of the current museum collection while providing for anticipated growth. Though the focus of the reference center will be on Eocene resources, the entire museum collection will be stored there, allowing expansion of the biological and cultural collections as well. Second, the reference center will provide a valuable service to local quarriers. By fostering a good relationship with them, there will be a greater likelihood of rare and unusual fossils and rocks being made available to the monument. These specimens will facilitate scientific understanding and accurate and exciting programs for the public.

The center will truly be a one-stop facility for comparing specimens, reviewing scientific references, doing rough preparation before transporting to outside research institutions, reviewing historic photos related to fossil collection and final deposition of collections. These services will attract researchers and quarriers working in the Eocene deposits of southwestern

Wyoming, northeastern Utah, northwestern Colorado, and other areas where comparable Eocene deposits exist (such as the Messel Formation in Germany and London Clay in England). Such professional contacts will be invaluable if the monument is to obtain scientifically current specimens through loans and gifts. A reference center will also give the monument an opportunity to become recognized by the science of paleontology and the NPS for facilitating research while networking with academic researchers, other federal and state agencies, and commercial and private collectors alike. No other fossil park has undertaken such a role. A reference center would put the monument on the cutting edge in developing partnerships within the NPS.

Recommendations

- Develop and refine the concept of a reference center through a draft Role and Function Statement. Involve all potential partners in the planning process to the greatest possible extent.
- Aggressively acquire scientific references focusing on the Eocene paleontology and geology of the Green River Lakes paleoecosystem. An outstanding scientific reference library will attract all levels of researchers. Include citations from related formations from throughout the world, such as the Messel Formation in Germany. Utilize reprints and photocopies of original articles to keep costs down.
- Explore and develop partnerships with academic researchers, federal and state agencies, and commercial and private collectors. Because of the varied interests represented by the potential partners, mutual goals, common ground, and trust levels will need to be explored and nurtured as the reference center concept is realized.
- Continue developing a virtual quarry through continued research in the monument's quarry. This will facilitate research and access through the Internet.

Issue C — Collections Storage and Workplace Environment

Issue Statement

Develop appropriate collection facilities for anticipated growth to permit proper care and use of collections while providing a safe work environment.

Background

The monument and adjacent public and private lands are internationally significant for both the quality and quantity of fossilized fish and associated fossil flora and fauna found within the Fossil Lake Basin. Over 20 species of fish have been discovered and millions of specimens from this early Eocene lake community are found in museums and private collections throughout the world. Among the most extraordinary are the mass mortality layers that preserve as many as several hundred fish per square meter. Rarer are the delicate remains of flowers, insects, snails, mollusks, and clams. Larger creatures like birds, bats, snakes, frogs, turtles, stingrays, and crocodiles are also found in the basin sediments.

As an internationally recognized fossil site for animals, plants, and insects, the monument's mandate is to preserve, protect, document and interpret the unique paleontological resources found in the field and stored in its collections. To preserve the fossils and the associated records for future scientific investigations and the benefit of the public, the monument must ensure that adequate collection storage and workspace is available for curation of archives and related reference library materials.

Discussion

The monument's facilities are insufficient to accomplish its mission. The 1996 Resource Management Plan (RMP) states that the "current facilities and furnishings are inadequate" and that the monument "... lacks equipment and physical space to make current and new [research] data useful." An informal survey of monument staff conducted in conjunction with the MMP team's on-site visit echoes these concerns. Frequently heard were such comments as, "...not enough space," "need more space as the library grows, without taking it away from someone else's space," "... still the storage area is cramped," and "...workspace for identification, preparation, handling specimens is inadequate."

Collections storage space is limited. Workspace for curatorial and research work involving the collections was not planned for in the final design of the visitor center. Limited office space, a small library, paleontology lab, and exhibit area are all that exist. No provisions were made for a staff break room or conference/meeting room, so these functions are shared with the library and office area. Combining eating facilities with research/curatorial workspace poses a risk to the archives and library materials stored in this area.

The growing collection of library reference books and reprints overflows every shelf. The lunch table serves as project work space for both seasonal and permanent staff. Crowded conditions in this multipurpose space make it difficult to complete normal job duties and tasks, as well as specific requirements such as housekeeping and Integrated Pest Management (IPM) monitoring. The tiny paleontology lab preparation area, used to prepare specimens and conduct interpretive activities, is too small to accomplish these important functions. There is barely enough room in the lab to store the necessary equipment used to prepare the fragile fossils and the specimens awaiting preparation. The small lab does not provide for the effective interpretation of this important aspect of the monument's work. In addition to expanded preparation facilities, a permanent museum technician is needed to prepare specimens acquired through collection and donations. In general, a lack of adequate work and storage space in all facilities is damaging collections, limiting research, and detracting from the visitor's experience at the monument. The lack of space is the result of the political atmosphere and resulting artificial limitations on space during the design and construction of the visitor center in the late 1980s.

Due to the space problem, a small room (12' x 14') for collection storage was added to the monument's maintenance facility during its construction in 1991; however, no dedicated workspace for accessing and utilizing the collections was provided. The current museum storage room is severely overcrowded. Rapid growth of the collections has forced the monument staff to double-stack almost all the museum storage cabinets. And all but a few of the cabinets have reached their maximum capacity. Specimens too large to go in cabinets are stored on top of cabinets. Open shelving located above the cabinets is used to store a collection of fossilized wood. Access to these shelves above the cabinetry is difficult and dangerous for collections and staff attempting to utilize them. Because the monument has experienced an earthquake, such storage techniques are not recommended, and constitute a health, life, and safety risk to the staff and collections. A rolling ladder and a cart used with collections have to be moved into the entry hall each time the staff needs to open a cabinet. Aisle space between the stacked cabinets is less than the suggested 48 inches, or even the minimal 36 inches, which makes opening the doors and using the pull-out drawers difficult for staff and dangerous for the fragile fossil collections.

Additionally, there is no dedicated research workspace and storage space is limited for curatorial tools, archival supplies, and reference materials.

A combination desk/computer workstation with a small 5-drawer map/flat file underneath it is situated outside the storage room in the adjacent maintenance office along with a double-wide cabinet, used to house incoming acquisitions and specimens collected during the current field season. A utility cabinet located in the hallway contains supplies, tools and small equipment. A few accessioned collection items, including the monument's collection of maps, large-format documents and building plans are stored in the desk's map/flat file due to lack of space for them in the collection storage room. Above the desk are additional wall-mounted shelves housing the museum management reference materials and copy stand used to photograph specimens. A pair of standard storage cabinets and a double-wide cabinet are located under the stairs in the nearby seasonal housing apartments and are used to house uncataloged materials pending accessioning, X-raying, or disposal.

Current crowded conditions in both the library and collection storage areas are creating significant health and safety problems for the staff and researchers using the collections. The monument's staff has done an incredible job of making the most of the available work and storage spaces.

Removing excess rock from specimens (in order to store them in the most efficient manner possible) has allowed most of the current paleontology collection to fit within the existing cabinets. Other efforts to create adequate work and storage space for collections have been ingeniously accomplished. In addition, the staff is pursuing the possibility of using the Automated National Catalog System and ProCite databases to provide increased computer access to the museum, archival, and library collections, and archival materials such as the historic photographs. However, all these efforts are being hampered by a lack of space, staff, and funding.

The *Automated Checklist for the Preservation and Protection of Museum Collections* (ACP), completed in 2000 by monument staff, noted 12 deficiencies. For example, the monument does not have a Museum Housekeeping Plan (MHP) and housekeeping activities are being completed on an irregular basis. There is no IPM Plan, so insect monitoring and control is also being done ad hoc. The monument has never had a Collection Condition Survey (CCS) to identify preservation needs and conservation priorities. The current Emergency Operations Plan (EOP) does not address the specific needs of the collections or facilities housing them. These and several other important museum-related planning documents, such as the 1995 EOP, need to be revised and updated.

The need for and funding to complete and implement all such plans must be identified. Needs identified on the current checklist include a media safe for storing photographs and other plastic-based media, additional data loggers for monitoring temperature and relative humidity conditions in storage and exhibit areas, and the funds for purchasing this equipment.

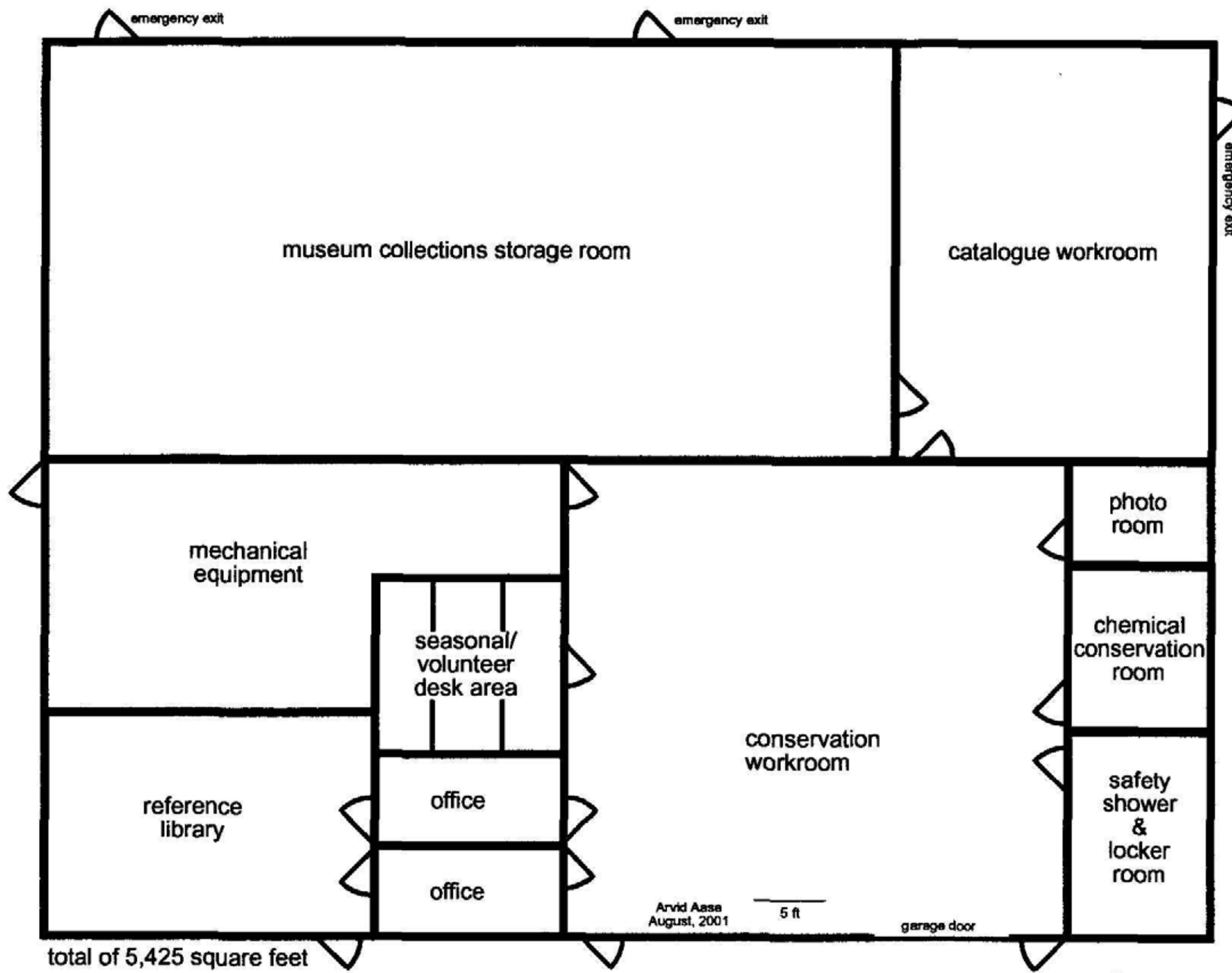
The monument staff developed detailed plans for an addition to the visitor center (Pod #2), which was incorporated into the original visitor center design. Preliminary concept plans were discussed with Andy Beck, architect at the Denver Service Center (DSC), regarding the design and construction funding requirements for this addition. In June of 1997, monument staff invested significant time and effort developing a concept plan to meet their specific long-range needs. The proposed facility includes innovative ideas that should not be lost, such as using living exhibits of modern fish and other animals and plants related to the fossilized ancestors at the monument, simulated quarry, dioramas, and Eocene climate environments. The concept plan includes the “missing” components not found in the visitor center, including the dedicated collection storage area for museum, archives, and library resources, and the development of future park facilities, such as an

amphitheater for public programs, expanded traditional exhibits, larger fossil preparation lab, offices for current and future staff, research workspace, and a dedicated records storage area.

As an alternative, the monument submitted a \$56,000 Project Management Information System (PMIS)/Special Emphasis Allocation System (SEPAS) Project (FOBU #53430) for a Preliminary Assessment for a Dedicated Museum Storage Facility. This stand-alone building would incorporate collection storage, preparation lab, research workspace, and curatorial offices in a separate location from the proposed Pod #2, but near the visitor center (see Figure 1, the Preliminary Concept Floor plan). Other interim options for correcting the lack of collection storage and workspace should consider the following:

- Locate a modular building for curatorial workspace in the maintenance yard. Relocate the seasonal offices and interpretive library to this location to create more space at the visitor center for the reference library and other functions.
- Design and construct a permanent addition to the maintenance facility to enlarge the existing collection storage room and create a dedicated curatorial/research workspace. Such a space would provide for collection growth and curatorial activities until a long-term solution can be implemented.
- Rehabilitate one of the garage bays beneath the seasonal housing unit as an interim museum storage and research area. Subdivide the space into collection storage and curatorial workspace. Insulate the walls and ceiling and install drywall. Paint and seal the concrete floor. Install a heating, ventilating and air conditioning (HVAC) system to control the environment (temperature and relative humidity) within the space.
- Shared space at GSA buildings for BLM and NSF in Kemmerer for curatorial storage.
- Design the visitor center addition in stages and build the basement as stage one for use as curatorial and office space.

Figure 1. Concept floor plan for future museum facility at Fossil Butte National Monument.



Recommendations

- Update the monument's museum checklist and carefully identify the plans, equipment and funds required to correct existing park-identified deficiencies. Develop and submit PMIS/SEPAS projects and cost estimates to accomplish these projects.
- Develop a Line Item Project Statement for design and construction of the Pod #2 modular addition to the visitor center.
- Design and construct a stand-alone museum storage and reference center in the draw adjacent to the visitor center.
- Consider rehabilitating one of the garage spaces below seasonal housing units as an interim secondary museum storage and research area.
- Consider installing a modular building in the maintenance yard in order to provide additional space for the interpretive library, seasonal staff, and researcher offices.
- Add ANCS+ and Pro-cite to computers accessible to all staff for use in accessing information on collections.

Issue D — Programming, Funding, and Staffing

Issue Statement

Raise funding and staffing levels to keep pace with increased collections acquisition from research and donations.

Background

The museum, archive, and library collections at the monument are growing rapidly in support of the monument's mission. The primary museum collection is composed of fossils from the Green River Formation. There are secondary collections of extant biota (mostly vascular plants) and archeological material (both prehistoric and historic).

The biological collections are expected to develop with the addition of entomological specimens, starting in 2002. The monument's biotechnician completes most of the preparation and documentation services required for the biological specimens created as part of resource management activities.

Seventeen documented archeological sites are identified at the monument. While the current archeological collections are small, this portion of the collection is likely to increase since the entire monument has not been fully surveyed.

The monument library continues to grow as reference material becomes available and is required to document, reference and interpret the material in the park collections. A recently completed archival survey of the monument's records identified 49,000 individual items to add to the collections as monument archives.

The Program Management Information System (PMIS) entries for the monument show a total of 39 current entries — two of which are related to the management of archives, museum, and library collections. Review of the park spreadsheet for funding from all sources (FY2001) did not indicate a separate account for combined archives/museum/library operations.

Currently there is one GS-1016-09 Museum Specialist (Geology) on staff with primary duties related to the management of archival, museum, and library collections. This position also supervises quarry operations and the preparation of resulting specimens, and initiates contacts related to fossils with other federal and state agencies and commercial quarry operations. At present this position has collateral responsibilities in the monument's maintenance program. Natural Resource Preservation & Protection (NRPP) projects are funding a three-month museum technician from 2000 - 2002, and a second position during 2002 - 2003.

In 2001 the monument secured the seasonal services of an interpretive ranger to prepare fossil specimens as part of the interpretive program at the visitor center. This work is a valuable addition to the interpretive program, and produces a limited number of prepared specimens for the museum collections.

Discussion

The effective development of the programs, budget, and staff necessary to preserve resources and complete the monument's mission requires an aggressive approach to long-range planning and regional priority support. The monument should explore the possibility of external funds for planning and construction. If the necessary documentation of need followed by the requisite planning and programming of the required work does not occur, tasks will be performed in a disorganized and inefficient manner.

As a nonspecialist ultimately responsible for all park programs, the superintendent depends upon the professional and technical advice of the museum specialist to make informed decisions regarding monument collections. It is the responsibility of the museum specialist to provide the necessary documentation, programming, and planning required to make sound fiscal and staff decisions resulting in efficient management of the resources. In filling these responsibilities, the collections manager must be very clear in the documentation and associated cost of all assigned duties, and the presentation of this information in a timely manner.

The most efficient method to document current and projected activities involving curatorial staff is a time/cost analysis. This approach establishes a point of credibility for the monument's Museum Management Program, and provides the superintendent with a logical basis from which to select options for work that gets done, and for work that is placed in backlog. It also provides good information to use in defense of unit requests for staff and funding. Some very basic time/cost analysis questions might include:

- How many accessions have been processed each year for the last three years?
- What is the average time/cost to process an accession?
- Is the rate of new accessions entering the collections increasing or decreasing?
- Are we keeping up with basic registration, or is material going unprocessed?
- What is the average time/cost to catalog an object?
- What is the average time/cost to prepare a fossil specimen for storage?
- What is the average storage cost per cubic foot of storage per year?
- What is the time/cost to provide exhibit case monitoring/cleaning per year?
- How many requests for research access to collections were received per year for the last three years?
- Is the rate of requests for research access increasing or decreasing?
- What is the time/cost to comply with the "average" research request?

Similar analysis should be done for all assigned duties (both primary and collateral) and the results compiled both in terms of time and direct costs.

Once this information is collected, analyzed and formatted for presentation, both the employee and superintendent will be able to recognize the time and direct costs associated with the various facets of the entire work load, and determine how to balance and accomplish the necessary work. Additionally, this data will document where collateral duty activities may detract from essential work, and where the use of other levels of support would be more cost-effective.

The current Resource Management Plan (RMP), revised in January 1998, identifies 90 project statements, 12 of which are related to collections management. There is some duplication and overlap in the statements, and some of the work has been completed.

To assist with development of project statements for the RMP, the monument received a computer disk containing draft "generic" (fill-in-the-blank) statements to review and adapt for unit-specific needs in the next revision of the Resource Management Plan. The monument is encouraged to use the search function of the Service PMIS program to identify successful programs worded by other units, and adapt these to monument use.

Recommendations

- Develop a list of essential archival, museum and library management activities, and begin a time/cost documentation and analysis for each activity.
- From the above, develop a staffing plan to address identified and documented shortfalls in collections management.
- Revise the Resource Management Plan. Remove redundant and invalid collection management project statements. Add new project statements to document needs.
- Revise the Project Management Information System for the monument. Add new project statements that accurately define current park needs in collections management.
- Draft Operations Formula Systems (OFS) statements directed toward shortcomings in museum staffing.

Appendix A — Suggested Archival and Museum Access Policies

It is National Park Service policy that park-specific cultural and natural collections be available for educational and scholarly purposes. The NPS is also charged with managing these for optimum preservation. To minimize the potential impact on the archives and museum collections and to ensure basic security and preservation conditions, it is necessary to document, restrict, and monitor access. The guidelines provided here allow for supervised management of these park-specific resources.

Levels of Access to the Archives and Museum Collections

Providing differing levels of access to collections is a standard curatorial philosophy underlying the policies of most major museums. Based upon the information provided on the Research Application, individuals will be provided access to differing types of collections information or material, depending upon their needs and the amount of staff time available.

All serious research — regardless of educational level — is encouraged.

Conditions for Access

- The Research Application must be completed; it will be used as a basis for determining the level of access necessary, and to maintain a record of use for statistical and security purposes.

- Level of access will be determined by the superintendent and/or the collections manager(s). Prior to allowing direct access to the archives and collections, alternatives such as access to exhibits, publications, photographs, and catalog data will be considered.
- Access will be made with the assistance of the curatorial staff during regular working hours. A fee to cover the cost of staff overtime may be required for access outside of the normal working hours.
- Individuals provided access to archives and collections in nonpublic areas are required to sign in and out using the Visitor Log.
- The *Guidelines for the Use of Collections and Archives* will apply to all individuals with access to the collections.
- While no user fee will be required for access to the archives or museum collections, the superintendent and curatorial staff will determine what services may be reasonably offered and what charges may be required for such services as staff overtime, photography of specimens, or reproduction of documents.
- All photography of specimens and duplication of documents will take place on-site per the *Guidelines for Photography of Museum Collections and Duplication of Historic Documents*.
- A limited amount of space is available for use of archives and museum collections. Researchers are required to check in all collections and remove all personal possessions each evening.
- Fossil Butte National Monument reserves the right to request copies of notes made by researchers, and requires copies of research papers or publications resulting in whole or part from use of the collections.
- There may be legal considerations (such as the Native American Graves Protection and Repatriation Act, 1991) that allow or limit access to part of the archives and museum collections.

Access Policy Administration

This statement of policies and procedures is public information, and is available upon request from the following:

Superintendent
Fossil Butte National Monument
P.O. Box 592
Kemmerer, Wyoming 83101-0592

Implementation of these policies and procedures is delegated to the collections manager(s); however, the superintendent has final authority to grant access to the archives and museum collections.

The evaluation of requests should consider the motives of the researcher, the projected length of the project, the demands upon available space, staff and collections, and possible benefits of the research project. Access may be denied if thought not to be in the best interests of the resources, the monument, or the National Park Service. The superintendent will make these decisions in consultation with the collections manager(s).

With increased attention and use, the archives and collections will require increased monitoring to provide security, to detect developing preservation problems, and to facilitate prompt treatment. Regular inventory of the most heavily used portions of the archives and museum collections will be required to ascertain object location and condition.

FOSSIL BUTTE NATIONAL MONUMENT

Research Application for Museum Collections and Historic Documents

Name _____ Telephone Number (____) _____

Institution/Organization _____

Address _____

Date you wish to visit _____

(An alternate date might be necessary due to staffing limitations.)

Have you previously conducted research in the park's museum collection? Yes No

Research topic and materials you wish to see _____

Indicate which activities you wish to do

- | | |
|--|--|
| <input type="checkbox"/> Consult catalog cards | <input type="checkbox"/> Consult archeological records |
| <input type="checkbox"/> View objects in storage | <input type="checkbox"/> Study objects in storage |
| <input type="checkbox"/> Draw objects | <input type="checkbox"/> Consult historic documents |
| <input type="checkbox"/> Other _____ | |

Purpose of your research

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Book | <input type="checkbox"/> Article |
| <input type="checkbox"/> Lecture/conference paper | <input type="checkbox"/> Term paper |
| <input type="checkbox"/> Thesis | <input type="checkbox"/> Dissertation |
| <input type="checkbox"/> Exhibit | <input type="checkbox"/> Project |
| <input type="checkbox"/> Identify/compare with other material | |
| <input type="checkbox"/> Other commercial use or distribution _____ | |
| <input type="checkbox"/> Other _____ | |

I have read the Museum Collection Access and Use/Research Policies and Procedures and agree to abide by it and all rules and regulations of Fossil Butte National Monument. I agree to exercise all due care in handling any object in the museum collection and assume full responsibility for any damage, accidental or otherwise, which I might inflict upon any museum property. Violation of National Park Service rules and regulations may forfeit research privileges.

Signature _____

Date _____

Please return to: Superintendent, Fossil Butte National Monument, PO Box 592,
Kemmerer, WY 83101-0592

(reverse side : Research Application)

Park Service Use Only

Identification (provide at least one)

Institutional ID _____

Driver's License Number _____

Research Topic

Location of Research (check one)

Curatorial Office

Storage

Exhibit Area

Others _____

FOSSIL BUTTE NATIONAL MONUMENT

Museum Objects Reviewed by the Researcher

Park	Catalog	Object Name	Location	Accession	Acronym	Number

Approved by:

Name _____

Title _____

Date _____

FOSSIL BUTTE NATIONAL MONUMENT

Museum Collections and Archives Register

Date	Time In/Out	Name/Address	Purpose of Visit	Items Looked At	Accompanied By

FOSSIL BUTTE NATIONAL MONUMENT

Guidelines for the Use of Archival and Museum Collections

The guidelines provided here regarding use of the park's museum collections and archives are followed at Fossil Butte National Monument. It should be noted that these resources are separate from the monument's general library, which is managed by the Division of Interpretation.

It National Park Service policy that museum collections and archival resources be available for educational and scholarly purposes. The NPS is also charged with managing these resources for optimum preservation. To minimize impact on these collections, it is necessary to regulate access to the materials.

Copies of the Research Application and the full text of the Guidelines for the Use of Archival and Museum Collections are available to the public, upon request from:

Superintendent
Fossil Butte National Monument
PO Box 592
Kemmerer, WY 83101-0592

Availability

The museum collections and archives are open Monday through Friday, from 8:00 A.M. to 4:30 P.M. Monument staff should contact the park collections manager(s) for access. The museum archives are "nonlending," and the materials will remain in the building.

For nonstaff users, a completed Research Application (attached) is required. The park should be contacted in advance to assure assistance is available upon arrival. Access is not normally available on weekends.

All materials must stay within the study areas provided. The size and location of these areas may vary according to the time of year, requests from other researchers, and staff available. The researcher may bring only those materials needed for research into the assigned study area. Smoking is not allowed in the building. Food and drink are not allowed in the study areas.

Registration

The Guest Register, used to record access to museum and archival collections, must be signed when the collections are used by staff or nonstaff members. Nonstaff researchers are required to complete a Research Application (attached). These forms are retained indefinitely for statistical analysis and as a permanent record of collections use. A new application is required for each research project, and must be renewed each calendar year.

As part of the registration process, the researcher will be given a copy of these procedures to review and sign, thereby indicating his/her agreement to abide by them.

Use of Archival Records and Manuscripts

The archives user is responsible for the careful handling of all materials made available. Remove only one folder from a box at a time. Do not remove or alter the arrangement of materials in the folders. Maintaining the exact order of materials in a folder and folders within a box is of singular importance. If a mistake in arrangement is discovered, please bring it to the attention of museum staff. Do not rearrange material yourself.

Marks on documents may neither be added nor erased. Materials may not be leaned on, written on, traced, folded, or handled in any way that may damage them.

Only pencils may be used for note taking. The use of pens of any kind is prohibited. Typewriters and computers may be used for note taking if provided by the researcher.

Duplication

The park will consider requests for limited reproduction of materials when it can be done without injury to the records and when it does not violate donor agreements or copyright restrictions. Depending upon the number of copies requested, there may be a charge for photocopying. Fragile documents and bound volumes will not be photocopied. All photocopying of archival material is to be done by the museum staff.

Copyrights and Citations

The revised copyright law, which took effect in 1978, provides protection for unpublished material for the life of the author plus 70 years. In addition, all unpublished material created prior to 1978, except that in the public domain, is protected at least through the year 2002. Permission to duplicate does not constitute permission to publish. The researcher accepts full legal responsibility for observing the copyright law, as well as the laws of defamation, privacy, and publicity rights.

Information obtained from the park museum collections and archives must be properly cited, in publications and unpublished papers. The citation should read:

"(object name and catalog #) in the collection of Fossil Butte National Monument, Kemmerer, WY. Photograph courtesy of the National Park Service."

Restrictions on Use

The use of certain materials may be restricted by statute, by the creator, or by the donor. For the protection of its collections, the park also reserves the right to restrict access to material that is not fully processed, or is exceptionally valuable or fragile; and to information that may be restricted or confidential in nature.

Responding to Off-Site Reference Inquiries

It is the responsibility of the park curatorial staff to answer inquiries received by letter or telephone within 20 days from the date of receipt. Clearly, the extent to which this reference service is undertaken will depend upon availability of staff time and the nature of the question. The receipt of written inquiries will be acknowledged by telephone if a full response cannot be provided promptly. The staff must set time limits for answering research questions, so researchers are encouraged to use the collections in person.

A record of all research inquiries will be maintained. Such a record is useful for security and for compiling statistics on research use of the collection. Use of the collections by park staff will be included in these statistics.

Guidelines for Handling Museum Collections

Handling museum collections may be hazardous. Follow the guidelines provided to ensure safe handling.

Archeological collections may contain broken glass and rusty metal objects with sharp edges. Historic material may retain chemical or biological contamination. Natural history collections contain chemical preservatives and possible biological contamination. Archival collections may be contaminated with mold, insects, and vermin droppings, or may contain asbestos or cellulose nitrate film.

- Use caution in handling collections, and wear gloves when requested to do so.
- Curatorial personnel will retrieve and replace material for anyone using the collections. Direct access to material may be restricted if the object is very fragile.
- Do not remove materials from storage packaging without the permission and assistance of the curatorial staff. The packaging is necessary to prevent damage and deterioration of the specimen, and to protect the researcher from potential injury.
- Always handle objects with clean hands. Use white cotton gloves when handling metal, photographs, paper, and leather objects; washed white duck gardener's gloves may be required for heavy objects.
- Do not use white cotton gloves when handling glass or other objects with slippery surfaces, very heavy objects, or items with friable or brittle surfaces.
- Do not pick up anything before you have a place to put it down and your path to this place is clear.
- Look over an artifact before lifting it to see how it is stored and to observe any peculiarities of its construction, fragility, etc. If an object is made in separable sections, take it apart before moving it. Do not attempt to carry heavy or awkward objects alone. Never carry more than one object at a time, and be particularly careful with long objects.
- Except for small items, always grasp an object with two hands, and grasp the largest part or body of the object. Slide one hand under fragile items as you lift them.
- If an artifact has a weak or damaged area, place or store it with that area visible.

Special Objects

- Place mounted herbarium specimens on a flat surface and handle the folder cover and specimens gently, taking care not to bend the sheets or touch the actual specimen.
- Handle pinned insect specimens as little as possible, and then only by the pin. Avoid bumping and strong drafts when handling these specimens.
- Keep skulls and skeletons in their jars or containers while examining.
- Support ceramics and baskets from the bottom, never lifted by the rim or handles.
- Handle photographs, transparencies and negatives by the edges, and keep them in protective mylar sleeves whenever possible. Always wear white gloves should always be used when handling photographs.
- Support unrolled textiles broadly from underneath rather than from the edge.

Reporting Damage

Please report any damage you observe or cause to specimens.

Behavior

- Food, beverages, smoking and pets are not allowed in the storage or study areas.
- Staff members are responsible for the behavior of any person accompanying them into the collections.
- Children under six years of age must be physically controlled by an accompanying adult at all times. Other minors must be under the direct supervision of an accompanying adult at all times.

I have read and understand the above policy.

Name _____

Date _____

FOSSIL BUTTE NATIONAL MONUMENT

Guidelines for Photography of Collections and Duplication of Historic Documents

This policy documents appropriate procedures for photographing Fossil Butte National Monument museum collections, and for duplicating original historic photographs and documents. The policy is intended to prevent damage or loss through mishandling or exposure to detrimental environmental conditions.

Duplicate Photographs of Museum Collections

There are many possible uses for photographs of the items in museum collections, the most common being exhibit, publication and research. It is the policy of the National Park Service to encourage the use of its collections in these legitimate ventures and to make photographs of museum collections available within reasonable limitations.

Photography involves exposing often fragile museum objects to potential damage or loss from handling and exposure to heat and light. The NPS wants to minimize potential damage by photographing items as few times as possible. To this end, the park will develop a reference collection of object photographs available for public use. A minimal fee may be required for copies of the photographs.

To provide this service and build the necessary reference collection, the following procedures will be followed:

- Requests for photographs of items in the museum collections will be submitted to the park curator, who will establish any necessary priority for the work. Requests should be made on copies of the attached form.
- Requested items that do not have copy negatives will be photographed based on these priorities. A cost recovery charge for photography and processing may be required.
- Photography will be done at the park by park personnel to preclude the possibility of artifact damage or loss. The resulting photographic negatives and their copyrights belong to the National Park Service.
- Once an object has been photographed, the monument will maintain the negative for future requests for photographs of that object. A minimal cost recovery charge may be required for prints.

Duplication of Historic Photographs and Documents

There is a wide variety of historic photographic processes and document types, but they all are subject to rapid deterioration from exposure to visible light and are very susceptible to damage from handling. Handling these materials causes damage such as tears, cracks, abrasions, fingerprints, and stains. Handling also subjects historic photographs and documents to fluctuations in temperature and humidity.

To prevent further deterioration, copies will be made of all historic photographs and documents, with the copy replacing the originals as the primary item for research and use. The original material will remain in storage, for the most part, as primary source material.

Because of increased requests for access to and copies of historic photographs and documents, the following procedures are necessary to establish priorities for the duplication work:

- Requests for duplicate historic photographs and documents are submitted to the monument collections manager who will establish any necessary priority for copy work.
- Requested items that do not presently have copy negatives will be duplicated based on these priorities. The originals must be accessioned and cataloged into the monument collection. A cost recovery charge for duplication may be requested.
- Duplication will be done at the monument, or under monument control, to preclude possibilities of loss or damage.
- Once the photographs have been duplicated, copy prints and modern negatives of the originals will be maintained and used for further use and duplication. Microfiche copies of historic documents will also be maintained and available for use. A cost recovery charge may be required for copy prints.

The monument will provide the sufficient quality duplication necessary to fulfill all the normal requirements for suitable reproduction. Non-NPS individuals or organizations that request use of the images must use only those copies provided by the monument; and they must acknowledge NPS credit if the photographs are published or exhibited to the public. By law, users must also credit the photographer, if known.

FOSSIL BUTTE NATIONAL MONUMENT

Request for Photographs of Items from the Museum Collections

Catalog #	Object Name	B&W/Color	Size	Finish

The undersigned agrees to provide the following credit statement for all publication use:

"(object name and catalog #) in the collection of Fossil Butte National Monument, Kemmerer, WY. Photograph courtesy of the National Park Service."

Signature _____

Date _____

Appendix B — Suggested Library Operating Policy

Introduction

The library at Fossil Butte National Monument is an essential resource that that enables staff to carry out the park's mandate. This appendix establishes guidelines and standards for the development and operation of the Fossil Butte National Monument library, helping to ensure stability, continuity, and efficiency in its operation. These policies are intended to guide and support decisions of the librarian and to inform park staff and other library users of the library's objectives. These policies will be reviewed and updated by park staff every two years and be approved by the superintendent, unless policy changes require action sooner.

Objective

The primary objective of the Fossil Butte National Monument library is to select, preserve, and make available material that assists monument staff and site-related researchers in their work. Primary emphasis is the support of interpretive services to monument visitors.

Responsibility

Implementation of this policy is the responsibility of the park library manager. This employee will be designated by the superintendent and will be responsible for compiling a list of desired acquisitions, promptly adding new library items to the collection, shelving materials, ensuring that material is returned in proper condition, accounting for the collection, and maintaining catalog materials in computerized and physical form.

Scope of Collection

The collection consists of books, periodicals, microfilm, videotape, maps, photographs, and research files. These materials cover Paleocene and Eocene paleontology and geology, extant plants, animals, and ecosystems of high-desert steppe, the cultural history of Southwest Wyoming, monument mandate and development, and NPS material.

Selection Guidelines and Procedures

The Interpretation and Resource Management Divisions will use the following criteria in selecting materials for the library:

- Importance of the subject matter to the collection
- Authenticity and accuracy
- Permanent value and/or historic potential
- Author's reputation
- Publisher's reputation and standards
- Readability
- Price
- Availability in nearby libraries

The monument library manager will compile a list of desired acquisitions in August of each year. Input from all staff will be considered. Copies will be forwarded to the superintendent and team leaders for budget and reference purposes.

Periodicals

In addition to general library selection criteria, periodical selections will consider the following:

- Periodicals must supplement the collection as an additional and current source of information.
- Periodicals must occasionally or regularly publish popular articles, historic materials, or research findings relating to the monument.

Operating Guidelines

Loan Privileges

Borrowing privileges are extended to all NPS employees and volunteers at the monument. There is a 30-day limit on individual loans that can be extended at the discretion of the monument library manager. The librarian is responsible for reviewing the card files no less than once a month and contacting staff with overdue materials. No more than three items may be checked out at one time.

At the discretion of the monument library manager or chief, library privileges may be extended to the following:

- NPS employees from other areas
- Contractors conducting research in the park
- Researchers with valid research needs at all levels
- Other users who will benefit the monument and not interfere with normal operations

Non-NPS library use is restricted to on-site use. The superintendent may make exceptions. Use of the library by nonmonument staff will be by appointment with the library manager. Use will be supervised; users will check in and check out. A log of nonmonument use of the library will be maintained.

Returned materials are to be placed in the "Return" box. The library manager is responsible for reshelving and refiling materials. No other person should reshelve books. Materials should be reshelved at least weekly.

Borrowers will replace lost or seriously damaged materials and, if materials are not immediately available, reimburse the monument with the cost of replacement. If materials are not replaced or compensated for within 90 days, a bill of collection will be issued for the estimated market value of the materials.

Abuse of library materials and privileges will result in the loss of library privileges.

Vertical File

The library will maintain a vertical file. This file contains information about the monument, photocopied material not suitable for cataloging into the regular collection, pamphlets, articles, and personal accounts from diaries, journals, letters and newspaper clippings. Materials in this file will be cataloged into a vertical file index, which the library manager will maintain. This file will be updated yearly in January.

Paperbacks

Paperbacks will be acquired for the following reasons:

- Title is not available in hardcover.
- Subject is estimated to be of current interest only.
- Substantial price difference exists.

Duplicates

Duplicate copies of heavily used materials will be acquired when needed.

Replacement

After all reasonable efforts have been made to recover lost or stolen books, replacement will be attempted if there is a demand and/or the item meets selection criteria.

Gifts

Gifts of materials that meet the selection criteria may be accepted with the understanding that:

- The monument retains the right to keep, use, or dispose of them as deemed appropriate by the superintendent
- The materials will be integrated into the regular collection
- Monument staff will give no appraisals for tax purposes. The library manager may assist in the following ways
 - Suggest sources of such information, such as dealers' catalogs
 - Provide a receipt describing the donated items but not assigning a value to them

Controlled Access Collection

A locked cabinet will be maintained in the library with rare and fragile materials. The basis for inclusion in this cabinet is as follows:

- The items are virtually irreplaceable
- Monetary value of the items is over seventy-five (\$75.00) dollars
- The items have particular historic interest to the monument
- The items have reference value
- The items have unusual attractiveness or interest
- The items are in fragile or delicate condition

Materials from this collection will be loaned only at the discretion of the superintendent. Titles will be noted in the catalog as being in the cabinet. A separate list of the materials will be kept in the cabinet.

Exhibited Materials

The park library manager will compile and maintain a list of all books, periodicals, and maps that are used as furnishings and are not part of the library. The list will be kept in the controlled access area.

Research Files

Items in the research files may be checked out in the same manner as books unless they are specifically marked to the contrary. Research materials may not leave the building.

Photocopying

Photocopying of materials is permitted except in the following situations:

- Materials could be damaged due to flattening the binding or exposure to light.
- Materials are marked "Do Not Copy."

Material photocopied for use outside the park must be labeled as follows:

NOTICE:

Copyright law found in Title 17, U.S. Code
may protect this material.

Adding New Publications

The Library of Congress System (LCS) is used at Fossil Butte National Monument. The following steps will be followed when new publications are added to the system:

1. The Administration Office will receive new books and attend to all invoice matters.
2. The new books will then go to the library manager.
3. The library manager will obtain call numbers, enter them into ProCite, and prepare labels for the book.
4. While books are being added to the catalog, they will be placed in the controlled access area; they can be used in the library only with the permission of the park library manager.
5. When cataloging is completed, the library manager will affix labels, pocket, and checkout card to the publication.
6. Books are then shelved according to their LCS number.

Excluded Publications

With the exception of the categories listed below, all books purchased with NPS or cooperating association funds will be accessioned and cataloged into the monument library in a timely manner. Excepted categories include the following:

- Dictionaries, thesauruses, word finders, usage guides, or similar reference guides
- Other books regularly needed by employees to carry out their day-to-day duties, such as safety manuals, fire codes, regulations, laws, museum manuals, public health manuals, etc.
- Annual publications, such as almanacs, price books, catalogs, zip code guides, etc.
- Publications purchased as part of an approved training program
- Books in the excepted category may be included in the collection at the discretion of the library manager.

Inventories

By the end of each fiscal year, the park library manager will compile a list of acquisitions of the past year, noting source and cost. The list will be forwarded to the superintendent.

Binding

Unbound or paperback material will be bound at the recommendation of the library manager when value, condition, or frequency of use justifies this step.

Weeding

The removal of material from the collection judged to be of no use for research or documentation purposes will occur on a yearly basis. Weeding will coincide with the annual inventory and follow the same criteria used in the selection of new materials. Items considered for deaccession should exhibit the following characteristics:

- Information outside of the scope of collection
- Outdated information
- Inaccurate information
- Irreparably damaged or worn material

All items, including those that exhibit the above characteristics, should be carefully considered for possible historic value.

Weeding Procedure

- Items are removed from the collection following the above criteria.
- Selected material is included in a memo and circulated to monument staff. Final approval of weeding is made by the museum technician.
- A Report of Survey (DI-103) is prepared and circulated.
- Library records will be updated.
- Cataloged items are offered to the following:
 - a) Denver Service Center – Technical Information Center Library
 - b) Intermountain Region Units
 - c) Harpers Ferry
 - d) Department of the Interior Library
 - e) Library of Congress

Materials may be disposed of to other institutions at the discretion of the park library manager with the concurrence of the museum technician.

The library will be weeded in January.

The staff at the DSC-TIC Library may be contacted with questions concerning library management or operations not specific to the parks, at 303.969.2534.

Approved by:

Superintendent _____ Date _____

Team Leader _____ Date _____

Librarian _____ Date _____

Appendix C — Procedures for Evaluating and Retaining Monument-Specific Records

The collection of monument-specific records and manuscripts (commonly referred to as the “monument archives”) is a specialized part of the museum collection. Along with the museum collection of specimens and objects directly relating to the monument’s mandate, and the monument library, which contains the published information about institutional themes, the records and manuscript collection provide information on the inner workings of the park as a whole. The archives may therefore contain such diverse elements as records of land acquisition, maps and drawings of monument improvements, resource management studies, copies of monument publications, films, and slide shows, the personal files of former monument employees, and field records related to specimen collection.

For the creation of the monument archives, it is necessary for the records manager and the collection manager to cooperate and work toward a common objective: the retention of the institutional memory of the monument as a whole. By emphasizing the team approach, the monument can best facilitate the logical and orderly movement of records and manuscripts from their point of origin, through processing, and into permanent locations for storage and use. Occasionally this team should also include the services of a professional archivist, who can assist in developing the overall form, structure, and use criteria for the collection. In this particular case, the MMP team suggests that the monument request the services of the archivist at the Western Archeological and Conservation Center in Tucson, Arizona.

Three primary National Park Service documents should guide the creation of the park archives:

- *Director's Order 19, Records Management* identifies what types of records must be destroyed or transferred to a Federal Records Center and sets the schedule for these activities.
- *Director's Order 28, Cultural Resource Management* outlines in broad terms the National Park Service policy covering the creation, management, and use of park records and manuscripts as part of a museum collection.
- The *NPS Museum Handbook*, Part II, Appendix D, contains specific instructions on methods to organize, manage, and use archival collections for the benefit of both staff and the general public.

During the visit to Fossil Butte National Monument, the MMP team identified approximately 26,000 individual items that must be evaluated for retention in the archives. A professional archivist should evaluate this collection and assess organization, storage, and duplication needs.

To obtain the funding necessary for this work, the monument should take the following steps:

- Accession the entire records collection under one initial accession number. As the archivist organizes the collection, add several more accession numbers, depending upon the natural groupings of record types.
- Ensure adequate documentation of this accession in the next annual Collection Management Report. This step will allow the park to request Backlog Cataloging funds and address the organization, cataloging, and duplication of this resource.
- Survey, catalog, and duplicate the collections. Provide the requisite number of media use points (microfiche reader/printers or computers with printers, for example) in designated use areas that are convenient to the staff and general public.
- Develop an adequate "follow-on" program designed to update the archives with new material from active files on a regular basis (3- to 5-year cycle). Program the necessary Cyclic Maintenance funds to underwrite this necessary work.

By adopting and following this methodology, the monument will be able to move the records and manuscripts that document monument resources and management activities from current files to an organized medium available for both NPS and public use.

Bibliography

Good museum management planning requires: an understanding of the library, archives, and museum collection resources as they currently exist; background on how and why these resources were developed; and information on what is required to preserve the resources and make them available for use. In order to accomplish these goals effectively, planners must first review monument-specific documentation such as reports, checklists, and plans; and then make recommendations based upon sound professional theory and techniques that are documented in the professional literature.

This bibliography brings together the references used in developing the museum management plan for Fossil Butte National Monument. The first section is the reference list of monument-specific documentation provided by the monument and used by the team to understand the current status of the resources. The second section includes a list of recommended readings that will provide the monument staff with a better understanding of the physical and intellectual nature of these unique resources, and will enable them to apply professionally accepted techniques and standards for preservation and use.

Park Reference List

- 1980 General Management Plan
- 1984 Interpretive Prospectus
- 1988 Developmental Concept Plan
- 1992 Position Description: Museum Technician (General) GS-05
- 1993 Fossil, Wyoming: A Trip Through Time and Memories. Fagnant, Marcia D., Dinosaur Nature Association
- 1995 Emergency Operations Plan
- 1995 Quarry Site Trenching & Investigation of Additional Sites

1996	Statement for Management
1998	Resource Management Plan
2000	Scope of Collections Statement
2000	Checklist for Preservation & Protection of Museum Collections
2000	Collection Management Report
2001	Position Description: Museum Specialist (Geology) GS-09
2001	Ia6 Evaluation of Long Term Goals for Museum Collections (GPRA)
2001	Organizational Chart
2001	PMIS Project Title List
2001	Fossil Lake Quarry Guidelines

Suggested Reading List

The skills and craft necessary to perform adequate curatorial work have expanded exponentially over the past three decades. Fortunately, the literature in the field has also expanded to meet program needs. The current National Park Service publications, *Museum Handbook*, the *Conserve O Gram* series, and *Tools of the Trade*, all provide basic guidelines. They provide information on certain tasks such as accessioning and cataloging, but they do not teach the neophyte when and/or why these tasks should be done. The proper application of the methodology presented in these documents requires a degree of intellectual preparation and practical experience that cannot be provided in procedural manuals or a two-week course.

The following references represent some of the best theory and practice in the fields of collections management, exhibits and programs, and archival management available today within the professional community. The MMP team does not suggest that the monument purchase a copy of each suggested reference, but it is possible to acquire copies of these volumes on interlibrary loan.

Managers and supervisors at Fossil Butte National Monument are encouraged to consider familiarity with the recognized literature in the field when evaluating prospective employees or, as an indication of continued professional growth, when doing performance evaluations. This familiarity

should be a determining factor for employment at the GS-7 series 1015 level and above. It should also serve as an indication of job interest and commitment to professionalism when overall work standards are evaluated.

Collection Management References

- American Association of Museums. *Caring for Collections: Strategies for Conservation, Maintenance and Documentation*. 1984. More than 60 curators, registrars, and conservators contributed information on how to improve environmental conditions, manage inventory, register objects, and augment public use of museum collections.
- Appelbaum, Barbara. *Guide to Environmental Protection of Collections*. Second View Press, 1991. Clarifies the various conditions that impact collections, how objects respond, and how to mitigate damage. Good book for the nonspecialist.
- Butcher-Youngmans, Sherry. *Historic House Museums: A Practical Handbook for Their Care, Preservation, and Management*. Oxford University Press, 1996. This book serves as both reference and hands-on guide for all aspects of historic house management, including collections care, conservation, security, and interpretation.
- Buck, Rebecca A. & Gilmore, Jean A., eds. *The New Museum Registration Methods*. American Association of Museums, 1998. This is a very well done update of the classic *Museum Registration Methods* by Dorothy Dudley and Irma Wilkinson (below). Good format and easy to reference, with up-to-date information sections concerning copyright, NAGPRA issues, and ethics.
- Committee on Libraries, Museums, and Historic Buildings. *Protection of Museums and Museum Collections 1980*. NFPA 911, Boston: National Fire Protection Association, Inc., 1980. One of the best sources on fire protection and prevention, written specifically for museums.
- Dudley, Dorothy H., et al. *Museum Registration Methods*. 3rd ed. American Association of Museums, 1979. Accepted as "the basic reference" for museum registrars, this classic covers registration, storage, and care, as well as insurance, packing and shipping, and loan management.
- Edwards, Stephen R., Bruce M. Bell, and Mary Elizabeth King. *Pest Control in Museums: A Status Report*. Lawrence, Kansas: Association of Systematic Collections, 1980. A good guide to pesticides, their use in museums, and common insect pests.

- Hensley, John R. "Safeguarding Museum Collections from the Effects of Earthquakes." *Curator*, September 1987, pp. 199-205.
- Hunter, John E. "Standard Practices for Handling Museum Objects." Omaha, Nebraska: National Park Service, Midwest Region. North Dakota.
- _____. "Standards for the Design, Installation, Testing, and Maintenance of Interior Intrusion Detection/Alarm System." Omaha, Nebraska: National Park Service, Midwest Region. 1981.
- Johnson, E. Verner and Joanne C. Horgan. *Museum Collection Storage*. Paris: UNESCO, 1979.
- Knell, Susan. *Care of Collections*. London: Routledge, 1994. Basic book on preventative conservation, focusing on specific and practical guidelines for collections care and handling.
- Leo, Jack. "How to Secure Your Museum: A Basic Checklist." *History News*, June 1980, pp. 10-12.
- Lewis, Ralph H. *Manual for Museums*. Washington, DC: National Park Service, Department of Interior, 1976.
- MacLeish, A. Bruce. *The Care of Antiques and Historical Collections*. Nashville, Tennessee: The American Association for State and Local History, 1983. A reference for general museum collection care.
- Malaro, H.C., *A Legal Primer on Managing Museum Collections*. Washington, DC: Smithsonian Institutional Press, 1985.
- Metsger, Deborah A. & Shelia C. Byers, eds. *Managing the Modern Herbarium: An Interdisciplinary Approach*. 1999. Society for the Preservation of Natural History Collections. Elton-Wolfe Publishing, Vancouver, Canada. First significant publication in decades on herbaria that covers all aspects of herbaria management.
- National Park Service. *Automated National Catalog System User Manual*. 1998.
- _____. *Conserve O Gram*. 1974 to present.
- _____. CRM, Volume 22, no. 2, 1999 "Archives at the Millennium."
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- _____. *NPS Museum Handbook, Part I: Museum Collections*. 1990 (revised).

- _____. NPS *Museum Handbook, Part II: Museum Records*. 2000.
- _____. NPS *Museum Handbook, Part III: Museum Collections Use*. 1998.
- _____. DO #19: *Records Management*. 2001.
- _____. NPS-19: *Records Management Guidebook*. 1999 Appendix B (only):
"Records Management Disposition Schedule."
- _____. DO #28: *Cultural Resources Management*. 1998.
- _____. NPS-77: *Natural Resources Management Guidelines*. 1991.
- _____. DO #24: *NPS Museum Collections Management*, 2000.
- _____. *Tools of the Trade*. 1996.

Olkowski, William and Sheila Daar and Helga Olkowski. *Common Sense Pest Control*. The Taunton Press, 1991. A very good IPM reference.

Reitherman, Robert. "Protection of Museum Contents from Earthquakes." The J. Paul Getty Museum Symposium on Protection of Art Objects from Damage by Earthquakes: What Can Be Done? 1984.

Rose, Carolyn and Amparo de Torres, eds. *Storage of Natural History Collections: Ideas and Practical Solutions*. Society for the Preservation of Natural History Collections, 1992. A good "idea" book containing several photographs and graphics detailing innovative solutions to the storage of various types of materials.

_____ & C.A. Hawks, et al. *Storage of Natural History Collections: A Preventive Conservation Approach*. 1995. Society for the Preservation of Natural History Collections.

Thomson, Garry. *The Museum Environment*. 2nd ed. London: Butterworths, 1986. An excellent source on light, humidity, and air pollution.

Thomson, John, et al. *Manual of Curatorship: A Guide to Museum Practice*. 2nd ed. London: Butterworths, 1992. Possibly the best comprehensive reference in print on the craft and professionalism required for curatorial work.

Weinstein, Robert A., et al. *Collection, Use and Care of Historical Photographs*. American Association for State and Local History, 1977. One of the best basic references on this technical subject.

Zycherman, Linda, ed. *A Guide to Museum Pest Control*. The Foundation of the American Institute for Conservation of Historic and Artistic Works, and the Association of Systematic Collections. A good, basic reference on pest identification, with suggestions for methods of control.

Exhibits and Programs References

American Association of Museums. "The Audience in Exhibition Development: Course Proceedings." *Resource Report*, 1992. A good guide to models of exhibition development; philosophy of education; learning theory; gender, culture, class and learning; spatial knowledge and its role in learning; evaluation; and visitor surveys.

Belcher, Michael. *Exhibitions in Museums*. Smithsonian Institution Press, 1992. Discusses every stage of exhibit planning, design, and presentation, including audience research and evaluation. A good resource book.

Dean, David. *Museum Exhibition: Theory and Practice*. London: Routledge, 1994. Outlines the full range of exhibition development concerns, from planning and design to evaluation and administration.

Falk, John and Lynn D. Dierking. *The Museum Experience*. Whalesback Books, 1992. Provides a good introduction to what is known about why people go to museums, what they do there, and what they learn. Guidelines and recommendations are offered to help museum staff understand visitors and their motivation for visiting.

Hooper-Greenhill, Eileen. *Museums and Their Visitors*. London: Routledge, 1994. The unique needs of school groups, families, and people with disabilities are outlined and illustrated with examples of exhibit, education, and marketing policies that work to provide a quality visitor experience.

Hooper-Greenhill, Eileen, ed. *The Educational Role of the Museum*. London: Routledge, 1994. A close look at the theories of communication in museums, exhibition theories and case studies, and educational programs in British museums, this book translates well into the American experience.

Korn, Randi and Laurie Sowd. *Visitor Surveys: A User's Manual*. American Association of Museums, 1990. A good, basic manual on how to conduct visitor surveys to accurately measure the effectiveness of museum exhibits and programs.

McLean, Kathleen. *Planning for People in Museum Exhibitions*. Association of Science-Technology Centers, 1993. Good description of the exhibition process, from planning to assessment.

New York Hall of Science. *Take to the Streets: Guide to Planning Outdoor, Public Exhibits*. 1995. Based on a series of sidewalk exhibits done in New York, this book contains checklists and guidelines for planning, designing, and implementing outdoor exhibits.

Neil, Arminta. *Help for the Small Museum*. Pruett Publishing Co. 1987. The second edition of the classic "how to" book for the development of temporary exhibits on a tight budget.

Serrell, Beverly. *Exhibit Labels: An Interpretive Approach*. Altamira Press, 1996. Solid reference tool, including discussions of label planning, writing, design, and publication. Contains very good resource list, glossary, and bibliography.

Witteborg, Lothar P. *Good Show! A Practical Guide for Temporary Exhibitions*. Smithsonian Institution Traveling Exhibition Service, 1991. The second edition of a standard reference offering practical guidance in exhibit planning, design, fabrication, security, conservation, and installation.

Archives Management References

Aourada, Stephen. *Archives and Manuscript Materials in Parks of the North Atlantic Region*. National Park Service, 1992.

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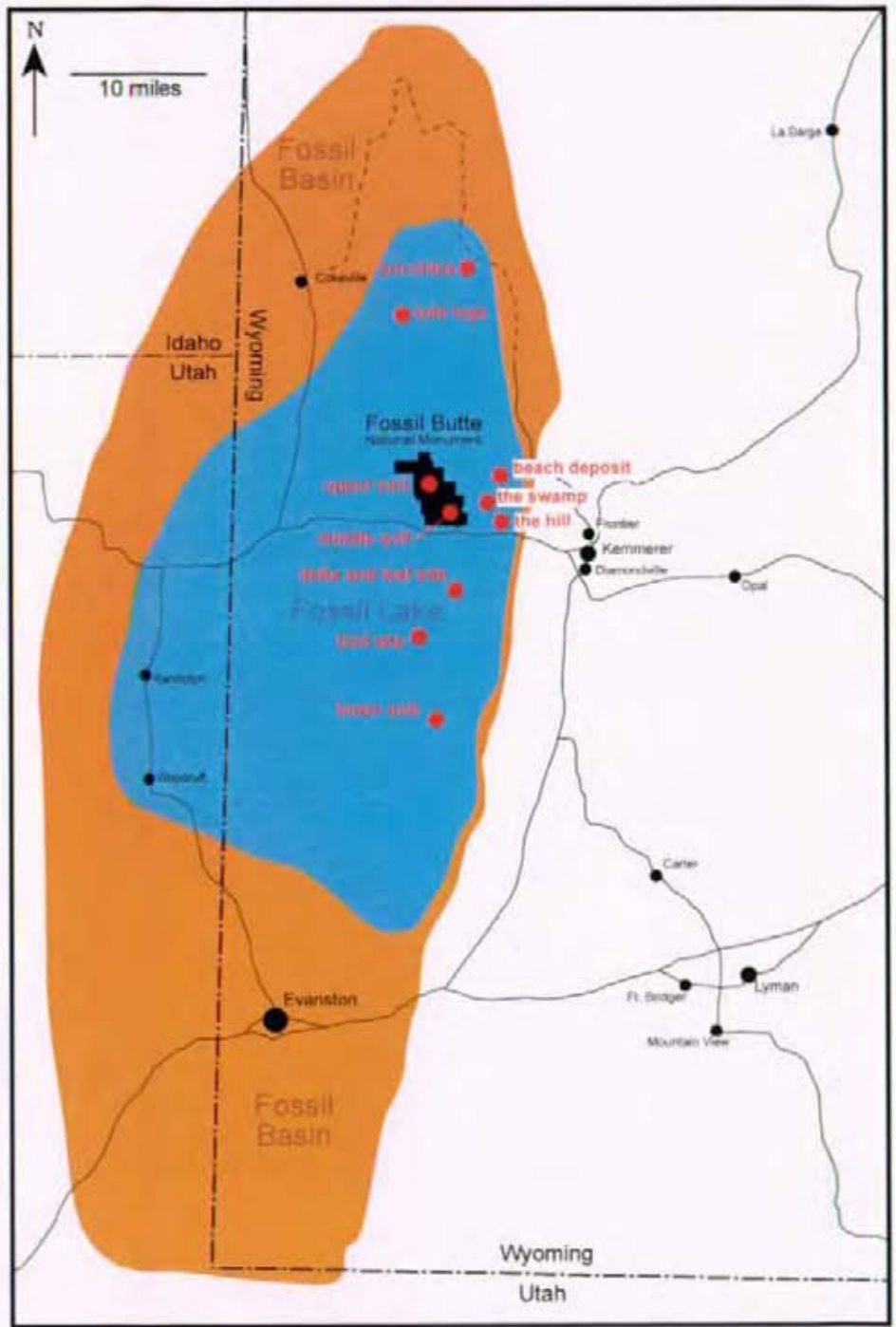
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† Significant Fossil Basin Sites

← Time Scale

