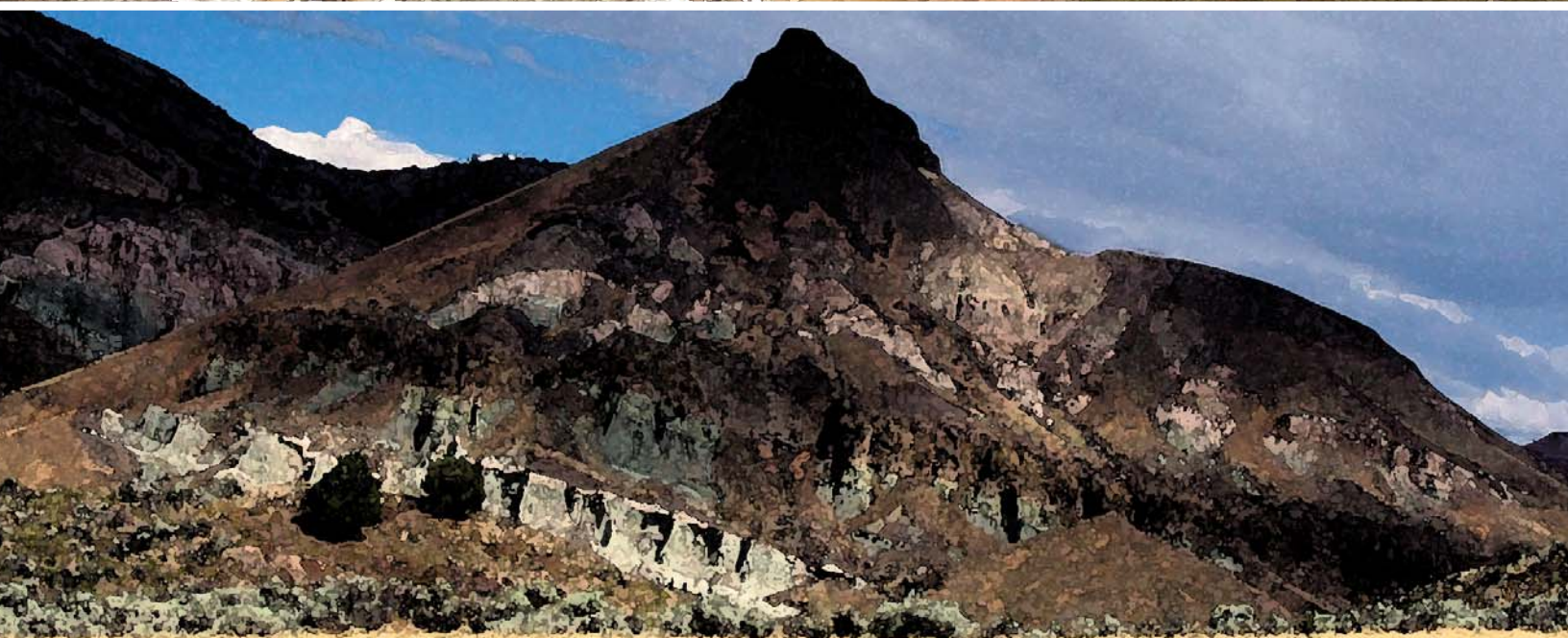


National Park Service
U.S. Department of the Interior

John Day Fossil Beds National Monument • Oregon

General Management Plan

May 2009





Clarno Unit is located 18 miles southwest of the town of Fossil. It contains 1,969 acres and includes trails and a picnic area. The most prominent natural feature is the towering Clarno Palisades, which are a series of sharp cliffs up to 150 feet high formed by a series of prehistoric mud flows.



Painted Hills Unit is located 9 miles northeast of the town of Mitchell. It contains 3,129 acres and includes trails, a scenic overlook, a picnic area, and information exhibits. The most prominent natural feature is a series of multi-colored hills and ridges derived from exposed paleosols.



Sheet Rock Unit contains three parcels of land (8,916 acres) northeast of Dayville. This unit contains the Thomas Condon Paleontology Center, the 200-acre James Cant Ranch Historic District, trails, picnic areas, scenic overlooks, and information exhibits. Prominent natural features include Picture Gorge, Sheep Rock, Goose Rock, Blue Basin, and Cathedral Rock.

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John Day Fossil Beds National Monument
Oregon

General Management Plan

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*“...no region in the world shows
more complete sequences of Tertiary
land population, both plant and
animal than the John Day Basin.”*

R..W. Chaney,
Paleobotanist

View from the Clarno Unit.

INTRODUCTION

John Day Fossil Beds National Monument, located in east central Oregon in Grant and Wheeler counties, was authorized in 1974 and established in 1975. It encompasses 14,000 acres in the John Day River valley. The monument features sedimentary rocks that contain a plant and animal fossil record spanning 40 million years of the Age of Mammals.

The monument is geographically dispersed over three widely separated units: the Clarno Unit, the Painted Hills Unit, and the Sheep Rock Unit. All three units provide a variety of opportunities for recreation and study and serve to introduce the paleontological story of the much larger basin to the public.

This new management plan for John Day Fossil Beds National Monument is needed because the last comprehensive planning effort for the national monument was completed in 1979 and much has occurred since then. Those changes include the following: private land within the authorized boundary of the Clarno Unit was acquired; a new visitor/paleontology center was built; visitation has increased; monument staff and researchers have learned much more about the significance of the monument's resources; and National Park Service (NPS) staff are now coordinating paleontological research, collection, and curation on all federal lands throughout the John Day Basin. Each of these changes has major implications for the management of the monument.

This approved general management plan will be the basic document for managing John Day Fossil Beds National Monument for the next 15 to 20 years. The purposes of this general management plan are as follows:

- Provide a realistic vision for the monument's future, setting a direction for the monument that considers the environmental as well as the financial impact of proposed facilities and programs.
- Establish a common management direction for all monument divisions and units.
- Clearly define resource conditions and visitor uses and experiences to be achieved in the monument.
- Provide a framework for monument managers to use when making decisions about how to best protect monument resources, how to provide quality visitor uses and experiences, how to manage visitor use, and what kinds of facilities, if any, to develop in or near the monument.

The planning effort was designed to ensure that the plan was developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of John Day Fossil Beds National Monument (and other units and programs of the national park system). This general management plan started with these laws and with the legislation that established John Day Fossil Beds National Monument, and built on them to create a vision for the monument's future. This general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions will be addressed in future more-detailed planning efforts. All future plans will tier from this approved general management plan.

The implementation of this plan will depend on future NPS funding levels and Servicewide priorities, and on partnership funds, time, and effort. The approval of this general management plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the plan could be many years in the future.

THE PLAN

Under this plan, management will focus on protecting natural and cultural resources and increasing visitor opportunities with new trails and limited new facilities. In an effort to minimize human impacts within the monument, visitors will be encouraged to use existing designated trails. While many unofficial human-created trails will be eliminated, several throughout the monument will be designated as official trails, with accompanying improvements where needed.

The resource management program will maintain existing research programs and facilities while expanding educational and interpretive activities concerning the environment, paleontology, and geology. The mammal quarry in the Clarno Unit will be opened for research and interpretation.

Monument staff will focus on gaining a greater understanding of the monument's paleontological resources through expanded research. In an effort to expand monument collections, staff will seek more partnerships with other research institutions and museums while expanding the permanent and volunteer research staff at the monument.

The National Park Service will pursue a land exchange with an adjacent private landowner and the Bureau of Land Management around Cathedral Rock in the Sheep Rock Unit. This land exchange, covering about 100 acres, would protect a key geologic feature and important riparian habitat along the John Day River.



Painted Hills.

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Blue Basin, Sheep Rock Unit.

INTRODUCTION

GENERAL MANAGEMENT PLANNING

This *John Day Fossil Beds National Monument General Management Plan* was developed based on the monument's *Draft General Management Plan/Environmental Assessment*, which was published in September 2008. This final plan does not include all of the chapters and NEPA compliance text that was included in the environmental assessment. Specifically, "Affected Environment" (chapter 3 of the draft plan), "Environmental Consequences" (chapter 4 of the draft plan), and the alternatives that were considered in the environmental assessment (chapter 2 of the draft plan) are not included in this final plan. (For these details, see the *Draft General Management Plan/Environmental Assessment*.)

The purpose of a general management plan is to ensure that a national park system unit (park unit) has a clearly defined direction for resource preservation and visitor use that will best achieve the NPS mandate to preserve resources unimpaired for the enjoyment of future generations. In addition, general management planning makes the National Park Service more effective, collaborative, and accountable by

- providing a balance between continuity and adaptability in decision making. This defines the desired conditions to be achieved and maintained in a park unit and provides a touchstone that allows NPS managers and staff to constantly adapt their actions to changing situations while staying focused on what is most important about the park unit.
- analyzing the park unit in relation to its surrounding ecosystem, cultural setting, and community. This helps NPS managers and staff understand how the park unit can interrelate with neighbors and others in ways that are ecologically, socially, and economically sustainable. Decisions made within such a larger context are more likely to be successful over time.
- affording everyone who has a stake in decisions affecting a park unit an opportunity to be involved in the planning process and to influence and understand the decisions that are made. Park units are often the focus of intense public interest. Public involvement throughout the planning process provides focused opportunities for NPS managers and staff to interact with the public and learn about public concerns, expectations, and values. Public involvement also provides opportunities for NPS managers and staff to share information about the park unit's purpose and significance, as well as opportunities and constraints for the management of park unit lands.

The ultimate outcome of general management planning for park units is an agreement among the National Park Service, its partners, and the public on why each area is managed as part of the national park system, what resource conditions and visitor experience should exist, and how those conditions can best be achieved and maintained over time.

Actions identified by general management plans or in subsequent implementation plans may be accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities may preclude implementation of many actions. Major or especially costly actions could be implemented 10 or more years in the future.

This document focuses on 1) the foundation of general management planning (e.g., purpose of and need for a plan, the monument's purpose and significance, NPS mandates and policies, and issues and concerns for the plan); and 2) the plan the National Park Service will implement at John Day Fossil Beds National Monument (including management zones and management directions that will be followed in specific parts of the monument). A list of preparers, the finding of no significant impacts (FONSI), the decision document signed by the Pacific West regional director approving the plan (appendix A), a copy of the monument's enabling legislation (appendix B), the Analysis of Boundary Adjustment and Land Protection Criteria (appendix C), and copies of agency consultation letters (appendix D) are included in this final plan.

PURPOSE OF AND NEED FOR THE PLAN

Purpose of the Plan

This *General Management Plan* will be the basic document for managing John Day Fossil Beds National Monument for the next 15 to 20 years. The purposes of this management plan are as follows:

- provide a realistic vision for the monument's future, setting a direction for the monument that considers the environmental as well as the financial impact of proposed facilities and programs.
- establish a common management direction for all monument divisions and units.
- clearly define resource conditions and visitor uses and experiences to be achieved in the monument.
- provide a framework for monument managers to use when making decisions about how to best protect monument resources, how to provide quality visitor uses and experiences, how to manage visitor use, and what kinds of facilities, if any, to develop in or near the monument.

- ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of John Day Fossil Beds National Monument (and other units and programs of the national park system). This *General Management Plan* started with these laws, and the legislation that established John Day Fossil Beds National Monument, and built on them to create a vision for the monument's future. The management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions will be addressed in future detailed planning efforts.

Need For the Plan

A new management plan for John Day Fossil Beds National Monument was needed because the last comprehensive planning effort for the national monument was completed in 1979 and much has occurred since then. In 1999, 1,000 acres of private land within the authorized boundary of the Clarno Unit were acquired, and a new visitor/paleontology center was recently constructed. In addition, since 1979 visitation has increased, monument staff and researchers have learned much more about the significance of the monument's resources, and NPS staff are now coordinating paleontological research, collection, and curation on all federal lands throughout the John Day Basin. Each of these changes has major implications for how visitors access and use the monument and the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations. Furthermore, most of the issues and action items identified in the 1979 plan have been addressed or completed, so a new plan is needed.

IMPLEMENTATION OF THE PLAN

The implementation of this plan will depend on future funding. The approval of this plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the actions in the approved *General Management Plan* could be many years in the future.

The implementation of the approved plan also could be affected by other factors, such as changes in NPS staffing, visitor use patterns, and unanticipated environmental changes. Additional feasibility studies and more detailed planning, environmental documentation, and consultations will be completed, as appropriate, before certain actions can be carried out. For example,

- additional environmental documentation may need to be completed
- appropriate permits may need to be obtained before implementing actions
- appropriate federal and state agencies will need to be consulted concerning actions that could affect threatened and endangered species
- Native American tribes and the State Historic Preservation Officer will need to be consulted, as appropriate, on actions that could affect cultural resources

Future program and implementation plans, describing specific actions that managers intend to undertake and accomplish in the monument, will tier from the desired conditions and long-term goals set forth in this general management plan.

BRIEF DESCRIPTION OF THE MONUMENT

The monument, located in east central Oregon in Grant and Wheeler counties, was authorized in 1974 (PL 93-486; see appendix B) and established in 1975. It encompasses 14,000 acres in the John Day River valley (see figure 1: Vicinity map).

Eastern Oregon holds many unexpected elements: pine-forested mountains, glades

that preserve tall native grasses and wildflowers, deep canyons, trout streams, and small coves of pinnacled badlands. Badlands are steep, barren (non-vegetated) lands that are dissected by many intermittent drainage channels. Intriguing, too, are the area's hidden landscapes—the fossil remains of the jungles, savannas, and woodlands that once flourished here. The 20 square miles of John Day Fossil Beds National Monument feature sedimentary rocks that hold a plant and animal fossil record spanning 40 million years of the Age of Mammals.

Due to the rain shadow effect of the Cascade and Ochoco Mountains to the west, the area has a semi-arid climate. Elevations range between 2,000 and 4,500 feet above sea level. Average annual precipitation is approximately 14 inches, with much of that coming in the spring as rainfall. The area receives little snowfall at the lower elevations.

Numerous creeks in the area flow into the John Day River, which is a major tributary of the Columbia River and the longest undammed river that flows into the Columbia River today. The natural erosion processes associated with the area's waterways have created features that have exposed the monument's vast fossil record.

The monument is geographically dispersed over three widely separated units: the Clarno Unit, the Painted Hills Unit, and the Sheep Rock Unit (see figure 1: Vicinity map). All three units provide a variety of opportunities for recreation and study.

The Clarno Unit is located 18 miles southwest of the town of Fossil on State Highway 218. It contains 1,969 acres and includes trails and a picnic area. The most prominent natural feature is the towering Clarno Palisades, which are a series of sharp cliffs up to 150 feet high formed from a series of prehistoric volcanic mud flows. The Hancock Field Station, owned and operated by the Oregon Museum of Science and Industry, is located on private land within the Clarno Unit.

The Painted Hills Unit is located 9 miles northwest of the town of Mitchell. It contains 3,129 acres and includes trails, a scenic overlook, a picnic area, and informational exhibits. The most prominent natural feature is a series of multi-colored hills and ridges derived from exposed paleosols.

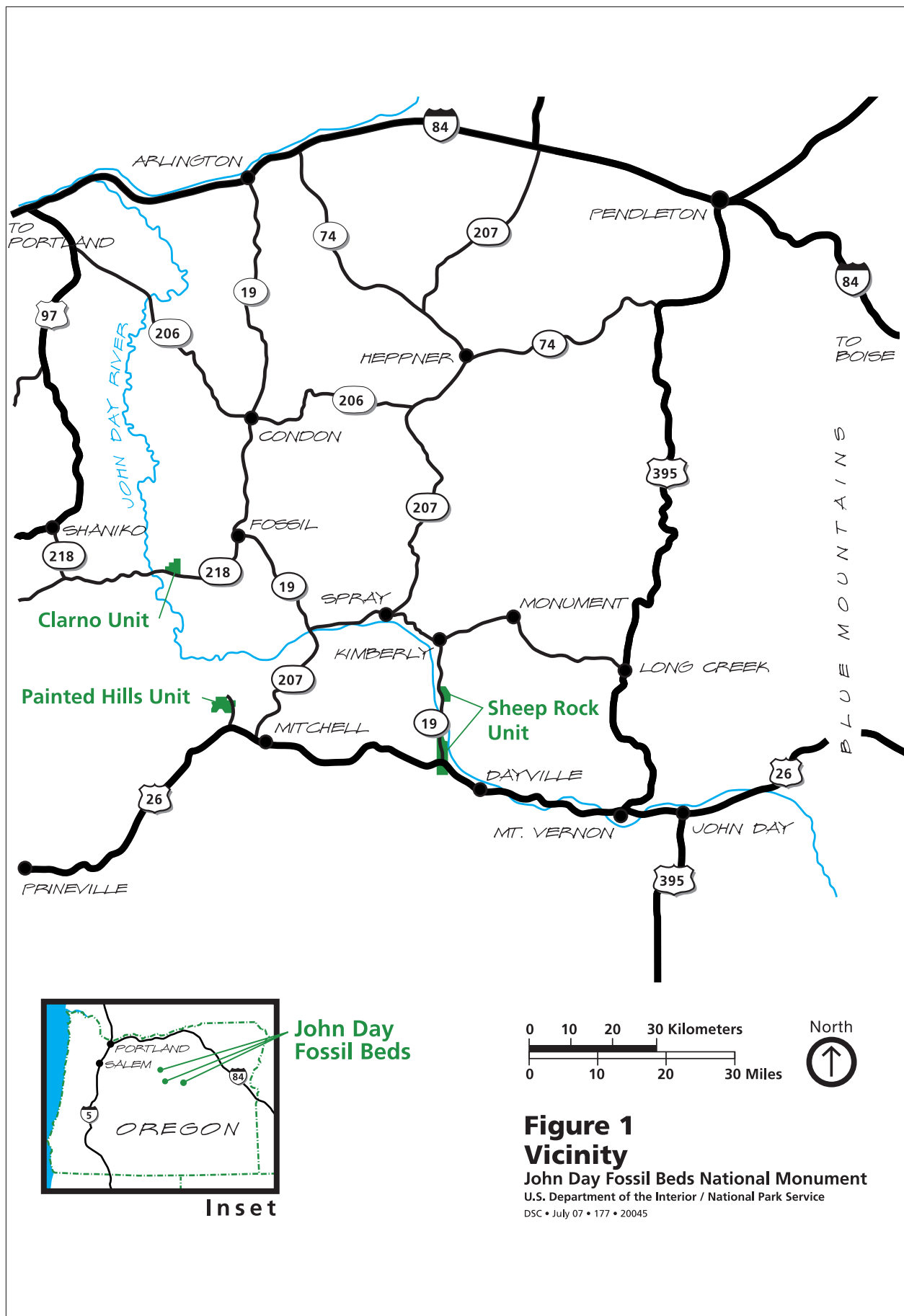
The Sheep Rock Unit contains three parcels of land (totaling 8,916 acres) situated along State Highway 19 northwest of Dayville. This unit contains the Thomas Condon Paleontology Center, the 200-acre James

Cant Ranch Historic District, trails, picnic areas, scenic overlooks, and information exhibits. Prominent natural features include Picture Gorge, Sheep Rock, Goose Rock, Blue Basin, and Cathedral Rock. The unit is bisected by the John Day River.

Visitation to the monument has averaged about 110,000 visits per year, with a high of 134,710 in 1989 and a low of 74,800 in 1976. Visitation in 2007 was just under 125,000 (NPS 2008).



Historic Barn, Sheep Rock Unit.





Painted Cove, Painted Hills Unit.

GUIDANCE FOR THE PLANNING EFFORT

PURPOSE AND SIGNIFICANCE

Purpose

Purpose statements are based on the monument's legislation and legislative history and NPS policies. The statements reaffirm the reasons for which the John Day Fossil Beds National Monument was set aside as a unit of the national park system and provide the foundation for its management and use.

The purpose of John Day Fossil Beds National Monument is

to preserve, and provide for the scientific and public understanding of the paleontological resources of the John Day region, and the natural, scenic, and cultural resources within the boundaries of the national monument.

Significance

Significance statements capture the essence of the monument's importance to our country's natural and cultural heritage. Significance statements do not inventory monument resources; rather, they describe the monument's distinctiveness and help to place the monument within a regional, national, and international context. Significance statements answer questions such as "Why are John Day Fossil Beds National Monument's resources distinctive?" and "What do they contribute to our natural or cultural heritage?" Defining the monument's significance helps managers make decisions that preserve the resources and values necessary to accomplish the monument's purpose.

For John Day Fossil Beds National Monument, primary and other significance statements were created to better articulate the relative significance of the monument's resources. Elements of primary significance are most important: they include the essential components of why the monument was established. Elements of other significance contribute to and complement the primary

elements and help the National Park Service fulfill its mission of resource preservation and public enjoyment. Both are important and together support the purpose of the monument.

The significance statements are as follows:

Primary Significance

- The John Day region contains one of the longest and most continuous Tertiary records of evolutionary change and biotic relationships in the world; this outstanding fossil record heightens our understanding of earth history. John Day Fossil Beds National Monument contains a concentration of localities that are a major part of that record.
- The John Day region is one of the few areas on the planet with numerous well-preserved and ecologically diverse fossil biotas that are entombed in sedimentary layers and are found in close proximity with datable volcanic rocks; these biotas span intervals of dramatic worldwide paleoclimatic change.

Other Significance

- John Day Fossil Beds National Monument contains regionally representative scenic, natural and cultural landscapes—notably, the James Cant Ranch Historic District, which represents the history of sheep ranching in the region.

FUNDAMENTAL RESOURCES AND VALUES

Fundamental resources and values are systems, processes, features, visitor experiences, stories, scenes, etc. that warrant special consideration during planning and management because they are critical to achieving the monument's purpose and maintaining its significance.

Fundamental and other important resources and values, which are linked directly to the significance statements, are as follows.

Fundamental Resources and Values

- John Day Fossil Beds National Monument contains important geological formations that contain fossil-bearing sedimentary strata, fossil soils, and numerous datable volcanic rock layers. Special paleontological resources include vertebrate, botanical, and invertebrate fossils; conformable layers of rocks (strata); fossil localities; datable ash layers; and identified paleosol units.
- The paleontology museum, archives, databases, and library collections at John Day Fossil Beds National Monument allow scientists to conduct important paleontological research on the history of life on planet Earth during the past 40 million years.

Other Important Resources and Values

- The colorful and diverse landscape presents scenic and educational features and vistas. Examples of these scenic resources are found in Sheep Rock, Painted Hills, Cathedral Rock, Picture Gorge, Blue Basin, Foree, and the Clarno Palisades.
- The ecosystem of the monument contains examples of protected, regionally representative, native plant and animal species.
- The John Day River and its tributaries are valued resources for
 - ♦ their position and integrity within the Columbia River system
 - ♦ habitat for threatened and endangered species
 - ♦ free flowing water important to anadromous fish
 - ♦ recreation
 - ♦ water quality and quantity
 - ♦ fisheries
 - ♦ important hydrological resources within the near desert ecosystem
 - ♦ tribal interest in traditional use
 - ♦ riparian area habitat
- Archeological sites and pictographs are valued for their association with and representation of the cultural heritage of American Indians and others.
- The James Cant Ranch Historic District, listed on the National Register of Historic

Places, contains irrigated bottomlands, corrals, buildings, and landscape characteristics within the Sheep Rock Unit. It is valued for its intact cultural landscape that represents ranching history.

INTERPRETIVE THEMES

Interpretive themes are the key stories, concepts, and ideas of the monument. They form the basis that NPS staff will use for educating visitors about the monument and for inspiring visitors to care for and about the monument's resources. Using these themes, visitors can form intellectual and emotional connections with monument resources and experiences.

Interpretive themes are based on the monument's purpose and significance, and fundamental and other important resources and values. Primary and secondary interpretive themes have been developed.

Primary Interpretive Themes

- At John Day Fossil Beds National Monument
 - ♦ there are great numbers of fossils
 - ♦ there is a great diversity of fossils
 - ♦ the fossils are very well preserved
 - ♦ the fossils represent an unusually long time span
 - ♦ the fossils are datable

Thus, it is a wonderful place to study earth history.

- The large sequence of fossil biotas and paleosols in the John Day region shows us that climate and life are intrinsically linked and continually changing.
- There are multiple, well-preserved fossil assemblages in the John Day region that represent over 40 million years of the earth's history and may be dated with great accuracy.

Secondary Interpretive Theme

- The landscape and people of the John Day region have been shaped by many factors; a major influence was sheep ranching, which was economically very important to

the John Day region in the early 20th century.

SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS

Special mandates and administrative commitments refer to monument-specific requirements. These formal agreements are often established concurrently with the creation of a unit of the national park system. The legislative and administrative constraints for John Day Fossil Beds National Monument include the following.

Lands

PL 93-486, passed on October 26, 1974, contained a provision that limited acquisition of privately owned lands to a total of 1,000 acres. However, PL 95-625, which was passed on November 10, 1978, amended the 1974 Act by deleting that provision. Therefore, currently there is no limitation on the amount of privately owned lands within the boundary of the monument that could be acquired.

Visitor Center

PL 93-486 contained a requirement that “the principal visitor center shall be designated as the ‘Thomas Condon Visitor Center.’ ” The visitor center was completed in 2004 and was named the Thomas Condon Paleontology Center.

Access Easement

According to the final judgment issued by Circuit Judge J.A. Campbell in Case No. 2250, an easement must be reserved for the purposes of transporting cattle and equipment across monument lands in the Painted Hills Unit. The reservation applies to the west half of Section 36, T10S, R20E (except the SW quarter of the SW portion of said Section) and along County Road No. 538 for a distance of 60 feet on each side of the road centerline.

Hancock Field Station

The Hancock Field Station is located on a 10-acre parcel of private land within the Clarno Unit. The land and facilities are owned by the Oregon Museum of Science and Industry

(OMSI) and are used for research and educational purposes. A formal agreement (General Agreement No. G9325070006) between the museum and the National Park Service was executed on May 5, 2007 and is effective for five years beginning June 1, 2007. The agreement authorizes certain OMSI activities on monument lands, provides for access to the Hancock Field Station across monument lands, and addresses the provision of potable water to the field station by the National Park Service. The agreement also includes a Permit of Right-of-Way (RW9325-91-001A1) that allows the museum to maintain existing water lines across monument lands. This permit was originally issued on June 12, 1991, and renewed ten years later. It will expire on June 12, 2011.

Federal Interagency Agreements

The National Park Service has a 2006 interagency agreement with the Bureau of Land Management and the U.S. Forest Service that provides for NPS staff to conduct inventories on lands administered by these agencies in the John Day Basin, and to store their fossils in the monument’s repository.

AMERICAN INDIAN RELATIONS

The monument staff enjoys good relations with its traditionally associated American Indian neighbors: the Burns Paiute Tribe, the Umatilla Confederated Tribes, and the Warm Springs Confederated Tribes. These three American Indian governments have legal and cultural interests that may require special consideration in monument management.

The Burns Paiute Tribe has an interest in the three units of the monument because the units are within the aboriginal territory of the Northern Paiute people of which the tribe is a part (Zucker, Hummel, and Hogfoss 1987).

The Treaty with the Wallawalla, Cayuse, et cetera, 1855 established the Umatilla Indian reservation and delineated certain ceded lands. The monument is not located within the ceded lands of the present-day

Confederated Tribes of the Umatilla; however, they do have interests in central Oregon as these lands were where ancestors of certain constituent groups traveled from time to time (Mark 1996; Zucker, Hummel, and Hogfoss 1987).

The Treaty with the Tribes of Middle Oregon, 1855 established the Warm Springs Reservation and delineated certain ceded lands. The three units of the monument are located within those ceded lands of the present-day Confederated Tribes of the Warm Springs (Mark 1996; Zucker, Hummel, and Hogfoss 1987).

The two treaties mentioned above reserved the right for American Indians on ceded lands off of each reservation, to continue certain subsistence activities, including “the privilege of hunting, gathering roots and berries, and pasturing their stock on unclaimed lands, in common with [United States] citizens.” The treaties also reserved, off the reservation and outside the ceded lands, an exclusive right for American Indians “to take fish in the streams running through and bordering said reservation...and at all other usual and accustomed stations in common with citizens of the United States, and of erecting suitable buildings for curing the same.”

The National Park Service recognizes the validity of existing treaty rights. The monument staff is committed to consulting with tribal governments on issues of concern and maintaining positive relations.

WILDERNESS ELIGIBILITY

The Wilderness Act and NPS *Management Policies 2006* (§6.2.1, NPS 2006) require that all lands administered by the National Park Service be evaluated for their eligibility for inclusion within the national wilderness preservation system.

Portions of John Day Fossil Beds National Monument in the Sheep Rock and Painted Hills units meet most of the criteria for

wilderness designation, but do not meet the size criterion: standing on their own, these areas are not big enough to provide visitors with opportunities for solitude or primitive and unconfined recreation. They are smaller in size than the areas envisioned to be designated as wilderness under the Wilderness Act. However, these lands are adjacent to Bureau of Land Management (BLM) lands that were recently evaluated by the BLM and, although unroaded, were found not to possess wilderness character due to previous logging activities. The proposed management zoning of these lands by the BLM is compatible with adjacent management of the NPS lands. The BLM will reevaluate the subject lands every five years to assess their wilderness character. Recognizing the wilderness characteristics of the NPS lands, these lands have been included in management zones (i.e., primitive and backcountry zones) that will continue to protect these areas’ existing wilderness qualities. No actions within this plan will be inconsistent with or jeopardize possible future designation of the areas, in combination with the adjacent BLM lands, as wilderness.

SERVICEWIDE LAWS AND POLICIES

This section identifies what must be done at John Day Fossil Beds National Monument to comply with federal laws and policies of the National Park Service. Many monument management directives are specified in laws and policies guiding the National Park Service and therefore are not subject to alternative approaches. For example, there are laws and policies about managing environmental quality, such as the Clean Air Act, the Endangered Species Act, and Executive Order 11990, “Protection of Wetlands”; laws governing the preservation of cultural resources and cultural values, such as the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act; and laws about providing public services, such as the Americans with Disabilities Act—to name only a few. In other words, a general management plan is not

needed to decide, for instance, that it is appropriate to protect endangered species, control nonnative species, protect archeological sites, conserve artifacts, or provide for universal access—laws and policies already require the National Park Service to fulfill these mandates. The National Park Service will continue to strive to implement these requirements with or without a new general management plan.

Some laws and executive orders are applicable solely or primarily to units of the national park system. These include the 1916 Organic Act that created the National Park Service; the General Authorities Act of 1970; the National Parks and Recreation Act of 1978, relating to the management of the national park system; and the National Parks Omnibus Management Act (1998). Other laws and executive orders, such as those addressing environmental quality, have much broader application.

The NPS Organic Act (16 USC § 1) provides the fundamental management direction for all units of the national park system:

[P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The National Park System General Authorities Act (16 USC § 1a-1 et seq.) affirms that while all national park system units remain “distinct in character,” they are “united through their interrelated purposes and resources into one national park system as cumulative expressions of a single national heritage.” The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the system. Further, amendments state that NPS management of park units should not “derogat[e]...the purposes and values for which these various areas have been established.”

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in a guidance manual entitled *NPS Management Policies 2006*. The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies.

Table 1 shows some of the most pertinent servicewide laws and policy topics related to planning and managing John Day Fossil Beds National Monument. For each topic there are a series of desired conditions that the NPS staff is striving to achieve for that topic. Thus the table is written in the present tense. In addition, the table cites the law or policy behind these desired conditions, and gives examples of the types of actions being pursued by NPS staff.



Painted Hills Unit.



Blue Basin, Sheep Rock Unit.

Table 1: Servicewide Laws and Policies Pertaining to John Day Fossil Beds National Monument

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Relations with Private and Public Organizations, Owners of Adjacent Land, and Government Agencies	The NPS <i>Management Policies 2006</i> (§1.6) stresses the need for cooperative conservation beyond park boundaries. This is necessary in order for the National Park Service to fulfill its mandate to preserve the natural and cultural resources unimpaired for future generations. Local and regional cooperation may involve other federal agencies, tribal, state, and local governments, neighboring landowners, and nongovernmental and private sector organizations. The Bureau of Land Management administers public lands that are adjacent to all three units of the monument. Private landowners also have lands adjacent to the units. Desired Conditions: John Day Fossil Beds National Monument is managed as part of a greater ecological, social, economic, and cultural system. Good relations are maintained with adjacent landowners, such as the Bureau of Land Management, surrounding communities, and private and public groups that affect, and are affected by, the monument. The monument is managed proactively to resolve external issues and concerns and ensure that monument values are not compromised. Because the monument is an integral part of a larger regional environment, the National Park Service works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect national monument resources, and address mutual interests in the quality of life for community residents. Regional cooperation involves federal, state, and local agencies, American Indian tribes, neighboring landowners, and all other concerned parties. Strategies: NPS staff would continue to establish and foster partnerships with public and private organizations to achieve the purposes and missions of John Day Fossil Beds National Monument. Partnerships would continue to be sought for resource protection, research, education, and visitor enjoyment purposes. To foster a spirit of cooperation with neighbors and encourage compatible adjacent land uses, NPS staff would continue to keep landowners, land managers, local governments, and the public informed about management activities. Periodic consultations would continue with landowners who might be affected by visitors and management actions. NPS staff would continue to respond promptly to conflicts that arise over NPS activities, visitor access, and proposed activities and developments on adjacent lands that could affect John Day Fossil Beds National Monument. NPS staff may provide technical and management assistance to landowners to address issues of mutual interest. NPS staff would continue to work closely with adjacent landowners, local, state, and federal agencies, and tribal governments whose programs affect, or are affected by, activities in John Day Fossil Beds National Monument. NPS

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Government-to-Government Relations with American Indian Tribes	managers would continue to pursue cooperative regional planning whenever possible to integrate the monument into issues of regional concern. The Presidential Memorandum of April 29, 1994, Executive Order 13175, and Executive Order 13007 (Indian Sacred Sites), a variety of federal statutes (e.g., National Historic Preservation Act), and NPS <i>Management Policies 2006</i> (§1.11.1) call for the National Park Service to maintain a government-to-government relationship with federally recognized tribal governments. The Confederated Tribes of the Warm Springs Reservation are affiliated with John Day Fossil Beds National Monument as are the Burns Paiute Tribe and the Umatilla Confederated Tribes. Desired Conditions: The National Park Service and tribes culturally affiliated with the monument maintain positive, productive, government-to-government relationships. Monument managers and staff respect the viewpoints and needs of the tribes, continue to promptly address conflicts that occur, and consider American Indian values in monument management and operation. Strategies: NPS staff would continue to meet and communicate with tribal officials to identify problems and issues of mutual concern and interest, and work together to take actions to address these concerns. Tribal officials would continue to be kept informed of planning and other actions in John Day Fossil Beds National Monument that could affect the tribes. When appropriate, NPS staff would provide technical assistance to the tribes, including sharing information and resources, to address problems and issues of mutual concern. NPS staff would continue to recognize the past and present existence of native peoples in the region and the traces of their land use and occupation as an important part of the cultural environment to be researched, preserved, and interpreted, if appropriate. NPS staff would consult with the tribes traditionally associated with the monument, including the Burns Paiute Tribe, the Umatilla Confederated Tribes, and the Warm Springs Confederated Tribes, to develop and accomplish the programs of John Day Fossil Beds National Monument in a way that respects the beliefs, traditions, and other cultural values of the tribes with ties to monument lands. NPS staff would accommodate access to traditionally used areas, once identified through further consultation and research, in ways consistent with monument purposes and American Indian values, and that avoid adversely affecting the physical integrity of such sites and resources. NPS staff would conduct appropriate ethnographic, ethnohistorical, or cultural anthropological research in conjunction with, and in cooperation with, American Indian tribes traditionally associated with the monument and cooperate as appropriate in light of law and policy with any continuation of subsistence activities.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Relations with Nearby Communities (e.g., Fossil, John Day, Dayville, Mitchell)	As noted earlier, the NPS <i>Management Policies 2006</i> (§1.6) stresses the need for cooperative conservation beyond park boundaries. The cooperation includes working with nearby communities. Desired Conditions: NPS staff maintain close working relationships with nearby communities. NPS staff and local officials maintain a high level of trust and goodwill. Local officials feel they have an important stake in the monument, and NPS staff feel they have an important stake in the local communities. NPS managers are familiar with local issues and concerns. Strategies: NPS staff would communicate and meet with local officials to identify problems and concerns facing the communities and the monument, and actions that can be taken to address these problems and concerns. Local officials would be kept informed of planning and other actions in the monument that could affect the communities. NPS staff would continue to work with local law enforcement, emergency services, and community education programs, as appropriate. When appropriate, the NPS staff would provide technical and management assistance to local communities, including sharing information and resources, to address problems and issues of mutual interest; such as the spread of nonnative, invasive species. NPS staff would continue to be involved in community-based efforts.
Relations with the Hancock Field Station	The Oregon Museum of Science and Industry (OMSI) has operated the Hancock Field Station for over 50 years—from a time well before the establishment of the monument. It is on 10 acres of land within the Clarno Unit. The field station consists of 30 structures, including cabins, restrooms, a dining hall, and laboratories/ classrooms. The field station is open to students for nine months of the year. On average, 3,000 students annually attend sessions, taking classes on a variety of subjects, such as paleontology, geology, botany, archeology, and astronomy. Desired Conditions: The National Park Service continues to maintain its partnership with the Hancock Field Station, working together to achieve the field station's education mission while also preserving and protecting the monument's resources and values. The field station plays an important role in achieving conservation goals in the monument, and provides valuable assistance to monument staff through educational programs, resource restoration, and scientific research. Field station staff and participants connect with the monument, appreciate and respect its resources, and commit themselves to long-term stewardship. Strategies: NPS staff would continue to periodically meet with field station staff to address opportunities and issues of mutual interest (e.g., trail access in the Clarno Unit). The National Park Service would continue to provide water to the field station. The field station would make significant efforts to minimize its water use

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Relations with the Hancock Field Station (continued)	through low-flush toilets, low-flow showerheads, and xeriscaping. The field station would work with NPS staff to restore areas that have been disturbed in the past by people. The field station and NPS staff would continue to share information regarding research and inventory work. Field station participants work with researchers in the monument, as appropriate.
	Natural Resources
Paleontological Resources	John Day Fossil Beds National Monument is world renowned for its fossil resources. This remarkably complete record spans more than 40 of the 65 million years of the Cenozoic Era (the "Age of Mammals and Flowering Plants"). Research has been active in the monument since the 1860s, and continues today. The National Park Service Organic Act (16 USC 1-4) and 36 Code of Federal Regulations §2.1 generally apply to the protection of all resources in park units. NPS <i>Management Policies 2006</i> (§4.8.2) and the NPS "Reference Manual 77: Natural Resource Management" provide direction for the protection and management of paleontological resources in park units. The National Park Service also has a 2006 interagency agreement with the Bureau of Land Management and U.S. Forest Service to conduct inventories on lands they manage in the John Day Basin and store those fossils in the NPS collections. Desired Conditions: John Day Fossil Beds National Monument's paleontological resources, including both organic and mineralized remains in body or trace form, are protected, preserved in situ, when appropriate, or are collected and stored by taxonomic group in museums. Opportunities continue to be provided for public education, interpretation, and scientific research. Federal and other landowners in the John Day Basin also are encouraged to protect and preserve fossils. Protection may include construction of shelters over specimens, stabilization in the field, or collection, preparation, and placement of specimens in museum collection. The monument is systematically monitored for newly exposed fossils. Fossil localities and associated geologic data are adequately documented when specimens are collected. Impacts to paleontological resources from human activities, including construction of facilities and illegal collecting, are minimized. Strategies: A paleontological research plan that directs future research efforts has been developed and is updated as needed. Paleontological resources in the monument would continue to be inventoried and assessed to determine their extent and scientific significance, and to ensure that these nonrenewable resources are not lost. Fossils collected would be managed in accordance with the monument's collection management plan. Cyclic prospecting would be relied on, whereby areas of high erosion that also have high potential for significant specimens, are periodically examined for new sites. The periodicity of cyclic prospecting would depend on the abundance of

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Paleontological Resources (continued)	fossils and the rate of erosion. Fossil localities and associated geologic data would be documented when specimens are collected. Paleontological resource stability indicators, covering such elements as rates of erosion and human activity, would be developed and monitored to establish vital signs and assess the conditions for fossil resources. Because these elements vary widely depending on the nature of the strata, specific stability measures need to be developed for each locality and stratigraphic occurrence. A variety of methods would be followed to protect resources, such as data recording, stabilization in the field, collection, preparation, and placement of specimens in a museum collection, or construction of shelters over specimens. Paleontological resources would be managed and studied in their geologic context, which provides information about the ancient environment. NPS staff would be a partner with other federal, tribal, state, and local agencies, and academic institutions to conduct paleontological research both in the monument and in the greater John Day River Basin. Researchers with the academic community would continue to be encouraged to conduct paleontological research in the John Day Basin. NPS staff would continue to coordinate scientific research and fossil identification, preparation, and curation on all federal lands in the John Day River Basin. The NPS staff would continue to expand opportunities for researchers to use the monument's fossil collection to further paleontological knowledge. All areas with potential paleontological resources in the monument would be surveyed prior to construction of new facilities. If destructive and preventable erosion occurs or ground disturbing activities, such as construction of new trails, are proposed in areas with potential paleontological resources, a qualified paleontologist would survey the areas for paleontological resources, evaluate their significance, and specify whether data recording, stabilization, or specimen collection is necessary. New facilities would be avoided on areas that may yield fossils, or if necessary, the resource may be collected prior to the initiation of construction. All areas that are not zoned for public use would continue to be closed to public use and entry. However, some guided public hikes may be permitted in closed areas. Management actions would be taken to prevent illegal collecting and may be taken to prevent damage from natural processes such as erosion. If important sites or areas are discovered they would be patrolled to prevent theft and vandalism. Paleontological resources along high use trails would be monitored and actions taken to reduce impacts. The NPS staff would exchange casts of fossils only with other qualified museums and public institutions dedicated to the preservation and interpretation of natural heritage. Interpretive and educational programs would continue to be developed to educate the public about paleontology. Fossils would be prepared, exhibited,

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Paleontological Resources (continued)	and stored according to NPS museum standards. Fossils from the greater John Day River Basin would continue to be stored at the Thomas Condon Paleontology Center. NPS staff would work with the Hancock Field Station staff, teachers and students to conduct programs on paleontological resources and ensure that their activities are consistent with NPS management policies and standards and the field station's general agreement with the National Park Service. Hancock staff may also assist the NPS staff in monitoring the area for potential impacts. Combining a resource protection and stewardship message with resource monitoring would help limit potential adverse impacts to paleontological resources.
Ecosystem Management	NPS <i>Management Policies 2006</i> (§1.6, 4.1, 4.1.4, 4.4.1) provides general direction for managing park units from an ecosystem perspective. Desired Conditions: John Day Fossil Beds National Monument is managed holistically, as part of a greater ecological, social, economic, and cultural system. The National Park Service demonstrates leadership in resource stewardship and conservation of ecosystem values within and outside the monument. John Day Fossil Beds National Monument is managed from an ecosystem perspective, where internal and external factors affecting visitor use, environmental quality, and resource stewardship goals are considered at a scale appropriate to their impact on affected resources. Natural processes, ecosystem dynamics, and population fluctuations occur with as little human intervention as possible. Monument resources and visitors are managed considering the ecological and social conditions of John Day Fossil Beds National Monument and the surrounding area. NPS managers adapt to changing ecological and social conditions within and outside the monument and continue as partners in regional planning and land and water management. The monument is managed proactively to resolve external issues and concerns to ensure that John Day Fossil Beds National Monument's values are not compromised. Strategies: NPS staff would continue to participate in and encourage ongoing partnerships with local, state, and federal agencies; educational institutions; and other organizations in programs that have importance within and beyond the monument's boundaries. Cooperative agreements, partnerships, and other arrangements can be used to set an example in resource conservation and innovation, and to facilitate research related to recreation area resources and their management. Partnerships important to the long-term viability of natural and cultural resources include, but are not limited to, the following: • inventorying, monitoring, and managing terrestrial resources with the Oregon Department of Fish and Wildlife, Oregon Natural Heritage Program, U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Forest Service, Bonneville Power Administration, Warm Springs Indian Tribes, and the Hancock Field Station • monitoring, enforcing regulations, and managing aquatic resources with the Oregon Department of Fish and Wildlife, U.S. Geological Survey, U.S. Fish and Wildlife Service, and National Marine Fisheries Service • monitoring and managing federally threatened and endangered species with the U.S. Fish and Wildlife Service, National Marine Fisheries Service,

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Ecosystem Management (continued)	Bureau of Land Management, Oregon Department of Fish and Game, and Oregon Natural Heritage Program • supporting scientific research and ecological monitoring to guide recovery and conservation efforts in collaboration with professionals from federal, tribal, and state agencies, academic institutions, museums, and research organizations • approaching all resource management questions from an ecosystem standpoint, taking into account all biological interrelationships • continuing long-term monitoring of the change in condition of natural resources and related human influences; monitoring of high priority vital signs that capture the condition and trend of ecosystem health • identifying management considerations for areas external to the monument where ecological processes, natural and cultural resources, and/or human use affect monument resources or are closely related to monument resource management; joint management actions, agreements, or partnerships to promote resource conservation would be initiated (see natural resources strategies) As called for in the monument's wildland fire management plan (NPS 2004b), NPS staff would continue to use prescribed fire as appropriate to reduce hazardous fuel conditions, supplement the ecological role of fire as a natural processes in fire-dependent vegetative communities, eliminate or reduce nonnative species, protect or restore key plant or animal habitats or communities, promote ethnographic resources and maintain cultural and historic scenes in the monument.
Natural Resources – General	John Day Fossil Beds National Monument's natural resources are a key element in the use and management of the monument. Protection, study, and management of natural resources and processes are essential for achieving John Day Fossil Beds National Monument's purposes and mission. NPS <i>Management Policies 2006</i> (§4) and Reference Manual #77, "Natural Resource Management" provide general direction on natural resource management for the monument. Desired Conditions: John Day Fossil Beds National Monument retains its ecological integrity, including its natural resources and processes. Natural processes, ecosystem dynamics, and population fluctuations occur with as little human intervention as possible. The monument continues to be a dynamic, bio-diverse environment. The natural features of the monument remain unimpaired. All native plants and animals are maintained as part of the monument's natural ecosystems. ("Native species" are defined as all species that have occurred or now occur as a result of natural processes on lands designated as units of the national park system.) Native soils and the processes of soil genesis are preserved in a condition that maintains historic soil associations. Soils are maintained in a condition to sustain plant and animal productivity, maintain or enhance water and air quality, support human health and habitation, and protect and preserve cultural resources and landscapes. Soils consistent with maintenance of associated historic practices are conserved. Sources of air, water, and noise pollution affecting John Day Fossil Beds National Monument's resources are limited to the greatest degree possible. Potential threats to the monument's resources are identified early and

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Natural Resources – General (continued)	proactively addressed. Visitors and staff recognize and understand the value of the monument's natural resources. NPS staff uses the best available scientific information and technology to manage the monument's natural resources. John Day Fossil Beds National Monument is recognized and valued as an outstanding example of resource stewardship, conservation, education, and public use. Strategies: Science-based, adaptive, decision making would continue to be followed, with the results of resource monitoring and research incorporated into all aspects of monument operations. NPS staff would continue to apply ecological principles to ensure that natural resources are maintained and not impaired. NPS staff and other scientists would continue to inventory monument resources to quantify, locate, and document biotic and abiotic resources in the monument and to assess their status and trends. Inventories and monitoring of the monument's plants and animals would continue. Collected data would be used as a baseline against which to regularly monitor the distribution and condition of selected species, including indicators of ecosystem condition and diversity, rare or protected species, and invasive exotics. Management plans would be modified to be more effective, based on the results of monitoring. NPS staff would work with the Oregon Department of Fish and Wildlife to inventory, monitor, enforce regulations, and manage terrestrial and aquatic wildlife and habitat. NPS staff would periodically review state fishing regulations that apply to the monument and make recommendations to the state to revise them as needed to support native fish populations. Fish and wildlife habitat would be protected through timing of monument activities and through consultations with the Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Native American tribes. NPS staff and other scientists would conduct long-term, systematic monitoring of resources and processes to discern natural and anthropogenically induced trends, document changes in species or communities, evaluate the effectiveness of management actions taken to protect and restore resources, and mitigate impacts on resources. NPS staff would expand monitoring programs to include geographic areas and resources that are not currently monitored. Partnerships with institutions, agencies, and scientists would be an important component of this endeavor. Future facilities would be built in previously disturbed areas with as small of a construction footprint as possible. NPS staff would also apply mitigation techniques to minimize the impacts of construction and other activities on monument resources. Actions that have the potential to result in significant soil disturbance would include appropriate mitigation to control erosion and allow revegetation of disturbed areas.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Natural Resources – General (continued)	Integrated pest management procedures would continue to be used when necessary to control nonnative organisms or other pests. Scientific research would be encouraged. Cooperative basic and applied research would be encouraged through various partnerships and agreements to increase the understanding of John Day Fossil Beds National Monument's resources, natural processes, and human interactions with the environment, or to answer specific management questions. NPS staff would continue to expand the data management system, including a geographic information system (GIS) and a research and literature database for analyzing, modeling, predicting, and testing trends in resource conditions. NPS managers would prepare and periodically update a "Resource Stewardship Strategy" that includes a comprehensive list of prioritized actions to achieve the desired resource conditions identified in the general management plan.
Natural Resources – Restoration of Natural Environment and Management of Nonnative Species	NPS <i>Management Policies 2006</i> (§4.4) calls for the National Park Service to maintain natural ecosystems in park units and to restore native plant and animal populations. "Reference Manual 77: Natural Resource Management" also provides general direction on the restoration of natural resources for the monument. Many of John Day Fossil Beds National Monument's natural ecosystems have been altered by the activities of people and the introduction of nonnative species. (Nonnative species—also referred to as exotic, alien, or invasive species—are those species that occupy or could occupy monument lands directly or indirectly as the result of deliberate or accidental human activities.) More specifically, the condition of natural vegetation communities has declined in the monument due to the expansion of annual grasses and the spread of nonnative plant species. Fires have also been suppressed, which has led to the expansion of western juniper. In recent years efforts have begun to restore John Day Fossil Beds National Monument's brush and grass ecosystems with the application of prescribed burns. Desired Conditions: With the exception of culturally significant areas, John Day Fossil Beds National Monument's bunchgrass/sagebrush steppe environment is restored as nearly as possible to the conditions it would be in today had natural ecological processes not been altered. Native species populations that have been severely reduced in or extirpated from the monument are restored where feasible and sustainable. Populations of native plant and animal species function in as natural condition as possible except where special considerations are warranted. Vegetation is in a condition reminiscent of the period before Europeans began altering the monument. All federally and state threatened and endangered species are no longer in danger of extinction and are at least stable. The natural fire regime has been restored. The presence of nonnative species in the monument is minimized to the degree possible. The NPS staff provides for their control to minimize the economic, ecological, and human health impacts that these species cause.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Natural Resources – Restoration of Natural Environment and Management of Nonnative Species (continued)	Strategies: Active restoration efforts would continue throughout the monument, primarily focusing on management of nonnative (weed) species, western juniper control, revegetation of native plants, prescribed fire, and restoration of native plants and animals. The management of populations of nonnative plant and animal species, up to and including eradication, would be undertaken wherever such species threaten monument resources or public health, and when control is prudent and feasible. Western juniper would continue to be controlled in areas where the tree has become invasive. Inventories and monitoring of invasive nonnative plant species would continue. High priority is given to managing exotic species that have or potentially could have a substantial impact on monument resources, and that can reasonably be expected to be successfully controllable. Efforts would continue to control or eradicate nonnative plants that are particularly invasive and destructive pests, or have the potential to rapidly spread and dominate plant communities, such as Russian knapweed and whitetop. Lower priority would be given to nonnative species that have almost no impact on monument resources or that probably cannot be successfully controlled. Restoration of previously or newly disturbed areas would be done using native genetic materials (when available) from the local region to regain maximum habitat value. Should facilities be removed, the disturbed lands would be restored to natural topography and soils, and the areas would be revegetated with native species. Only plants that are not invasive and would remain within developed areas would be used. Historically, fire periodically occurred in the monument. However, in more recent times, regional fires have been suppressed, resulting in a build up of fuel. The current fire management plan (NPS 2004b) discusses and deals with these issues and would continue to be followed. Monument fire management programs would be designed to meet resource management objectives prescribed for the various areas of the monument and to ensure that the safety of firefighters and the public are not compromised. All wildland fires would be effectively managed, considering resource values to be protected and firefighter and public safety, using the full range of strategic and tactical operations as described in the approved fire management plan. NPS staff would participate in regional ecosystem efforts to restore native species. Research would be supported that contributes to management knowledge of native species. Interpretive and educational programs would continue to be provided on the preservation of native species for visitors and for residents neighboring the monument.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Federally Listed and State-listed Threatened and Endangered Species	Under the Endangered Species Act, the National Park Service is mandated to promote the conservation of all federal threatened and endangered species and their critical habitats within park unit boundaries. <i>NPS Management Policies 2006</i> (§ 4.4.2.3) also call for the agency to survey for, protect, and strive to recover all species native to park units that are listed under the Endangered Species Act. In addition, the National Park Service is directed to inventory, monitor, and manage state-listed species in a manner similar to the treatment of federally listed species, to the greatest extent possible. A few threatened and endangered species have been recorded at John Day Fossil Beds National Monument. Bull trout, mid-Columbia steelhead, and the state-listed peregrine falcon are the only listed species known to regularly occur in or use the monument. However, there is the possibility that threatened and endangered species, occur in the monument but have not yet been documented as being present. Desired Conditions: John Day Fossil Beds National Monument contributes to the overall recovery and eventual delisting of all listed species and species proposed for listing. Essential habitats that support these species are all protected. Federally listed and state-listed threatened and endangered species and their habitats are protected and sustained. Native threatened and endangered species populations that have been severely reduced in or extirpated from the monument are restored where feasible and sustainable. Strategies: NPS staff, cooperators and contractors would continue to survey and monitor for presence of federally and state threatened and endangered species in the monument, including bald eagle, bull trout, mid-Columbia steelhead, and the state-listed peregrine falcon. NPS staff would cooperate with the U.S. Fish and Wildlife Service, National Marine Fisheries Service and Oregon Department of Fish and Wildlife in inventorying, monitoring, protecting, and perpetuating the natural distribution and abundance of all state and federally listed species and their essential habitats. These species and their required habitats would be specifically considered in ongoing planning and management activities. If appropriate, surveys for threatened and endangered species would be undertaken prior to permitting ground-disturbing activities or developments. If any state or federally listed, or proposed threatened or endangered species, were found in areas that would be affected by construction, visitor use, or restoration activities proposed in any of the alternatives in this plan, the NPS staff would first consult informally with the above agencies. The NPS staff would then take action to address any potential adverse impacts on state or federally listed species. Should it be determined through informal consultation that an action might adversely affect a species that is federally listed or proposed for listing, NPS staff would initiate formal consultation under section 7 of the Endangered Species Act.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Air Quality	The Clean Air Act (42 USC 7401 et seq.) gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts. <i>NPS Management Policies 2006</i> (§4.7), and "Reference Manual 77: Natural Resource Management" provide further direction on the protection of air quality and related values for park units. John Day Fossil Beds National Monument is classified as a Class II area under the Clean Air Act (42 USC 7401 et seq.). This air quality classification is the second most stringent and is designed to protect the majority of the country from air quality degradation. The Clean Air Act gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts. The only known source of air degradation is occasional smoke from fires, mostly outside the monument. Desired Conditions: Good to excellent air quality is maintained. Air quality in the monument meets national ambient air quality standards for specified pollutants. The monument's air quality is maintained or enhanced with no significant deterioration. Nearly unimpaired views of the landscape both within and outside the monument are present. Scenic views, both day and night, are protected and unimpaired for the enjoyment of current and future visitors. Strategies: NPS staff would continue to work with appropriate federal and state government agencies and nearby communities to maintain and improve the monument's regional air quality. NPS staff would participate in regional air quality planning, research, and the implementation of air quality standards. Air quality in the monument would be periodically monitored to gain baseline information and to measure any significant changes (improvement or deterioration) to John Day Fossil Beds National Monument's airshed. To minimize smoke impacts, controlled burns would occur only when favorable meteorological conditions are present. The vegetation to be burned would be in a condition that would facilitate combustion and minimize the amount of smoke emitted during combustion.
Water Quality	Water is a key resource in John Day Fossil Beds National Monument, shaping the landscape and affecting plants, animals, and visitor use. The Clean Water Act strives to restore and maintain the integrity of U.S. waters, which includes waters found in the recreation area. <i>NPS Management Policies 2006</i> (§4.6.3) and "Reference Manual 77: Natural Resource Management" provide direction on the protection and management of surface and groundwater in the monument. Desired Conditions: John Day Fossil Bed National Monument's water quality reflects natural conditions and supports native plant and animal communities, and administrative and recreational uses. All water in the monument meets applicable state standards. All human sources of water pollution, both within and outside the monument, that are adversely affecting John Day Fossil Beds National Monument are eliminated, mitigated, or minimized.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Water Quality (continued)	Strategies: Surface water quality would be monitored on a regular basis in the monument, focusing on bacterial and other organic contamination. Chemical contaminants, such as pesticides, would be periodically monitored. NPS staff would work with adjacent landowners and the Oregon Department of Environmental Quality to identify pollution sources outside the monument's boundaries that are affecting John Day Fossil Beds National Monument, such as ranch and farmlands along the John Day River. NPS staff would continue to pursue a minor boundary adjustment to protect a spring located on BLM land that serves as the primary source of water for the Thomas Condon Paleontology Center. A water resource stewardship report would be prepared to identify comprehensive strategies to address water issues facing the monument. A hazardous substance and spill contingency plan would be prepared to address contamination from hazardous materials (e.g., petroleum products, raw sewage, and agricultural chemicals).
Water Quantity	NPS <i>Management Policies 2006</i> (§4.6.1, 4.6.2) calls for the National Park Service to perpetuate surface and groundwater as integral components of aquatic and terrestrial ecosystems in park units. "Reference Manual 77: Natural Resource Management" provides further direction on the management of water quantity in park units, stating the National Park Service would manage and use water to protect resources, accommodate visitors, and administer park units within legal mandates. John Day River, Rock Creek, and Bridge Creek are important for recreation, fish and wildlife habitat, and irrigation of fields in the monument. The National Park Service owns water rights on the John Day River and its tributaries, which it uses to provide water for monument operations and to irrigate agricultural fields. Desired Conditions: All documented springs and streams continue to flow and the flows are natural to the extent possible. The monument exhibits water quantity characteristics consistent with those that first attracted people to the area. The groundwater and quantity of water that underlies and shapes all of John Day Fossil Beds National Monument's natural and cultural features is maintained and protected. Strategies: NPS staff would monitor flows of the John Day River and its tributaries within the monument. NPS staff would continue to educate the public about the importance of in-stream flows and groundwater for John Day Fossil Beds National Monument. A water resource stewardship report and watershed condition assessment would be prepared to identify comprehensive strategies to address water issues facing the monument.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Water Quantity (continued)	NPS staff would continue to pursue a minor boundary adjustment to protect a spring located on BLM land that serves as the primary source of water for the Thomas Condon Paleontology Center. To protect water resources within John Day Fossil Beds National Monument, NPS staff would work with state and federal agencies, landowners, conservation districts, and other entities to monitor water use within and adjacent to the monument. NPS staff would continue to monitor water rights applications, attend hearings, and protest applications if necessary. NPS staff would continue to work with appropriate federal and state agencies, including the Bureau of Land Management, to develop a comprehensive, unified approach to managing the John Day River. The National Park Service would work within the state administrative process to provide protection to surface and groundwater resources in the monument. NPS staff would encourage neighbors of the monument to emphasize conservation of water in their operations (e.g., using low flow conservation technology and more efficient ways to irrigate fields). NPS staff would strive to conserve water in all monument operations. Examples of actions that could be taken include installing low-flow fixtures such as toilets and showers, or installing self-contained, evaporative toilets.
Floodplains	Floodplains exist along the John Day River, and Bridge and Rock creeks. Floods can occur due to thunderstorms, posing a risk to structures, visitors, and employees. Floodplains are protected and managed in accordance with Executive Order 11988 ("Floodplain Management"), NPS Director's Order 77-2 and its accompanying procedural manual, and NPS <i>Management Policies 2006</i> (§4.6.4). Desired Conditions: Natural floodplain values are preserved or restored. Long- and short-term impacts associated with the occupancy and modification of floodplains are avoided. Hazardous conditions associated with flooding that could affect visitor safety are minimized. Strategies: Whenever possible, new structures would be located on sites outside floodplains. If it is not possible to avoid locating a new structure on a floodplain or to avoid a management action that would affect a floodplain, the National Park Service would • prepare and approve a statement of findings in accordance with Director's Order 77-2 • use nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing impacts on the natural resources of the floodplains • ensure that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60)

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Floodplains (continued)	Mitigation measures would be required as part of construction to avoid any potential indirect effects on floodplains. Before initiating any ground-disturbing projects, further investigation would be conducted to determine if floodplain resources would be affected. Floodplains would be addressed at the project level to ensure that projects are consistent with NPS policy and Executive Order 11988. Visitor interpretive and education efforts would emphasize the hazards that exist when flash flooding occurs in the monument, and appropriate responses.
Wetlands	John Day Fossil Beds National Monument does not have extensive wetlands. Although there is not a detailed wetlands inventory for the monument, small wetlands are located in the vicinity of seeps and springs, and along the John Day River and its tributaries. Wetlands are protected and managed in accordance with Executive Order 11990, "Protection of Wetlands"; NPS Director's Order 77-1, and its accompanying procedural manual; and NPS <i>Management Policies 2006</i> (§4.6.5). Desired Conditions: The natural values of wetlands are maintained and protected. When practicable, natural wetland values are enhanced by using them for educational, recreational, scientific, and similar purposes that do not disrupt natural wetland functions. Strategies: A monument-wide wetland inventory, condition assessment, and functional evaluation would be done to help ensure proper management and protection of wetland resources. More detailed wetland mapping would be performed in areas that are proposed for development or are otherwise susceptible to degradation or loss due to human activities. NPS staff would be trained in wetlands identification to ensure that operational activities do not inadvertently drain or alter wetlands, including ephemeral (seasonal) wetlands. The construction of new developments in wetlands would be avoided. If it is not possible to avoid locating a new development in a wetland or to avoid a management action that would adversely affect a wetland, the National Park Service would comply with the provisions of Executive Order 11990, the Clean Water Act, and Director's Order 77-1. All practicable measures (including the best management practices described in appendix 2 of the NPS Procedural Manual #77-1, "Wetland Protection") would be included in the preferred alternative to minimize harm to wetlands. The loss of any wetlands would be compensated. A statement of findings for wetlands would be prepared according to the guidelines defined in the NPS Procedural Manual #77-1 if the action would result in an adverse impact on a wetland. The statement of findings would include an analysis of the alternatives, delineation of the wetland, a wetland restoration plan to identify mitigation, and a wetland functional analysis of the impact site and restoration site.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Lightscape Management	NPS <i>Management Policies 2006</i> (§4.10), recognizes that the night sky contributes to the visitor experience. The policy further states that the NPS staff would seek to minimize the intrusion of artificial light into the night scene. In natural areas, artificial outdoor lighting would be limited to meet basic safety requirements and would be shielded when possible. Desired Conditions: Opportunities to view the night sky at John Day Fossil Beds National Monument are available. Artificial light sources within the monument do not unacceptably affect night sky viewing opportunities or wildlife populations. Strategies: To the extent possible, the NPS staff would work within a regional context to protect the night sky quality. NPS staff would seek to minimize the intrusion of artificial light into the night scene. In natural areas, artificial outdoor lighting would be limited to meet basic safety requirements and would be shielded when possible. If it is determined that light sources within the monument affect views of the night sky, alternatives would be studied to address the impact, such as shielding lights, changing lamp types, or eliminating unnecessary sources. NPS managers would participate in planning meetings at the state and county level to protect the night sky from light from new developments adjacent to the monument.
Soundscape Management	NPS <i>Management Policies 2006</i> (§4.9) and NPS Director's Order 47: <i>Sound Preservation and Noise Management</i>, require NPS managers to strive to preserve the natural soundscape (natural quiet) associated with the physical and biological resources (i.e., the sounds of the wind in the trees). The concept of natural quiet was further defined in the <i>Report on Effects of Aircraft Overflights on the National Park System</i> (NPS 1995): What is <i>natural quiet</i>? Parks and wildernesses offer a variety of unique, pristine sounds not found in most urban or suburban environments. They also offer a complete absence of sounds that are found in such environments. Together, these two conditions provide a very special dimension to a park experience—quiet, itself. In the absence of any discernible source of sound (especially man-made), quiet is an important element of the feeling of solitude. Quiet also affords visitors an opportunity to hear faint or very distant sounds, such as animal activity and waterfalls. Such an experience provides an important perspective on the vastness of the environment in which the visitor is located, often beyond the visual boundaries determined by trees, terrain, and the like. In considering natural quiet as a resource, the ability to clearly hear the delicate and quieter intermittent sounds of nature, the ability to experience interludes of extreme quiet for their own sake, and the opportunity to do so for extended periods of time, is what natural quiet is all about. The primary sources of noise in John Day Fossil Beds National Monument are motor vehicles driving through the monument and the sounds of people in developed areas, such as the Thomas Condon Paleontology Center and the Hancock Field Station.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Soundscape Management (continued)	Desired Conditions: Visitors have opportunities in John Day Fossil Beds National Monument to experience natural sounds in an unimpaired condition. The sounds of civilization are generally confined to developed areas and specific hours of the day. Disruptions from visitors are minimized, ensuring a high-quality visitor experience. Strategies: NPS managers would minimize noise generated by management activities by strictly regulating NPS administrative use of noise-producing machinery such as motorized equipment. Noise would be a consideration when procuring and using NPS equipment. NPS staff would work with the Department of Defense and Whidbey Island Naval Air Station to develop a process to address the occasional impacts on natural soundscapes that arise from military flights over the monument.
Scenic Viewshed Protection	The NPS Organic Act and NPS <i>Management Policies 2006</i> (§1.4, 1.6, 3.1) call for the National Park Service to conserve and protect scenic vistas. Scenic vistas are an important element of the visitor experience at John Day Fossil Beds National Monument. These views are both within and outside the monument. Actions by others outside the monument can affect visitor experiences. Desired Conditions: The scenic views at John Day Fossil Beds National Monument continue to stir imaginations, inspire, and provide opportunities for visitors to understand, appreciate, and forge personal connections to the monument. Intrinsically important scenic vistas and scenic features are not significantly diminished by man-made developments. Strategies: NPS staff would continue to work with Grant and Wheeler Counties to incorporate viewshed issues into county land use plans, and to express concerns at land use hearings regarding potential developments that might affect those viewsheds. NPS staff would work with adjacent and nearby landowners to minimize any visual impacts from nearby developments and to ensure that developments do not encroach on the monument.
Cultural Resources	
Archeological Resources	NPS <i>Management Policies 2006</i> (§5.3.5.1) calls for the National Park Service to manage archeological resources in situ unless physical disturbance is justified and mitigated by data recovery or other means in concurrence with the State Historic Preservation Officer. See also 36 CFR Part 79 and the <i>Secretary of the Interior's Standards and Guidelines for Archeological Documentation</i>. Over a hundred known archeological sites are contained within the three units of John Day Fossil Beds National Monument. Additional undiscovered sites may be present in the monument. Desired Conditions: Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Archeological Resources (continued)	Strategies: Archeological surveys would continue as needed in the monument to identify, inventory, and document archeological sites and determine their significance regarding eligibility for the National Register of Historic Places. When disturbance or deterioration is unavoidable, the site through data recovery is professionally excavated and documented, and the resulting artifacts, materials, and records are curated and conserved in consultation with the Oregon State Historic Preservation Officer and appropriate American Indian tribes. Some archeological sites that can be adequately protected may be interpreted to visitors.
Historic Structures	The National Historic Preservation Act calls for analyzing the effects of possible federal actions on historic structures on or eligible for the national register and for inventorying and evaluating their significance and condition. NPS <i>Management Policies 2006</i> (§5.3.5.4) calls for the treatment of historic structures, including prehistoric ones, to be based on sound preservation practice to enable the long-term preservation of a structure's historic features, materials, and qualities. See also the Secretary of the Interior's Standards for the Treatment of Historic Properties. In John Day Fossil Beds National Monument there are historic structures in the James Cant Ranch Historic District. The district, with its main house and surrounding outbuildings, is one of the most intact, locally significant examples of a historic sheep and then cattle ranch in Wheeler and Grant counties, Oregon. Desired Conditions: Structures individually eligible for the National Register of Historic Places or identified as contributing to the Cant Ranch Historic District are managed to ensure their long-term preservation and protection of character-defining features. Protection and preservation of historic structures are emphasized as a critical component of the monument's ongoing maintenance and resource protection programs. Strategies: Monitoring of historic structures would continue to ensure the preservation of qualities that contribute to the listing or eligibility for listing of historic structures in the national register. Protection is and would be in accordance with the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i>, unless it is determined through a formal process that disturbance or natural deterioration is unavoidable. Then mitigation through documentation would be called for via consultation with the Oregon State Historic Preservation Officer. Appropriate preservation treatments for historic structures would be carried out in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>. Historic structures requiring rehabilitation, or in rare cases restoration, would receive further investigation and documentation via a historic structure report to inform about the condition and recommend treatment of the historic fabric and architecturally significant features.
Ethnographic Resources	NPS <i>Management Policies 2006</i> (§5.3.5.3) calls for gathering ethnographic information through anthropological and collaborative community research that recognizes the sensitive nature of such cultural data and documents and

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Ethnographic Resources (continued)	the meanings that traditionally associated groups assign to traditional natural and cultural resources and the landscapes they form. In accordance with the National Historic Preservation Act, the purpose is to preserve, conserve, and encourage the continuation of the diverse traditional prehistoric, historic, ethnic, and folk cultural traditions that underlie and are a living expression of American heritage as manifested in the traditional use of ethnographic resources in park units. Executive Order 13007 also calls for NPS managers to accommodate the access to and the ceremonial use of American Indian sacred sites by practitioners and to preserve the sites' physical integrity. The only known ethnographic resources in John Day Fossil Beds National Monument are pictographs, although others may exist. No known sacred sites exist in the monument. Desired Conditions: All ethnographic resources that are listed in or determined eligible for listing in the National Register of Historic Places are protected as traditional cultural properties. American Indians associated with the monument may continue to access certain sites of cultural importance. Any traditional use is consistent with the monument's purposes and the protection of resources. If sacred sites are found at John Day Fossil Beds National Monument, the National Park Service accommodates access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites. If there are American Indian uses of a unit of the national park system, NPS general regulations on access to and use of natural and cultural resources in the unit are applied in an informed and balanced manner. This application of regulations is consistent with monument purposes, does not unreasonably interfere with possible American Indian use of any traditional areas, and does not result in the degradation of monument resources. Strategies: The national monument would continue to adhere to all American Indian treaty obligations. Appropriate cultural anthropological research would be conducted in cooperation with groups associated with the monument to identify potential ethnographic resources, determine their significance as traditional cultural properties, and suggest preservation treatments and management options. NPS managers would consult with tribal governments before taking actions that affect federally recognized tribal governments. These consultations are to be open and candid so that all interested parties may evaluate for themselves the potential impacts of relevant proposals. If disturbance of ethnographic resources is unavoidable, formal consultation with the Oregon State Historic Preservation Officer and with the appropriate American Indian tribes would be conducted. This consultation would be in accordance with the National Historic Preservation Act, as amended, the implementing regulations of the Advisory

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Ethnographic Resources (continued)	Council on Historic Places, and other laws, policies, regulations or agreements, and would be conducted openly and candidly for the potential impact of relevant proposals. American Indian tribes would be included in these consultations as would other American Indian individuals and groups linked by ties of kinship or culture to ethnically identifiable human remains, sacred objects, objects of cultural patrimony, and associated funerary objects when such items may be disturbed or encountered on monument lands. Protection and preservation of ethnographic resources would be emphasized as a critical component of the monument's ongoing maintenance and resource protection programs. The identities of community consultants and information about sacred and other culturally sensitive places and practices would be kept confidential when research agreements or other circumstances warrant.
Cultural Landscapes	NPS <i>Management Policies 2006</i> (§5.3.5.2) calls for the preservation of the physical attributes, biotic systems, and uses of cultural landscapes that contribute to historical significance. In the monument the James Cant Ranch Historic District constitutes a historic cultural landscape and is managed as such. Additional cultural landscapes may exist in the monument but have not been identified and evaluated. Desired Conditions: Landscape characteristics and features contributing to the Cant Ranch Historic District are appropriately protected and preserved, including rehabilitation and restoration when necessary. Cultural landscape inventories are completed for the Cant Ranch and other cultural landscapes if determined potentially eligible for the National Register of Historic Places. Cultural landscapes in the monument are protected and maintained consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guideline's for the Treatment of Cultural Landscapes. Protection and preservation of cultural landscapes is emphasized as a critical component of the monument's ongoing maintenance and resource protection programs. Strategies: Treatment recommendations identified in the "Cultural Landscape Report: Cant Ranch Historic District" (Taylor and Gilbert 1996) would be carried out in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes</i>, to ensure long-term preservation objectives. Potential cultural landscapes would continue to be identified and their national register eligibility evaluated to assist in future management decisions and to ensure their protection and preservation. Management of cultural landscapes would focus on protecting and preserving a given landscape's physical attributes, biotic systems, and use when that use contributes to its historical significance. The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes would be undertaken in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guideline's for the Treatment of Cultural Landscapes</i>.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Museum Collections	NPS <i>Management Policies 2006</i> (§5.3.5.5) states that the NPS "...will collect, protect, preserve, provide access to, and use objects, specimens, and archival and manuscript collections...in the disciplines of archeology, ethnography, history, biology, geology, and paleontology to aid understanding among park visitors, and to advance knowledge in the humanities and sciences. " John Day Fossil Beds National Monument's paleontological specimens are stored in the Thomas Condon Paleontology Center. The center features secure and comfortable work and storage space that meets museum standards on all counts. Natural and cultural history collections are stored in the Cant Ranch House. Adequate space exists on the third floor of the Cant Ranch House to properly house historic and ethnographic artifacts and related items. Desired Conditions: All museum collections and archives and their component artifacts, objects, specimens, documents, photographs, maps, plans, and manuscripts, are properly inventoried, accessioned, catalogued, curated, documented, protected, and preserved. Appropriate provision is made for the access of the collections by NPS staff and other researchers and for their use in scientific and historical research, exhibits, and interpretation. The qualities that contribute to the significance of collections are protected and preserved in accordance with established NPS museum curation and storage standards. Strategies: NPS managers would continue to ensure adequate conditions for the climate control of collections and means for fire detection and suppression, integrated pest management, and research and interpretation access are maintained.
	Visitor Use and Experience
Visitor Use and Experience	The NPS Organic Act, NPS General Authorities Act, and NPS <i>Management Policies 2006</i> (§1.4, 8.1) all address the importance of park units being available to all Americans to enjoy and experience. Current laws, regulations, and policies leave considerable room for judgment about the best mix of types and levels of visitor use activities, programs, and facilities. For this reason, most decisions related to visitor experience and use are addressed in the alternatives. However, all visitor use of the national park system must be consistent with the following guidelines. Desired Conditions: Monument resources are conserved "unimpaired" for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the monument; opportunities continue to be provided for visitors to understand, appreciate, and enjoy John Day Fossil Beds National Monument. For all of the monument's units and management zones, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas. No activities occur that would cause derogation of the values and purposes for which the monument was established.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Visitor Use and Experience (continued)	Visitors have opportunities to understand and appreciate the significance of the monument and its resources, and to develop a personal stewardship ethic. To the extent feasible, all programs, services, and facilities in the monument are accessible to and usable by all people, including those with disabilities. High quality public opportunities continue to be available for appropriate uses, including such activities as hiking, picnicking, photography, sightseeing, and fishing. Strategies: All of John Day Fossil Beds National Monument's programs and facilities would be evaluated on a regular basis to ensure that they are accessible to the extent feasible. Visitor surveys would be periodically conducted to determine visitor satisfaction with the monument facilities, NPS management, and the experiences they are having. NPS staff would periodically meet with managers from other areas in the region, such as the Bureau of Land Management, U.S. Forest Service, and tribal land managers, to improve visitor trip planning, information and orientation; and enrich interpretation and education opportunities for monument visitors. NPS staff would continue to enforce the regulations governing visitor use and behavior in Title 36 of the <i>Code of Federal Regulations</i> (36 CFR) and in the monument's "Superintendent's Compendium." • Pets must be crated, caged, restrained on a leash 6 feet long or less, or otherwise physically confined at all times. (36 CFR 2.15) • Bicycles are prohibited in the monument except on established public roads and parking areas. (36 CFR 4.30) • The use of off-road vehicles is prohibited except on public roads and parking areas. (36 CFR 4.10) NPS staff would continue to monitor visitor comments on issues such as crowding, availability of parking, user conflicts, and facility conditions, and would monitor for resource impacts caused by visitors. Should any of the trends increase to levels unacceptable to managers, the NPS staff would consider what actions to take. (Additional information on user capacity can be found on pages 59-62.
Public Health and Safety	NPS <i>Management Policies 2006</i> (§8.2.5) states that the saving of human life would take precedence over all other management actions as the National Park Service strives to protect human life and provide for injury-free visits. Other federal statutes and regulations that apply to the protection of public health and safety include Director's Order 50 and RM-50 "Safety and Health"; Director's Order 58 and RM-58 "Structural Fire Management"; Director's Order 83 and RM-83 "Public Health"; Director's Order 51 and RM-51 "Emergency Medical Services"; Director's Order 30 and RM-30 "Hazard and Solid Waste Management; and OSHA 29CFR.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Public Health and Safety (continued)	Desired Conditions: While recognizing that there are limitations on its capability to totally eliminate all hazards, the National Park Service and its partners, contractors, and cooperators work to cooperatively provide a safe and healthful environment for visitors and employees. The NPS staff strive to identify recognizable threats to safety and health and protect property by applying nationally accepted standards. Consistent with mandates and nonimpairment, the NPS staff reduces or removes known hazards or applies appropriate mitigating measures, such as closures, guarding, gating, education, and other actions. Strategies: A documented safety program would be maintained in the monument to address health and safety concerns and identify appropriate levels of action and activities. Maintenance efforts would continue to ensure that all potable water systems and waste water systems in the monument would continue to meet state and federal requirements. Interpretive signs and materials would be provided as appropriate to notify visitors of potential safety concerns, hazards and procedures to help provide for a safe visit to the monument and to ensure visitors are aware of possible risks of certain activities. NPS staff would continue to work with local emergency and public health officials to make reasonable efforts to search for lost persons and rescue sick, injured or stranded persons.
	Other Topics
Climate Change	Climate change is occurring and is expected to affect the monument's weather, vegetation, wildlife, and visitors (e.g., use seasons). These changes will have direct implications on resource management and monument operations, and on the way visitors use and experience the monument. Although climate change will affect the park during the life of this plan, many of the specific effects, the rate of changes, and the severity of impacts are not known. While there are no laws or policies that provide direct guidance on addressing climate change, there is guidance that indirectly addresses climate change, including the NPS Organic Act, Executive Order 13423 (includes requirements for the reduction of greenhouse gases and other energy and water conservation measures), Department of the Interior Secretarial Order 3226 (ensures that climate change impacts be taken into account in connection with Departmental planning and decision making), and NPS <i>Management Policies 2006</i> (including sections on environmental leadership [§1.8], sustainable energy design [§9.1.1.6], and energy management [§9.1.7]). Desired Conditions: John Day Fossil Beds National Monument is a leader in its efforts to address climate change, reducing its greenhouse gas emissions and increasing its use of renewable energy and other sustainable practices so it

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Climate Change (continued)	is a carbon neutral park. Education and interpretive efforts help visitors understand the process of global warming, climate change, changes to monument resources, and the wider environment, and how they can respond. NPS staff promote innovation, best practices, adaptive management, and partnerships to respond to the challenges of climate change and their effects on monument resources. NPS staff proactively monitor, plan, and adapt to the effects of climate change by using the best information as it becomes available. Strategies: John Day Fossil Beds National Monument will become a member of the Climate Friendly Parks program, measuring monument-based greenhouse emissions, developing sustainable strategies to mitigate these emissions and adapt to climate change impacts, educating the public about these efforts, and developing future action plans. Scientific studies and inventories will be encouraged to identify and document changes caused by climate change, to predict potential changes, and to assist in identifying potential responses to climate change. Since emissions from vehicles contribute to the monument's emissions, options to improve transportation efficiencies will be explored, including NPS and visitor activities. Emissions from visitors driving to get to the monument, and from employees commuting to work and traveling for business all add to the emissions associated with the monument. Opportunities for alternative transportation options, as well as effective carbon offset strategies, will be explored. Education and interpretive efforts will engage NPS employees, partners, visitors, and the public on climate change, providing the latest monument research and monitoring data and trends, informing the public about what responses are being taken at the monument, and inspiring visitors to act to reduce their carbon footprint. NPS staff will work with local, regional, and national agencies, universities, and other partners to conduct scenario planning for climate change, and identify actions that can be taken to respond to these changes. Anticipated climate change impacts, such as changes in vegetation and river flows, will be incorporated into management plans. (See also the strategies identified under "Sustainable Design/Development")
Sustainable Design/Development	Sustainability can be described as doing things in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices consider local and global consequences to minimize the short- and long-term environmental impacts of human actions and developments through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically responsible materials and techniques. Over the past several years, the federal government has been emphasizing the adoption of sustainable practices. In particular, Executive Order 12873

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Sustainable Design/Development (continued)	mandates federal agency recycling and waste prevention; and Executive Order 12902 mandates energy efficiency and water conservation at federal facilities. NPS <i>Management Policies 2006</i> (§1.8, 1.9.5.2, 8.2, 9.1.1, 9.2) also call for sustainable operations, facilities, and uses in park units. Desired Conditions: John Day Fossil Beds National Monument is a leader in sustainable practices. Administrative and visitor facilities are harmonious with monument resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy-efficient, and cost-effective. All decisions regarding operations, facilities management, and development in the monument-from the initial concept through design and construction-reflect principles of resource preservation. Thus, all monument developments and operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located, built, and modified according to the Guiding Principles of Sustainable Design (NPS 1993) or other similar guidelines. John Day Fossil Beds National Monument has state-of-the-art water systems for conserving water, and uses energy conservation technologies and renewable energy sources whenever possible. Biodegradable, nontoxic, and durable materials are used in the monument whenever possible. The reduction, use, and recycling of materials is promoted, while materials that are nondurable, environmentally detrimental, or that require transportation from great distances are avoided as much as possible. Strategies: NPS staff would work with experts both inside and outside the National Park Service to make John Day Fossil Beds National Monument's facilities and programs sustainable. Partnerships would be sought to implement sustainable practices in the monument. NPS staff also would work with stakeholders and business partners to augment NPS environmental leadership and sustainability efforts. NPS staff would be educated to have a comprehensive understanding of their relationship to environmental leadership and sustainability. NPS staff would support and encourage the service of suppliers and contractors that follow sustainable practices. Energy usage would be monitored, and energy efficient practices and renewable energy sources would be promoted wherever possible. John Day Fossil Beds National Monument's interpretive programs would mention sustainable and nonsustainable practices. Visitors would be educated on the principles of environmental leadership and sustainability through exhibits, media, and printed material. Monument managers would perform value analysis and value engineering, including life cycle analysis, to examine the energy, environmental, and economic implications of proposed developments. NPS managers would measure and track environmental compliance and performance. Audits would ensure environmental compliance, emphasize best management practices, and educate employees at all levels about environmental management responsibilities.

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Transportation to and within the Monument	The location, type, and design of multimodal transportation facilities (e.g., roads, bridges, parking areas, sidewalks, bikeways, pedestrian trails, transit centers and shelters) strongly influence the quality of the visitor experience and the preservation of park unit resources. These systems also affect, to a great degree, how and where park unit resources would be affected by visitors. NPS <i>Management Policies 2006</i> (§9.2) calls for NPS managers to identify solutions to transportation issues that preserve natural and cultural resources while providing a high-quality visitor experience. Management decisions regarding transportation require a comprehensive alternatives analysis and thorough understanding of their consequences. Traditional practices of building wider roads and larger parking areas to accommodate more motor vehicles are not accepted practice today. Visitors access the three units of John Day Fossil Beds National Monument primarily in private motor vehicles via county and state highways. How people travel to the monument's three units and how they travel within the monument plays a major role in the protection of monument resources, in visitor levels and the visitor experience, and the need for modified or new infrastructure. In this regard, it is critical for the National Park Service to participate as a partner in local, regional, and statewide planning efforts that would affect transportation to and within the monument. Desired Conditions: Multimodal transportation facilities in the monument provide access for the protection, use, and enjoyment of monument resources. They preserve the integrity of the surroundings, respect ecological processes, protect monument resources, and provide the highest visual quality and a rewarding visitor experience. Strategies: NPS staff would participate in transportation studies and planning processes that may result in links to the monument's units or impacts to monument resources. NPS managers would work closely with other federal agencies (e.g., U.S. Department of Transportation, the Federal Highway Administration), tribal, state and local governments (e.g., Oregon Department of Transportation), regional planning bodies, citizen groups, and others to enhance partnering and funding opportunities, and to encourage effective regional transportation planning. Working with these agencies and other stakeholders on transportation issues, NPS managers would seek reasonable access to John Day Fossil Bed National Monument units, and intermodal connections to regional multimodal transportation systems. In general, the preferred modes of transportation would be those that contribute to maximum visitor enjoyment of, and minimum adverse impacts to, monument resources and values. Before a decision is made to design, construct, expand, or upgrade transportation access to or within the monument, nonconstruction alternatives—such as distributing visitors to alternative locations—would be fully explored. If nonconstruction alternatives would not achieve satisfactory results, then a development solution should consider whether the project • is appropriate and necessary to meet management needs • is designed with extreme care and sensitivity to the landscape through which it passes

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Transportation to and within the Monument (continued)	• would not cause adverse impacts to natural and cultural resources, and would minimize or mitigate those impacts that cannot be avoided; • reduces traffic congestion, noise, air pollution, and adverse effects on monument resources and values • would not violate federal, state, or local air pollution control plans or regulations • would not cause use in the areas to exceed the areas' user capacity • incorporates the principles of energy conservation and sustainability • is able to demonstrate financial and operational sustainability • incorporates universal design principles to provide for accessibility for all people, including those with disabilities • takes maximum advantage of interpretive opportunities and scenic values • is based on a comprehensive and multi-disciplinary approach that is fully consistent with the monument's <i>General Management Plan</i> and <i>Asset Management Plan</i> • enhances the visitor experience by offering new or improved interpretive or visitor opportunities, by simplifying travel within the monument, or by making it easier or safer to see monument features
Utilities and Communication Facilities	The Telecommunications Act of 1996 directs all federal agencies to assist in the national goal of achieving a seamless telecommunications system throughout the United States by accommodating requests by telecommunication companies for the use of property, rights-of-way, and easements to the extent allowable under each agency's mission. The National Park Service is legally obligated to permit telecommunication infrastructure in park units if such facilities can be structured to avoid interference with park unit purposes. Rights-of-way for utilities to pass over, under, or through NPS property may be issued only pursuant to specific statutory authority, and generally only if there is no practicable alternative to such use of NPS lands. Statutory authorities in 16 USC 5 and in NPS <i>Management Policies 2006</i> (§8.6.4) provide guidance on these rights-of-way. Columbia Power Cooperative has powerline rights-of-way in John Day Fossil Beds National Monument's three units. The phone company has a right-of-way for a phone line to the Hancock Field Station. There are commercial telecommunication facilities in the monument. Desired Conditions: Monument resources or public enjoyment of the monument are not denigrated by nonconforming uses. Telecommunication structures are permitted in the monument to the extent they do not jeopardize the monument's mission and resources. No new nonconforming use or rights-of-way are permitted through the monument without specific statutory

TOPIC	Current Laws and Policies Require That the Following Conditions Be Achieved at John Day Fossil Beds National Monument
Utilities and Communication Facilities (continued)	authority and approval by the director of the National Park Service or his/her representative, and are permitted only if there is no practicable alternative to such use of NPS lands. Strategies: NPS staff would work with service companies, local communities, and the public to locate new utility lines and maintain existing lines so that there is minimal effect on monument resources. If necessary, and there are no other options, new or reconstructed utilities and communications infrastructure would be placed in association with existing structures and along roadways or other established corridors in developed areas. For reconstruction or extension into undisturbed areas, routes would be selected that minimize impacts on the monument's natural, cultural, and visual resources. Utility lines would be placed underground to the maximum extent possible, away from sensitive fossil resources. NPS policies would be followed in processing applications for commercial telecommunications facilities.



Historic Ranch, Sheep Rock Unit.

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS GENERAL MANAGEMENT PLAN

John Day Fossil Beds National Monument is located in Grant and Wheeler counties in east central Oregon. Properties surrounding the monument include land owned and managed by private entities, the Bureau of Land Management, and the state. Land use in the area is mainly agricultural with some rural residential use.

The Confederate Tribes of the Warm Springs Reservation is over 30 miles from the monument; however, other tribal-owned lands (the Pine Creek Conservation Area) are located adjacent to the Claro Unit of the monument, across State Highway 218.

Several plans have influenced or have been influenced by the approved *General Management Plan for John Day Fossil Beds National Monument*. These plans have been prepared (or are being prepared) by the National Park Service, the Bureau of Land Management, the State of Oregon, and Grant and Wheeler Counties. Some of these plans are described briefly here, along with their relationship to this management plan.

National Park Service Plans

Integrated Pest Management Plan (2005). This plan outlines the necessary best management practices and action thresholds to address both common and potential impacts by the full spectrum of known pests on the important cultural, natural, and scenic resources of the monument for the next 10 years. The plan acknowledges that individual Integrated Pest Management (IPM) practices would be developed as specific tasks or problems are identified related to invertebrate accidental pests, museum pests, orchard pests, vertebrate pests, and exotic weeds and native plant pests. The plan was consulted during the development of the general management plan. This *General Management Plan* addresses invasive plant management as an issue; however, the IPM plan will continue to provide detailed guidance on how the monument will conduct IPM activities.

Socioeconomic Atlas for John Day Fossil Beds National Monument and its Region (2005). The atlas provides socioeconomic data and identifies trends for the John Day region. The report is a useful reference tool that can be used by decision makers to better manage and conserve monument resources. This atlas was consulted during the development of the general management plan.

Wildland Fire Management Plan (2004). This plan is an operation guide for managing the monument's wildland fire and prescribed fire program. It defines levels of protection needed to ensure personnel and public safety, protect facilities and resources, and restore and perpetuate natural processes. It is a detailed program of action to carry out fire management policies and objectives.

John Day Fossil Beds National Monument Visitor Study (2004). This study describes the activities, expenditures, and attitudes of people who visited the monument during the late summer of 2004. The study provides some important data and insights into visitor preferences that were used in the development of alternatives for the general management plan.

Superintendent's Compendium (2003). The *Superintendent's Compendium* is a list of designations, closures, permit requirements, and use restrictions promulgated under the discretionary authority of the superintendent. The compendium covers visitor hours; public use limits; closures and area designations for specific uses or activities; a list of activities that require a NPS permit; regulations regarding preservation of natural, cultural and archaeological resources; and general regulations regarding wildlife protection, hunting and fishing, camping, rock climbing, boating, and pets among other topics. The compendium will be modified as necessary to reflect any changes resulting from implementation of this general management plan.

Strategic Plan: 2002–2007 (2002). The strategic plan describes the purpose, significance, and interpretive themes of the monument and outlines the primary mission goals. The plan also includes a list of prioritized tasks that are intended to meet the mission goals. The desired conditions, goals, and tasks included in the strategic plan will need to be updated to reflect the management directions presented in the approved general management plan.

Resources Management Plan (1999). This plan documented natural and cultural resource management efforts and deficiencies, and outlined objectives for future resource management and tasks for accomplishing those objectives. The long-range plan laid out a course of work and funding needs for 10 or more years. Although these documents are no longer being prepared by the National Park Service, the existing resources management plan was used in preparing this plan. A Resource Stewardship Strategy will be prepared, which incorporates the management directions presented in this document.

Cultural Landscape Report: Cant Ranch Historic District (1996). This report identified and evaluated existing landscape features that have historical significance, reviewed and assessed potential treatments for agricultural lands associated with the ranch, and developed guidelines and recommendations that address treatment of all cultural landscape resources. This report was consulted during the development of the general management plan.

Paleontological Research Plan (1988). This plan describes the paleontological and geological efforts completed to date and the ongoing resources management program; identifies the known questions or information gaps needed to manage the resource; and suggests general subjects for future research efforts. It is also intended to help evaluate both solicited and unsolicited research proposals and communicate opportunities for study to the research community. This plan was consulted during

the development of the general management plan.

John Day Fossil Beds National Monument Statement for Management (1983). The Statement for Management discussed different influences that affect management of the monument, including legislative and administrative requirements, resource conditions, land uses and trends, visitor uses and trends, and facilities. Major issues facing the monument were identified, including land protection, public awareness, interpretation and education, research, and staffing. General management objectives were identified to resolve these issues. Although these documents are no longer being prepared by the National Park Service, the existing statement for management was used in preparing this plan.

General Management Plan for John Day Fossil Beds National Monument (1979). This plan was prepared after the monument was established in 1975, and remained as the monument's guiding document for 28 years. It zoned the monument, provided management direction for resource management and visitor use, included acquisition proposals, and provided monument-wide development concepts. The new management plan builds on this existing plan by updating management direction and identifying new actions for the next 15 to 20 years.

Cyclic Prospecting Plan (undated). The Cyclic Prospecting Plan was developed in the late 1980s. It is a fluid document intended to anticipate variability in observed patterns of weathering. The purpose of the plan is to establish an orderly schedule for canvassing a wide variety of fossiliferous exposures to retrieve any scientifically significant specimens that, once exposed, are subject to damage.

Bureau of Land Management (Prineville District) Plans

John Day River Management Plan; Two Rivers, John Day, and Baker Resource

Management Plan Amendments and Final EIS (2000). This document includes a management plan for BLM lands found within the designated wild and scenic segments of the John Day River. The document also amends three resource management plans that were developed in the 1980s. The treatment of paleontological and cultural and historic resources on lands within the John Day Basin was not changed as a result of this plan. The final plan includes land use decisions and resource allocations that are intended to protect and improve river values. This plan was considered during the development of the general management plan.

“John Day Basin Resource Management Plan” (undated). In 2006 the Bureau of Land Management (Prineville District) began updating guidance for BLM lands in the John Day Basin. The plan will address resource management, public access, land tenure adjustments, special management areas, visual resources management, and other issues. The BLM’s planning process for the basin is expected to be completed in the fall of 2008.

Oregon Parks & Recreation Department Plans

Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP): 2003–2007 (2002). The SCORP is Oregon’s basic five-year plan for outdoor recreation. It establishes the framework for statewide comprehensive outdoor recreation planning and the implementation process. The plan includes analysis on recreation needs and trends; defines recreation roles and key statewide outdoor recreation issues; and develops statewide outdoor recreation goals, objectives and strategies. This plan was considered during the development of the general management plan.

Oregon Trails 2005–2014: A Statewide Action Plan (2005). This plan is Oregon’s “official plan for recreational trail management” through 2014, serving as a statewide and regional information and planning tool to assist recreation providers

(local, state, federal, and private) in providing trail opportunities and promoting access to trails and waterways. It also identifies how the state’s limited resources will be allocated for motorized, nonmotorized, and water trail projects throughout Oregon. Some of the plan’s recommendations are addressed in the General Management Plan through proposed new trails and recreation amenities.

Grant County Plans

Comprehensive Land Use Plan (1996). This plan is designed to provide long-range guidance on growth and development issues in Grant County. Portions of this plan most relevant to the *General Management Plan* include policies related to agricultural lands, forest lands, natural resources, open space, scenic and historic resources, recreation, economics, and energy conservation. This plan was consulted during the development of the general management plan. This general management plan is consistent with the county’s land use plan.

Wheeler County Plans

Comprehensive Plan (2003). This plan is designed to provide long-range guidance on growth and development issues in Wheeler County. Portions of this plan most relevant to this *General Management Plan* are those related to agricultural lands; forest lands; open spaces; scenic and historic areas; natural resources; air, water, and land resources quality; recreational needs; and economic conservation. This plan was consulted during the development of the general management plan. This general management plan is consistent with the county’s land use plan.

Oregon Paleo Lands Institute Plans

Oregon Paleo Plan Prospectus (undated). Also known as the “Paleo Project,” this plan outlines a comprehensive strategy to advance the understanding and appreciation of Oregon’s paleontological resources. A major component of the plan is the Paleo Learning Center, which is proposed to be located in Fossil. This plan was considered during the development of the general management plan.

PLANNING ISSUES AND CONCERNS

NPS staff, the general public, and representatives from county, state, and federal agencies, and various organizations identified a variety of issues and concerns during scoping (early information gathering) for this general management plan. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings, through planning newsletters, and on the monument's web site.

Comments received during scoping demonstrated there is much that the public likes about the national monument—its management, use, and facilities. The issues and concerns generally involve determining the appropriate visitor uses, types and levels of facilities, services, and activities that are compatible with desired resource conditions. The following major issues and concerns were identified.

Hancock Mammal Quarry

This site is of great importance to scientists' knowledge of vertebrate fossils from the early Tertiary Period. Preliminary analysis suggests that this is the best early Oligocene vertebrate fauna of the northwestern United States and western Canada. The site was briefly opened by researchers in the late 1950s and again in the 1960s. There are differing opinions on whether or not the quarry should be reopened. Much information likely would be gained by reopening the quarry, and it would add a new facet to the visitor experience. But opening the quarry would require additional funds and staff—there would be a substantial cost in this operation. There are also questions regarding the feasibility of reopening the quarry as the lateral extent of the fossiliferous strata is not known—a very large amount of material may have to be removed to gain access to the fossils. And without careful monitoring, there also would be increased potential for vandalism and theft of fossils.

Visitor Opportunities and Visitor Facilities

Decisions need to be made on what, if any,

new facilities or facility improvements should be made in the monument. Restrooms and trails are among the facilities the public has identified as a need in the monument. Formalizing existing social trails and maintaining new trails can increase opportunities for the public to experience and enjoy the monument's resources, but also can increase the potential for resource impacts. Providing or maintaining new facilities also can increase the need for additional funding and staff.

User Capacity

Visitors have adversely affected resources and the quality of visitors' experiences in a few areas of the monument, particularly in the Clarno Unit, which is used by large groups.

With the potential for some increased visitation in the future, there also is the potential for unacceptable impacts to monument resources in some areas. Implementation of a user capacity framework will help ensure that desired monument resource conditions and visitor experience opportunities are maintained.

Cant Ranch

The James Cant Ranch Historic District is an important part of the monument's story. The commitment and level of cultural landscape rehabilitation of the ranch is an important issue for the monument. Decisions need to be made on whether or not to continue irrigating the agricultural fields or to restore the fields to a more natural condition.

River Corridor

Natural processes along the John Day River corridor are hampered by the presence of bank armoring and past ranching practices. Alterations of the river channel and its floodplain have resulted in changes to riparian communities. Although the NPS staff could take a variety of actions to restore the river corridor within the monument, land uses upstream of the monument would continue to affect the river corridor. How much should the NPS staff devote to restoring the river corridor in an era of tight budgets?

Alien Species

Invasive alien plants have become established throughout much of the monument and threaten native species. If left untreated, the native habitat and natural character of the area would be severely impacted. Weed management, including the continued use of prescribed fire to control an expanding western juniper population, is an issue that the monument must address.

These issues are briefly addressed in this plan; however, they are addressed in depth in the monument's *Integrated Pest Management Plan* (2005) and *Wildland Fire Management Plan* (2004).

Monument Operations

Staffing and maintenance needs would likely increase as visitation in the monument increases. The geographical separation of the monument's three units presents operational challenges. Current funding levels also present challenges to monument operations and management.

Partnerships

Partnerships are a key to meeting and expanding the monument's ability to study and manage paleontological resources, as well as to educate and inform local residents, students, and others about the monument. The NPS staff have cooperated with the Bureau of Land Management, U.S. Forest Service, Bonneville Power Administration, and Warm Springs Indian Tribes in this regard. With a tight and decreasing budget, partnerships are an important aspect of the management of John Day Fossil Beds National Monument. To help fully realize the monument's purpose, existing partnerships need to be strengthened, and new partnerships need to be sought.

Boundaries of the Monument

The monument's present boundaries do not encompass all of the important and fundamental resources associated with the monument. Without action, there is a concern that some of these resources may be lost. Minor boundary adjustments may be needed for resource protection and improved land management.

Climate Change

Climate change is a long-term phenomenon resulting from the effects of global warming that has affected natural and human systems world-wide. Changes within the natural systems of the Intermountain west and the John Day region include:

- Temperatures are increasing – average temperatures throughout the year have increased, with the greatest increases occurring in springtime temperatures. Nighttime temperatures have increased by 3.2 degrees Fahrenheit. The frequency and intensity of wildland fire has increased, with longer fire seasons.
- Precipitation is declining – the spring/summer flow volume of area rivers and creeks has declined by 22%. The median flow date of the John Day River has shifted 10 days earlier over the last century. Other expected hydrologic changes include increased winter flows and decreased summer flows.

These changes are expected to continue and possibly accelerate over time.

Because the drivers of climate change are largely outside the monument, the National Park Service alone does not have the ability to prevent climate change from happening. The full extent of climate change impacts to resources and visitor experience is not known, nor do managers and policy makers yet agree on the most effective response mechanisms for minimizing impacts and adapting to change. Thus, unlike other issues, this plan does not provide definitive solutions or directions to resolving the issue of controlling impacts of climate change on John Day Fossil Beds National Monument. Rather, the plan provides some general directions and strategies that can help minimize the monument's contribution to climate change (see pages 35-36). The plan also recognizes that the management actions and facilities being proposed need to be adopted with future climate change and impacts in mind as past conditions are not necessarily useful guides for future planning.

The NPS staff will consider this issue and incorporate it into its management strategies and operations in order to reduce the

monument's contribution to climate change and adapt and respond to the effects of climate change on monument resources.



Painted Hills Unit.

INTRODUCTION

Many aspects of the desired condition of John Day Fossil Beds National Monument are defined in the establishing legislation, the monument's purpose and significance statements, and the servicewide mandates and policies. During the development of this plan, the National Park Service solicited input from the public, NPS staff, governmental agencies, tribal officials, and others regarding issues and desired conditions for John Day Fossil Beds National Monument. Planning team members gathered information about existing visitor use and the condition of the monument's facilities and resources. Then a set of seven management zones and three management alternatives were developed to reflect the range of ideas proposed by NPS staff and the public.

Following is a description of the selected alternative, the new general management plan for John Day Fossil Beds National Monument.

Under the plan, resource protection, research, and visitor opportunities will be enhanced while operational efficiencies will be improved. Natural conditions in the monument will be restored and enhanced where considered most effective. Visitor opportunities will be expanded through improvements in existing facilities, establishment of new trails, and increased interpretive efforts. Sustainability of monument operations will be stressed.

Monument staff will focus on gaining a greater understanding of the monument's paleontological resources through expanded research. The monument staff will seek more partnerships with other research institutions and museums while expanding the permanent and volunteer research staff at the monument. On a regional level, the monument staff will increase the amount of partnerships in the John Day Basin.

Interpretive programs will be implemented at locations such as the mammal quarry and the public will have better access to important research areas that may currently be difficult to access or are unpublicized.

In an effort to minimize human impacts within the monument, visitors will be encouraged to use existing designated trails, and human-created unofficial trails will be eliminated. Group sizes will be limited in the backcountry. Construction of new monument facilities will be limited and will focus on improving visitor opportunities. It is important to stress that although new visitor opportunities will be offered, the National Park Service will continue to maintain and protect natural and cultural resources in the monument and not permit new developments that would be inappropriate for the monument.

Where possible, any new facilities will be constructed in already disturbed areas. Disturbance to sensitive areas such as wetlands will also be avoided or mitigated whenever possible.

As appropriate, archeological surveys and/or monitoring will precede any ground disturbance associated with excavation or construction, and archeological resources that are listed in or eligible for listing in the national register will be avoided to the greatest extent possible. To appropriately preserve and protect national register-listed or national register-eligible historic structures and cultural landscapes, all stabilization, preservation and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, will be

undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995).

Management Zones

Management zones apply to different areas of the monument and consist of descriptions of the desired conditions for resources and visitor experiences in those different areas. Together, they identify the widest range of potential resource conditions, visitor experience, and facilities for the monument that fall within the scope of the monument's purpose, significance, and special mandates. Seven management zones were identified for John Day Fossil Beds National Monument: cultural, frontcountry, pedestrian, backcountry, primitive, transportation, and operations.

The seven management zones identified for the monument are presented in table 2. Visitor experience, resource conditions, and appropriate activities and facilities are described for each management zone.

Figure 2: Clarno Unit map; Figure 3: Painted Hills Unit map; and Figure 4: Sheep Rock Unit map show how John Day Fossil Beds National Monument would be zoned under the plan. Most of the monument would be included in the backcountry or primitive zones, with a few relatively small frontcountry, cultural, and monument operations zones. Popular trails are generally included within the pedestrian zone. Existing circulation patterns in the monument would be maintained; therefore, all primary roads are included in the transportation corridor zone.



Historic Ranch, Sheep Rock Unit.

Table 2: Management Zones

Management Zone	Resource Conditions	Visitor Experience	Facilities
CULTURAL The primary purpose of the cultural zone is to protect the resources of the James Cant Ranch Historic District. These resources will be managed intact and for a high level of protection. A diversity of orientation, outdoor recreation, and interpretive opportunities may be provided, intermixed within both natural and developed environments, and supported by a variety of visitor services that complement and enhance the experience.	Paleontological resources will be maintained and/or retrieved in the least intrusive manner. Paleontological mitigation will be performed to accommodate features of the historic district. Natural resources could be modified to accommodate visitors, visitor services, and facilities. Cultural resources will be managed to preserve and protect features of the historic district. Because these areas will be managed for high visitor use levels, minor natural resource impacts associated with visitors will be tolerated. There also will be allowance for minimal natural resource impacts associated with visitor facilities.	Visitors will be provided with a wide range of recreational, interpretive and educational opportunities supported by a variety of visitor services. High levels of visitor encounters will be expected and groups of all sizes would be accommodated. Intended to accommodate visitors, these areas could provide visitor orientation, interpretation, education, and other services.	Facilities in this zone will include historic buildings, outbuildings, associated landscape features (such as fences and ditches), developed trails, interpretive panels, and signs. Facilities could include visitor parking areas, picnic areas, and restrooms. This zone includes the monument's administrative headquarters.
FRONTCOUNTRY The purpose of the frontcountry zone is to provide convenient access to developed visitor use areas that provide for high density use and support services. This zone includes trailheads and areas that are used for operational and administrative functions, as well as areas used for access, sanitation, and other needs.	Paleontological resources of scientific value will continue to be stabilized in place, periodically prospected, or quarried. In some cases, specimens may be exposed in place and stabilized for public appreciation. Quarries may be preserved intact. Where appropriate, natural resources will be maintained in their natural condition and appearance. Natural resources could be modified to accommodate monument operations. All cultural resources will be preserved and protected. Because these areas will be managed for high visitor use levels, minor natural resource	Visitors will be provided convenient and easy access to developed, high use areas. Moderate to high levels of visitor encounters in these developed areas could be expected. Intended to accommodate visitors, these areas could provide visitor orientation, interpretation, education, and other monument services.	Examples of facilities that might be permitted include picnic areas, trailheads, parking areas, restrooms, drinking fountains, informational signs, universally accessible trails, and maintained (paved or unpaved) trails.

Management Zone	Resource Conditions	Visitor Experience	Facilities
FRONTCOUNTRY (continued)	impacts associated with visitors will be tolerated. There also will be allowances for minimal natural resource impacts associated with visitor facilities.		
PEDESTRIAN The purpose of the pedestrian zone is to provide high-use trailheads and trail corridors that access prime monument features. These areas will be predominately natural but with much evidence of the sights and sounds of people.	Paleontological resources of scientific value will continue to be stabilized in place, periodically prospected, or quarried. In some cases, specimens may be exposed in place and stabilized for public appreciation. Quarries may be preserved intact. Natural resources could be modified for essential visitor and monument operation needs, but they would be changed in ways consistent with the natural environment, natural processes, and scenic quality of the adjacent zones. All cultural resources will be preserved and protected. Tolerance for impacts relating to visitor use will be moderate; the zone primarily will accommodate activities such as hiking and walking.	High use areas and trail corridors in this zone will provide access to prime monument features. Visitors will be able to see, touch, smell, and hear the resources as they move along well-defined trails and walkways. The experience will be highly social and interpretive, with consideration for the natural appearance of the area. Visitor uses, sites, and trails might be intensively managed to ensure resource protection and public safety.	Facilities that might be present include trailheads, heavily used trails (which could be paved or unpaved), foot bridges, and interpretive media. Small visitor support structures, such as restrooms, benches, and picnic tables, would be appropriate. To the extent feasible, facilities and services will be accessible to people with disabilities.
BACKCOUNTRY The purpose of the backcountry zone is to provide access to dispersed recreational opportunities within a natural setting that remains largely undeveloped. These areas will be managed for low to moderate levels of visitor encounters, limited impacts to resource protection, and public safety.	Paleontological resources will be maintained and/or retrieved in the least intrusive manner possible, e.g., all quarries would be restored to an appearance similar to that which existed prior to excavation. Natural resources will be maintained predominately in their natural conditions and most natural processes would predominate. Tolerance for resource degradation will be low. All cultural resources will be preserved and protected.	Visitors will have an opportunity to get away from the sights and sounds of a developed environment and explore the natural features of the monument. Although trails will occur in this zone, the emphasis would be on dispersed non-motorized recreational activities within a natural setting. There will be opportunities for a range of visitor	Examples of facilities that might occur here include improved unpaved trails, bridges, stairs, and boardwalks.

Management Zone	Resource Conditions	Visitor Experience	Facilities
BACKCOUNTRY (continued)	Tolerance for impacts relating to visitor use and development will be low; the zone would accommodate dispersed visitor use activities such as hiking and walking.	encounters from relative solitude to informal gatherings depending upon time of week or season.	
PRIMITIVE The purpose of the primitive zone is to provide for minimal visitor encounters, personal challenge, and self-discovery within an intact natural and wildland environment. These areas provide visitors with an opportunity to be immersed in nature.	Paleontological resources will be maintained and/or retrieved in the least intrusive manner possible, e.g., all quarries will be restored to an appearance similar to that which existed prior to excavation. Natural resources will be maintained in their natural conditions and natural processes would dominate. All cultural resources will be preserved and protected. Tolerance for impacts relating to visitor use will be extremely low.	Visitors will be in a wildland environment. They will be provided with opportunities to experience the natural sounds, closeness to nature, and a sense of remoteness and self-reliance. There will be only occasional encounters with others outside of one's group. Visitors will have the opportunity to experience a sense of discovery and adventure in a non-motorized setting.	No trails or facilities will be provided.
TRANSPORTATION The transportation zone includes developed road corridors and adjacent road rights-of-way used for access, and for visitor interpretive and educational purposes.	Paleontological resources will be maintained and/or retrieved in the least intrusive manner possible while undertaking necessary transportation-related improvements. These activities will be coordinated with paleontological staff. Natural resources could be highly modified to ensure safe and efficient transportation for the public. All cultural resources will be preserved and protected to the greatest extent possible. Tolerance for impacts relating to the provision of a safe transportation network will be high.	Visitors will access and experience the monument primarily by traveling on rural highways and secondary roads. Travel time will be dependent on the visitor's destination. Automobiles, buses, and other motorized vehicles will have access to the monument via safe and efficient roadways.	Examples of facilities include paved and gravel roads, interpretive signs, pullouts, waysides, guard rails, and associated improvements.

Management Zone	Resource Conditions	Visitor Experience	Facilities
OPERATIONS The purpose of the operations zone is to support the day-to-day management and administration of the monument. Efficiency, safety, and convenience are important elements of all facilities and activities in this zone. These areas are generally closed to the public.	Paleontological resources will be maintained and/or retrieved in the least intrusive manner possible while undertaking necessary operational activities. These activities will be coordinated with paleontology staff. Natural resources may be highly modified in this heavily used and developed area. Times of high noise levels during the operation of equipment are to be expected. Facility development would occur in areas previously disturbed or in areas of low natural resource sensitivity. All cultural resources will be preserved and protected to the greatest extent possible. Cultural resources might be rehabilitated for adaptive uses, which would be preferable to new construction. Facility development would occur in areas previously disturbed or in areas of low cultural resource potential. Tolerance for natural resource impacts will be higher than in other zones.	There generally will be no visitor use in this zone but the area will be heavily used by monument staff, volunteers, partners, and others engaged in monument operations and administration.	This zone might contain concentrated facilities. Examples of administration facilities include headquarters, maintenance areas, staff housing, maintenance roads, and other facilities necessary for the management of the monument.

MANAGEMENT OF SPECIFIC AREAS

CLARNO UNIT

Mammal Quarry

Working with interested partners, monument managers will open the mammal quarry for research and interpretation. Testing will be conducted with the intent of excavating portions of the mammal quarry that show significant fossil deposits. Analyses will be conducted to ascertain the abundance, distribution, and orientation of the fossiliferous sediments proximal to the quarry and to perform excavations to test paleoecological hypotheses, taphonomic explanations, and paleoclimatic models. A small awning will be constructed to protect paleontological resources and allow public visitation, and secure perimeter fencing would be installed. The focus will be on a seasonal operation that provides opportunities to advance research goals alongside public viewing and interpretation.

Geo-Loop Trail

A new gravel parking area, accommodating approximately eight cars and two RVs, and a trailhead will be constructed immediately east of the Hancock Field Station. Existing human-created unofficial trails will be formalized in order to provide a loop trail, approximately 4 miles in length, that accesses the Hancock Tree, the Clarno Nut Beds, and the mammal quarry. If possible, that portion of the trail that goes from the new trailhead to the Hancock Tree (approximately 0.4 miles) will be made accessible for people with disabilities, constructed of a combination of asphalt and a boardwalk. Because this trail will be designed to receive higher levels of use, it would be included in a pedestrian management zone.

Mimulus Trail

This existing, human-created unofficial trail, approximately 2 miles long, will be formalized. The official trail will extend southwest of the Hancock Field Station, run across the top of the palisades to the ridge between Indian and Hancock canyons, and then connect with a trail between the ridges (see figure 2: Clarno Unit map). Although

most of the trail is already present, approximately 0.5 mile of new trail will need to be constructed. The Mimulus Trail will be designed for low to moderate use levels, which is consistent in character with the surrounding backcountry zone.

Stegamons Trail

This existing human-created unofficial trail will be formalized. This trail is about 2 miles long, and runs from just south of the Hancock Field Station to the east and up to the ridge between Indian and Hancock canyons. The Stegamons Trail will be designed for low to moderate use levels, which is consistent in character with the surrounding backcountry zone.

Indian Canyon

No changes will occur regarding the management of Indian Canyon. Visitors will continue to be allowed to hike in the area so long as they were not on exposed paleosols.

Visitor Contact Station/Office

Rangers will continue to operate out of the existing facility located adjacent to State Highway 218.

Other Actions

All undesignated human-created trails will be removed and the areas restored.

PAINTED HILLS UNIT

Painted Hills Overlook

The overlook will be redesigned to improve visitor access and overall aesthetics. It will accommodate parking for the Carroll Rim Trail and a new shade structure will be added for visitor comfort.

Road to Painted Cove

The National Park Service will work with Wheeler County to seek funding to pave the county-owned and county-maintained road to Painted Cove. If funds were obtained, the NPS managers will work with the county to incorporate a design that would ensure that the rural character of the area is retained. NPS managers will encourage the county to adopt NPS road standards and use alternative surfacing treatments.

Painted Hills Picnic Area

The picnic area will be maintained in its present condition, which includes a maintained turf grass area along with a small arboretum. New shade structures will be added for visitor comfort.

Leaf Hill Trail

The Leaf Hill Trail will be maintained in its present condition.

Bridge Creek Restoration

Efforts will continue on NPS lands to remove invasive plants and to plant native trees to restore the riparian area to a more “natural” landscape. In addition, NPS managers will seek a cooperative agreement to partner with the adjacent landowner on a collaborative creek restoration effort. If an agreement were obtained, NPS managers will work with the landowner to remove invasive plants and to plant native trees on their side of the creek.

SHEEP ROCK UNIT

Cant Ranch

The James Cant Ranch Historic District will continue to be managed to maintain its cultural landscape and features. As part of the cultural landscape, the four fields will continue to be leased for hay production, with flood irrigation, sprinkler irrigation, and traditional and modern agricultural practices being employed. However, management will focus on improvements in sustainability of the agricultural operation, such as improving water conservation through land leveling and/or sprinkler installation. The National Park Service will continue to irrigate the fields under its existing water rights. The focus for the Cant Ranch barn will continue to be on preservation, including some rehabilitation.

Public restrooms will be available inside the Cant Ranch house, accessible during normal monument business hours.

Thomas Condon Paleontology Center

The paleontology center will continue to serve as a primary visitor contact/interpretive focal point for the monument. No new services or facilities will be provided.

NPS managers also will work with the Oregon Department of Transportation to explore possible safety measures or options for visitors to safely cross State Highway 19 to access Cant Ranch. These measures could include lowering speed limits or putting in a crosswalk.

John Day River

National Park Service managers will continue to focus their efforts on vegetation management and plantings along the riparian area. In addition, NPS managers will take actions to restore the river’s hydrologic and riparian function in the monument. Dikes and rock barbs will be removed when the banks are stabilized either through the reestablishment of riparian vegetation or other factors.

Butler Basin

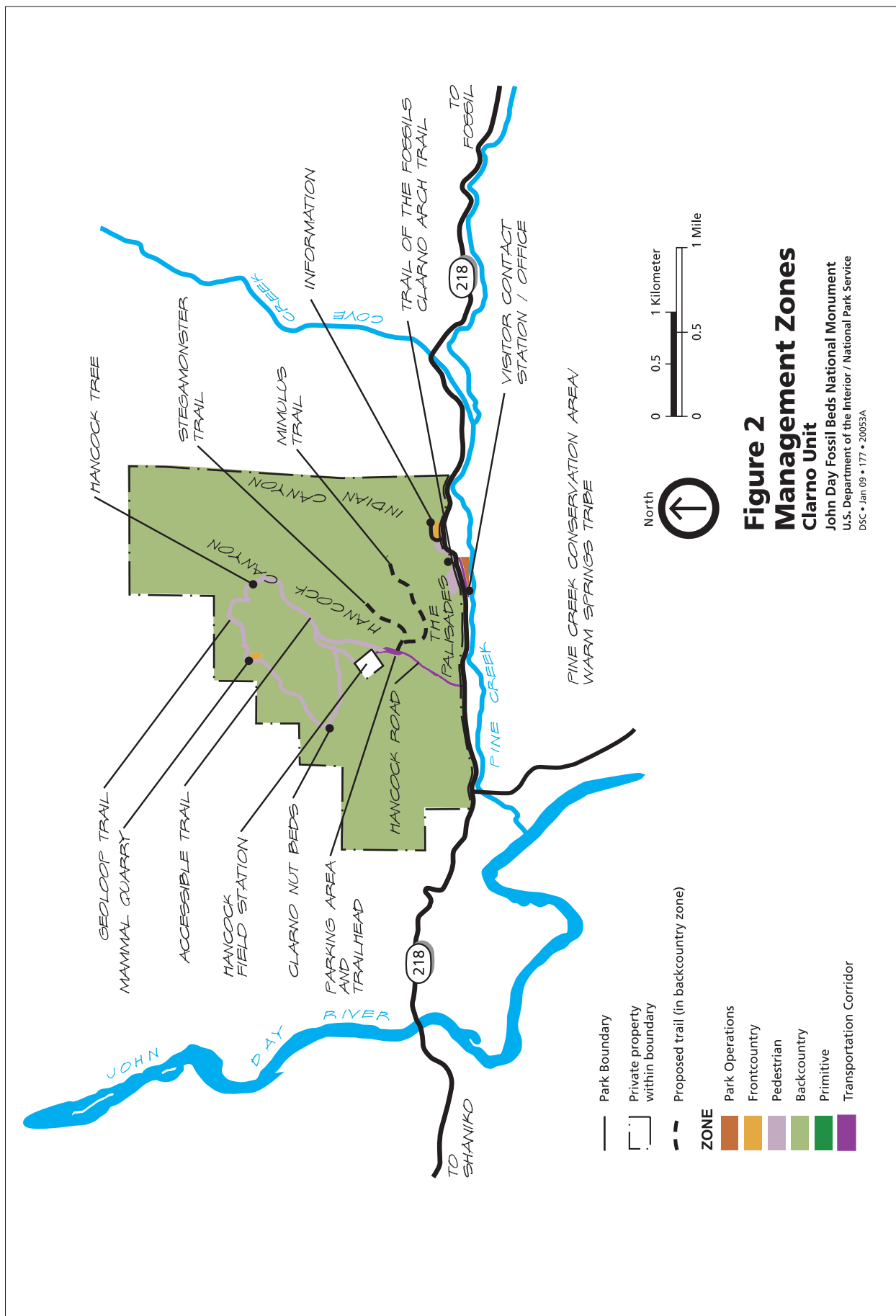
No changes will occur regarding the management of Butler Basin, above the paleontology center. Visitors will continue to be allowed to hike in the area so long as they were not on exposed paleosols.

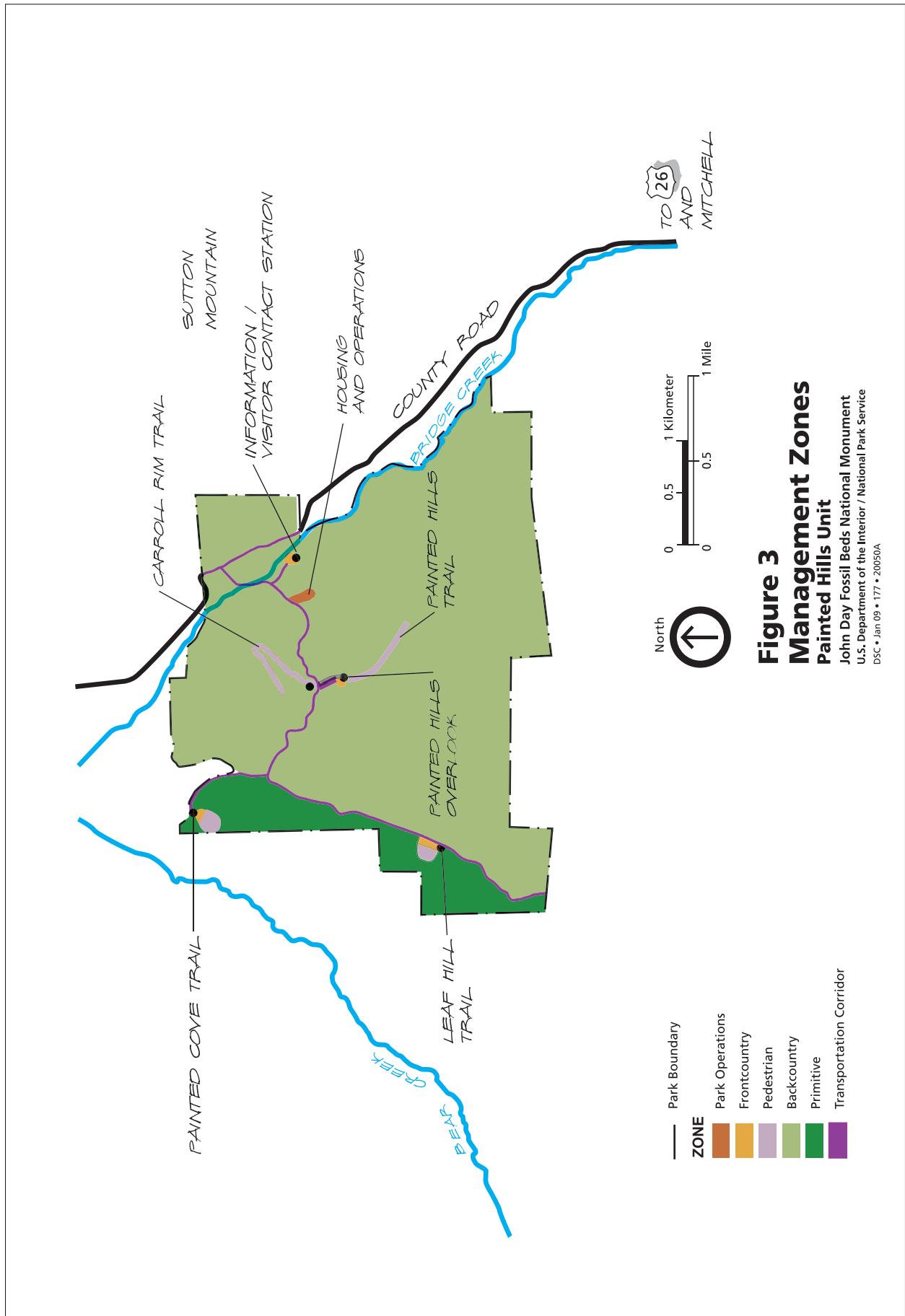
Research Natural Area

One research natural area exists in the monument in the Sheep Rock Unit. The Sheep Rock Research Natural Area was nominated in 1985 and includes approximately 920 acres. It is composed of two geographically separated sites: the Rock Creek and Waterspout Gulch sites. The Rock Creek site includes 440 acres and the Waterspout Gulch site includes 480 acres. Both of these sites are in steep, rugged topography, are relatively inaccessible, and are unaffected by past livestock grazing. The research natural area will continue to be managed to protect its pristine qualities. The management zoning is compatible with this special designation.



Thomas Condon Paleontology Center.





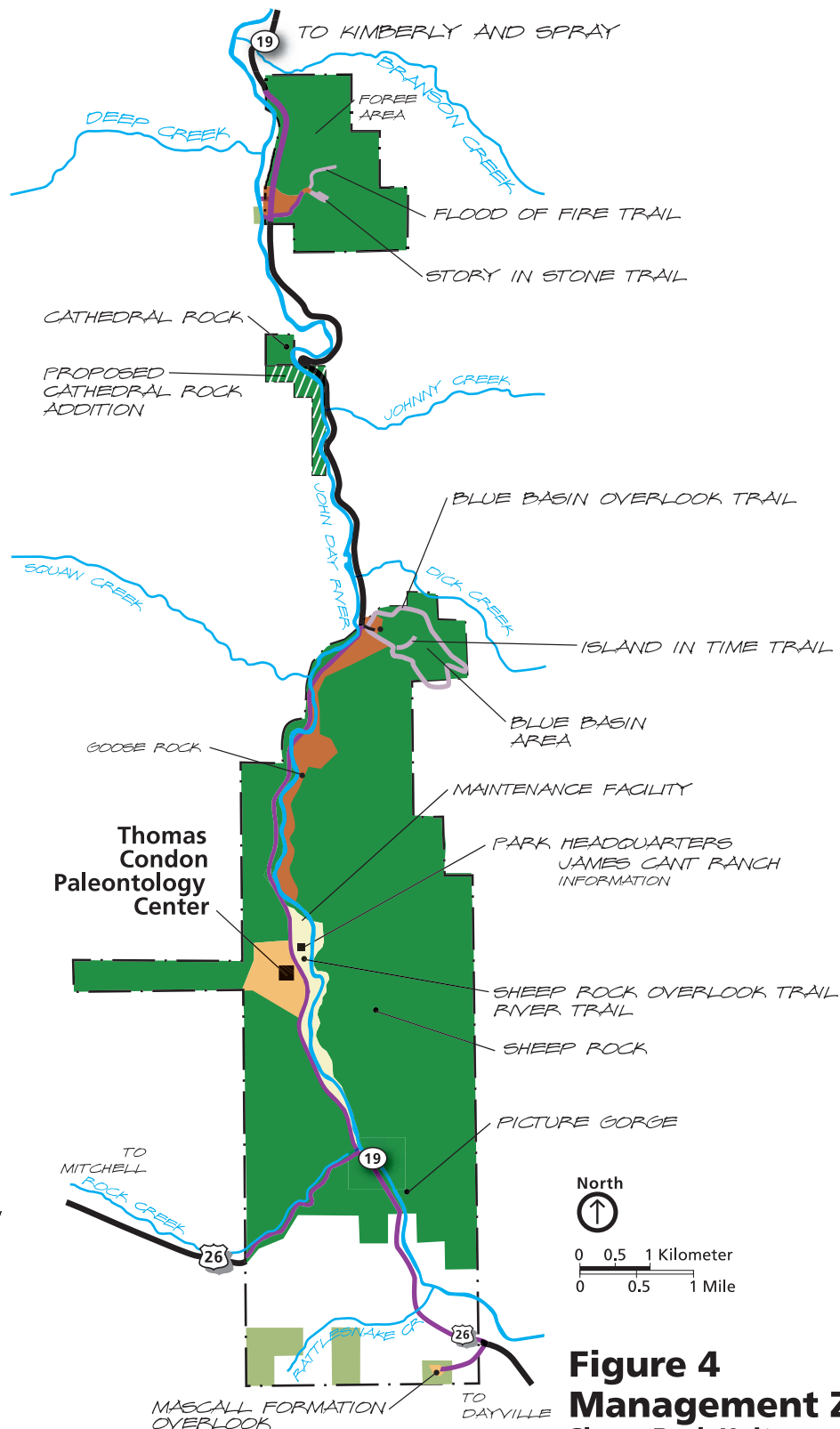


Figure 4
Management Zones
Sheep Rock Unit

John Day Fossil Beds National Monument
 U.S. Department of the Interior / National Park Service
 DSC • Jan 09 • 177 • 20050A

USER CAPACITY

The National Park Service defines user capacity as the type and level of visitor that can be accommodated while sustaining the quality of resources and visitor opportunities consistent with the purposes of the National Park Service unit. It is not necessarily a set of numbers or limits, but rather a process involving monitoring, evaluation, actions (managing visitor use), and adjustments to ensure a park unit's values are protected.

With any use on public lands comes some level of impact that must be accepted. Therefore, it is the responsibility of the National Park Service to decide what level of impact is acceptable and what actions are needed to keep impacts within acceptable limits. Instead of solely tracking and controlling user numbers, NPS staff manages the levels, types, and patterns of visitor use and other public uses as needed to manage the condition of the resources and quality of the visitor experience.

Five key elements are involved in user capacity decision making:

- resource and visitor experience
- desired conditions as described in the management zones
- indicators and standards
- monitoring
- management strategies

User capacity decision making is a continuous process; decisions are adjusted based on monitoring the indicators and standards. Management actions are taken to minimize impacts when needed. The indicators and standards included in this management plan would generally not change in the future. However, as monitoring of the monument's conditions continues, managers may decide to modify, add, or delete indicators if better ways are found to measure important changes in resource and social conditions. The results of the monument's monitoring efforts, related visitor use management actions, and any changes to the monument's indicators and standards will be available for public review.

INDICATORS AND STANDARDS

This management plan includes identification of user capacity indicators and standards. Table 3 includes the indicators, standards, related monitoring, and potential future management strategies allocated by management zone that will be implemented as result of this planning effort. These indicators and standards help translate the broader qualitative descriptions of desired conditions into measurable conditions.

Measurable indicators have been selected for monitoring key aspects of visitor experiences and resources at John Day Fossil Beds National Monument. Standards that represent the points where visitor experience and resource conditions become unacceptable in each zone were then assigned based on desired conditions. The indicators will be monitored in each zone, and when necessary, management actions will be taken to ensure that visitor use and resource impacts remain within the established standards.

Two sets of indicators and standards were selected as measures of visitor use effects at John Day Fossil Beds National Monument: unofficial trails and visitor encounters. The monument staff considered other potential resource indicators that will identify visitor use impacts of concern, but many were eliminated because they were not easy to monitor or did not provide adequate information on the issue of concern. The presence of human-created (unofficial) trails was selected as an indicator to measure the increase in vegetation and soil disturbance that may be occurring outside of the monument's designated facilities. This indicator was considered to be feasible because it would be fairly easy to monitor and would provide useful information about important resource impacts. These human-created trails increase the total footprint of disturbed lands in the monument and may adversely affect sensitive wildlife habitats and important archaeological and paleontological resources.

The monument staff also considered several potential social or visitor experience

indicators that would measure how visitor use levels, types, and behaviors were affecting other visitors. The social indicator selected relates to visitor encounter rates on designated (official) trails. In many studies conducted in the national park system and other areas, this indicator has been demonstrated to be an important indicator of crowding and associated impacts on the visitor experience, especially in backcountry settings (see Roggenbuck, Williams and Watson 1993, Manning 1999).

The standards selected for each indicator were based on best professional management judgment that was informed by the general management plan's desired conditions, the monument's baseline conditions for each indicator, and relevant monument-specific and national research studies.

MONITORING

The monument staff will continue general monitoring of use levels and patterns and will conduct periodic visitor surveys of visitor characteristics, expectations, evaluations, and preferences. In addition, the monument staff will begin monitoring the user capacity indicators identified in the zone descriptions. The rigor of monitoring the indicators (e.g., frequency of monitoring cycles, amount of geographic area monitored) may vary considerably depending on how close existing conditions are to the standards. If the existing conditions are well below the standard, the rigor of monitoring may be less than if the existing conditions are close to or trending towards the standards.

In addition, the initial phases of monitoring for the indicators and standards defined above will help the NPS staff identify if any revisions are needed. The initial testing of the indicators and standards will determine if the indicators are accurately measuring the conditions of concern. Monument staff may decide to modify the indicators or standards and revise the monitoring program if more effective and efficient methods are found to measure changes caused by public use. Most of these changes should be made within the first several years of initiating monitoring.

This iterative learning and refining process is the strength of this approach to managing user capacity—it can be adapted and improved as knowledge grows.

After this initial testing period of monitoring indicators and standards, adjustments should not occur unless there is a compelling reason. Monument staff need to be cautious of adjusting indicators and standards to a point where the indicators and standards are no longer consistent with the desired conditions for the zone. If desired conditions and, subsequently, indicators and standards need to be changed, these decisions may be subject to additional compliance.

Monument staff will monitor social and resource indicators, evaluate current conditions against standards, and take appropriate steps to ensure the monument's user capacity is not exceeded. See table 3 for the user capacity indicators, standards, and management and monitoring strategies that will be followed under the plan.

If use levels and patterns change substantially, the monument staff may need to initiate additional monitoring of new indicators to ensure that desired conditions are maintained. Some of the potential future user capacity indicators may relate to the topics of vegetation trampling along the John Day River and near pictograph sites, trail condition, and number of people at one time at the monument's major attractions.

The selection of any new indicators and standards for monitoring purposes, changes to the indicators and standards identified in this general management plan, or the implementation of any management actions that affect use will comply with NEPA regulations, the National Historic Preservation Act, and other laws, regulations, and policies as needed. The NPS staff will also inform the public of progress and proposed revisions to indicators and standards through regular reporting on the user capacity program.

Table 3: Summary of User Capacity Indicators, Standards, and Strategies for Monitoring and Management

	User Capacity Indicators	User Capacity Standards	Related Monitoring Strategies	Potential Management Strategies
Cultural Zone	Number of people encountered per hour on designated (official) trails	No more than 80 people encountered per hour	Observations of encounter rates as part of regular patrols; systematic observations will be done, if needed, as a result of an increasing trend in encounter rates	Education (e.g., encourage voluntary redistribution of use); site management (e.g., resize parking lot/access points, alter trail opportunities)
Frontcountry Zone	N/A – User capacity managed by facility capacities	N/A – User capacity managed by facility capacities	Sufficiency of facility capacities will continue to be monitored	Future planning will address conflicts between facility capacity deficiencies and maintaining desired resource conditions and visitor experiences
Pedestrian Zone	1. Number of human-created (unofficial trails per mile branching from a designated (official) trail 2. Number of people encountered per hour on designated (official) trails	1. No more than four human-created (unofficial) trails per mile branching from a designated (official) trail 2. No more than 60 people encountered per hour	1. Observations of human-created trails as part of regular patrols; periodic mapping of human-created trails 2. Observations of encounter rates as part of regular patrols; systematic observations will be done, if needed, as a result of an increasing trend in encounter rates	1. Education (e.g., educate regarding resource sensitivity and need for appropriate behaviors); site management (e.g., place physical barriers along the trails, close areas); enforcement (e.g., provide signs, increase law enforcement presence, impose sanctions) 2. Education (e.g., encourage voluntary redistribution of use); site management (e.g., resize parking lot/access points, alter trail opportunities); reallocation of use (e.g., institute a permitting or reservation system); regulations (e.g., limit group sizes, limit length of stay)
Backcountry Zone	1. Linear feet of human-created (unofficial) trails per acre	1. No more than 5 linear feet of human-created (unofficial) trails per acre	1. Observations of human-created trails as part of regular patrols; periodic mapping of human-created trails	1. Education (e.g., educate regarding resource sensitivity and need for appropriate behaviors); site management (e.g., place physical barriers along trails, close areas); enforcement (e.g., provide signs, increase law enforcement presence, impose sanctions)

	User Capacity Indicators	User Capacity Standards	Related Monitoring Strategies	Potential Management Strategies
Backcountry Zone (continued)	2. Number of people encountered per hour on designated (official) trails	2. No more than 40 people encountered per hour	2. Observations of encounter rates as part of regular patrols; systematic observations will be done, if needed, as a result of an increasing trend in encounter rates	2. Education (e.g., encourage voluntary redistribution of use); site management (e.g., resize parking lot/access points, alter trail opportunities); reallocation of use (e.g., institute a permitting or reservation system); regulations (e.g., limit group sizes, limit length of stay)
Primitive Zone	1. Linear feet of human-created (unofficial) trails per acre 2. Number of groups seen per day (6 a.m. to 9 p.m.) within the primitive zone	1. No more than 1 linear foot of human-created (unofficial) trails per acre 2. No more than three groups seen per day in the zone	1. Observations of human-created trails as part of regular patrols; periodic mapping of human-created trails 2. Observations of encounter rates as part of regular patrols; systematic observations will be done, if needed, as a result of an increasing trend in encounter rates	1. Education (e.g., educate regarding resource sensitivity and need for appropriate behaviors); site management (e.g., close areas); enforcement (e.g., provide signs about appropriate behaviors, increase law enforcement presence, impose sanctions) 2. Education (e.g., encourage voluntary redistribution of use); reallocation of use (e.g., institute a permitting or reservation system); regulations (e.g., limit length of stay)
Transportation Corridor	N/A – The National Park Service does not have management authority over the county and state road corridors, so no user capacity indicators and standards are identified			
Operations Zone	N/A - Minimal public use occurs in this zone, so no user capacity indicators and standards are necessary			

ESTIMATED COSTS

Cost estimates for the plan are identified below in table 4. The cost estimates shown here, in 2006 dollars, are not for budgetary purposes; they are intended to show only a very general estimate. The actual costs to the federal government could vary depending on various factors such as the final design of each facility, opportunities for partnerships, and future economic conditions. Note that these costs do not include the costs for any additional plans or studies.

The implementation of the plan will depend on future funding. The approval of this plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the actions in this plan could be many years in the future.

Development

This plan includes the improvements to facilities and structures described previously. The estimated development cost of these improvements in 2006 dollars is approximately \$800,000.

Staff and Operations

To achieve this plan the monument needs to expand its current staffing levels of 22 full-time equivalent staff (FTEs) by 6.5 for research, resource protection, and interpretation. (One FTE is one person working 40 hours per week for one year, or the equivalent.) The monument's current operating budget of \$2.0 million/year needs to be increased by approximately \$650,000 to fund these positions. The total cost to operate the monument according to this plan is about \$2.8 million per year (in 2006 dollars).

Table 4: Estimated Costs

Recurring Costs	
Bridge Creek restoration.(staffing & materials).....	\$30,200/year
John Day River restoration.(staffing & materials).....	\$91,000/year
6.5 FTE.....	\$650,000/year
ADDITIONAL TOTAL RECURRING COSTS (rounded)..... \$771,000/year	
One-time Capital Costs	
Clarno Unit	
Mammal quarry facility.....	\$45,500
Geo-Loop Trail and parking area.....	\$528,200
Formalize Mimulus & Stegamonster trails.....	\$51,680
Painted Hills Unit	
Redesign Painted Hills Overlook.....(if paved)	\$88,400
Shade structure at Painted Hills picnic area.....	\$30,000
Monument-wide	
Social trail closure and restoration.....	\$25,000
TOTAL CAPITAL COSTS (rounded)..... \$770,000	



Hancock Tree, Clarno Unit.

OTHER ELEMENTS OF THE PLAN

BOUNDARY ADJUSTMENTS

The National Park and Recreation Act of 1978 requires general management plans to address whether boundary modifications should be made to park units. This plan proposes the addition of an area adjacent to the Sheep Rock Unit that would require a boundary adjustment (See also appendix C for an analysis of the boundary adjustment according to NPS land protection criteria.)

The National Park Service will pursue a land exchange between an adjacent private landowner and the Bureau of Land Management around Cathedral Rock in the Sheep Rock Unit. This land exchange, involving up to 1,000 acres, would protect a key geologic feature and up to 100 acres of important riparian habitat along the John Day River.

Although the outcome of the boundary adjustment is contingent on agreements with other outside parties, this plan does not prohibit small additions, such as land for administrative use, that may be identified in the future by other land planning processes.

PARTNERSHIPS, PROGRAMS, AND ACTIVITIES

The National Park Service will continue its partnership with the Bureau of Land Management, U.S. Forest Service, and the U.S. Fish and Wildlife Service to share resources on paleontology and archaeology in the John Day Basin. An interagency agreement signed by the three agencies in 2006, allows the monument to provide staffing and expertise on paleontological resource needs in the John Day Basin while the Bureau of Land Management provides staffing and expertise on archeological resource needs in the monument.

Furthermore, the agreement allows NPS staff to conduct paleontological inventories on

other agencies' lands in the John Day Basin and to store fossils from those lands in the monument's repository. The National Park Service and Bureau of Land Management will continue to share and jointly fund a full time law enforcement ranger.

The monument will continue to work with museums and universities around the world on paleontological research and curation methods. Planning assistance will be sought from such sources for opening the Mammal Quarry and for programming assistance for developing and operating interpretive activities on site.

The monument staff will continue its long-standing partnership with the Oregon Museum of Science and Industry through its Hancock Field Station located in the monument. Monument staff will continue to work with Hancock staff on interpretive programs and special projects in the Clarno Unit. In particular, the monument staff will seek to engage Hancock staff and volunteers in eliminating human-created unofficial trails and restoring the areas to natural conditions.

As noted above, in the Painted Hills Unit monument staff will seek to collaborate with the adjacent landowner on a comprehensive restoration effort that encompasses both sides of Bridge Creek. In addition, NPS staff will work with Wheeler County to obtain funding to pave the road to Painted Cove using a design approach that would maintain the rural character of the area.

FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED

Other more detailed studies and plans are needed before specific actions included in this plan can be implemented.

As required, additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and policies) and public involvement will be conducted. These additional studies include the following:

- an implementation plan for opening the mammal quarry to research and interpretation
- a long-range interpretation plan that focuses on conveying the significance of the monument's fundamental resources and values through the primary interpretive themes
- a historic preservation and use plan for the Cant Ranch barn and outbuildings
- a study/plan to determine the most appropriate irrigation techniques to be used at the Cant Ranch that promote water conservation and are compatible with the property's historic character
- a land protection plan that focuses on evaluating important viewsheds and other significant features that affect the integrity of the monument's fundamental resources and values
- a river recreation management plan (should this activity increase to a level that warrants such planning)
- a resource stewardship strategy that

provides comprehensive, long-range direction for natural and cultural resource management

- a trails management plan that sets forth direction for the development and maintenance of official trails and for restoration of unofficial, human-created trails in the monument
- an accessibility study that focuses on barriers to monument programs and facilities, which would provide the basis for developing a strategy to improve accessibility for people with disabilities

FUTURE COMPLIANCE REQUIREMENTS

The following table lists some of the specific future compliance requirements for this plan. Included are the NPS determinations of how those individual requirements relate to the 1995 programmatic agreement in relation to cultural resources.

Table 5: Future Compliance Required for Implementation of Specific Actions

Action	Compliance Requirement
• Routinely monitoring and stabilizing archeological sites. • Monitoring cultural landscapes and historic structures to protect, preserve, and research them.	These items are programmatically excluded from future Section 106 review and SHPO consultation in accordance with the 1995 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers.
• Ground disturbing activities for new trails, the formalization of existing social trails, for parking lot development, and for visitor facilities like new shade structures. • If eligible for National Register of Historic Places, discovery of archeological sites that cannot be avoided via survey of new trails or formalization of existing trails.	Future Section 106 review and SHPO consultation would likely be necessary and required before construction at the project implementation planning or design stages.

APPENDIX A: FONSI



National Park Service
U.S. Department of the Interior

Finding of No Significant Impact Environmental Assessment General Management Plan

John Day Fossil Beds National Monument Oregon

The National Park Service (NPS) has prepared a general management plan / environmental assessment (GMP/EA) for John Day Fossil Beds National Monument, Oregon. John Day Fossil Beds National Monument was authorized by an act of Congress on October 26, 1974 (Public Law 94-486). The national monument encompasses 14,000 acres in the John Day River valley. Congress established the national monument to preserve, and provide for the scientific and public understanding of the paleontological resources of the John Day region, and the natural, scenic, and cultural resources within the boundaries of the national monument.

The last comprehensive management plan for John Day Fossil Beds National Monument was completed in 1979. Much has changed since then, including the construction of new facilities and changes in visitor use patterns. Also, resource conditions continue to change and are affected by visitation. Each of these changes has implications for how visitors access and use John Day Fossil Beds National Monument, how the existing facilities support these uses, how resources are managed, and how the National Park Service manages its operations.

A new plan is needed to:

- provide a realistic vision for the monument's future, setting a direction for the monument that considers the environmental as well as the financial impact of proposed facilities and programs
- establish a common management direction for all monument divisions and units
- clearly define resource conditions and visitor uses and experiences to be achieved in the monument
- ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, environmental impacts, and economic costs of alternative courses of action

Three alternatives were identified for the management of John Day Fossil Beds National Monument. The alternatives, which were based on the monument's purpose, significance, and special mandates, present different ways to manage resources and visitor use, and improve facilities and infrastructure at John Day Fossil Beds National Monument. Concerns identified during scoping and evaluated in the environmental assessment included: trail expansion and management; spread of nonnative species; restoration of riparian zones; management of the agricultural fields at the Cant Ranch; use and types of visitor facilities; and user capacity of the area.

Selected Alternative

Alternative B is the National Park Service's selected alternative for implementation and there have been no changes in the alternative as identified and analyzed in the environmental assessment. The primary focus of this alternative will be on enhancing visitor experience opportunities and experiences while protecting natural and cultural resources. Natural resources will be improved through site restoration, while visitor opportunities will be increased with new trails and other limited new facilities. Compared to the other alternatives considered, this alternative will provide a higher level of protection to natural landscapes and cultural resources. Research, education, and interpretive activities concerning the environment, paleontology, and geology will be increased. The alternative will continue to offer a diversity of opportunities for visitor experiences. New facilities will be constructed in previously developed areas where possible. Disturbance to sensitive areas, such as rare species habitat and archeological sites, will also be avoided or mitigated whenever possible.

Specific actions under the selected alternative will include the following:

Clarno Unit

- The Mammal Quarry will be opened for research and interpretation.
- The Geo-Loop will be formalized and designated as an official trail with a new parking area developed just east of the Hancock Field Station.
- The Mimulus and Stegamonster trails will be formalized and designated as official trails.

Painted Hills Unit

- The Painted Hills Overlook will be redesigned to improve visitor access and aesthetics, and to accommodate parking for the Carroll Rim Trailhead. New shade structures will be added to the overlook.
- The NPS staff will work with Wheeler County to pursue paving of the road to Painted Cove that meets NPS standards and incorporates a design approach that preserves the rural character of the area.
- The existing picnic area and arboretum will continue to be maintained and enhanced by adding new shade structures.
- The Leaf Hill Trail will continue to be maintained.
- Bridge Creek will continue to be restored by planting trees and removing invasive vegetation and by seeking a cooperative agreement with the adjacent landowner for expanded restoration.

Sheep Rock Unit

- The Cant Ranch agricultural fields will be maintained, and the sustainability of agricultural operations will be improved by focusing on actions such as leveling land and installing sprinklers.
- The John Day River will continue to be restored by planting trees and removing invasive vegetation, and by removing dikes and rock barbs to improve hydrologic functions.
- The National Park Service will seek to protect about 100 acres around Cathedral Rock by pursuing a boundary adjustment and land exchange or purchase.

Other Alternatives

Two other alternatives were considered for John Day Fossil Beds National Monument. Alternative A (no action) consists of the continuation of existing monument management and trends, and serves as the basis for evaluating the other alternatives. Under alternative A the National Park Service would have continued to manage John Day Fossil Beds National Monument as it has since the approval of the 1979 General Management Plan, which envisioned the construction of the now existing paleomuseum-visitor center. There would have been no other major change in the management of John Day Fossil Beds National Monument under this alternative. All facilities and resource programs would have continued as they have - no major new facilities would have been built.

Management under alternative C would have focused on further expanding visitor opportunities with additional visitor facilities and trails, and improving natural resources through site restoration. Of the alternatives considered, alternative C would have provided the highest level of restoration of natural landscapes but would have affected existing visitor opportunities and certain cultural landscapes. The alternative would have provided more facilities and a higher level of developed visitor opportunities.

Mitigative Measures

Congress charged the National Park Service with managing the lands under its stewardship "...in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (NPS Organic Act, 16 USC 1). As a result, NPS staff routinely evaluates and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the alternative protects unimpaired natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures will be applied to actions proposed in this plan. The National Park Service will prepare appropriate environmental review (i.e., those required by the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service will avoid, minimize, and mitigate adverse impacts when practicable. The implementation of a compliance-monitoring program will be within the parameters of NEPA and NHPA compliance documents, U.S. Army Corps of Engineers

Section 404 permits, etc. Responsibility and accountability for mitigation will be that of the park management. The compliance-monitoring program will oversee these mitigation measures and will include reporting and post completion evaluation protocols.

The following mitigation measures and best management practices will be applied to avoid or minimize potential impacts from implementation of the alternative.

Natural Resources

General

- John Day Fossil Beds National Monument's resources, including air, water, soils, vegetation, and wildlife, will be periodically inventoried and monitored to provide information needed to avoid or minimize impacts of future development. Any museum collections generated by such activities will be managed according to NPS policies.
- Whenever possible, new facilities will be built in previously disturbed areas or in carefully selected sites with as small a construction footprint as possible. During design and construction periods, NPS natural resource staff will identify areas to be avoided.
- Fencing or other means will be used to protect sensitive resources adjacent to construction areas.
- Construction activities will be monitored by resource specialists as needed. Construction materials will be kept in work areas, especially if the construction takes place near streams, springs, natural drainages, or other water bodies.
- Visitors will be informed of the importance of protecting the monument's natural resources (including paleontological resources) and leaving these undisturbed for the enjoyment of future generations.

Air Quality

- A dust abatement program will be implemented. Standard dust abatement measures could include watering or otherwise stabilizing soils, covering haul trucks, employing speed limits on unpaved roads, minimizing vegetation clearing, and revegetating after construction.

Soils

- New facilities will be built on soils suitable for development. Soil erosion will be minimized by limiting the time soil is left exposed and by applying other erosion-control measures such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work is completed, construction areas will be revegetated with native plants in a timely period.
- To minimize soil erosion on new trails, best management practices for trail construction will be used. Examples of best management practices could include installing water bars, check dams and retaining walls; contouring to avoid erosion; and minimizing soil disturbance.

Paleontological Resources

- Site-specific surveys will be undertaken before any ground disturbance occurs in areas believed likely to contain fossils. If important paleontological resources were identified, the National Park Service will attempt to avoid, relocate, or otherwise mitigate impacts from the actions being taken. Any specimens found and collected during construction activities will be managed according to NPS museum collection policies.
- Efforts will be undertaken to inform and educate visitors, students, teachers, and the public about the monument's paleontological resources, the reasons for protecting these resources, and the laws regarding the collection of fossils from NPS lands.

Water Resources

- To prevent water pollution during construction, erosion control measures will be used, discharges to water bodies will be minimized, and construction equipment will be regularly inspected for leaks of petroleum and other chemicals.
- Best management practices, such as the use of silt fences, will be followed to ensure that construction-related effects are minimal and to prevent long-term impacts on water quality, wetlands, and aquatic species.
- Caution will be exercised to protect water resources from activities with the potential to damage water resources, including damage caused by construction equipment, erosion, and siltation. Measures will be taken to keep fill material from escaping work areas, especially near streams, springs, natural drainages, and wetlands.
- For new facilities, and to the extent practicable for existing facilities, stormwater management measures will be implemented to reduce nonpoint source pollution discharge from parking lots and other impervious surfaces. Such actions could include use of oil/sediment separators, street sweeping, infiltration beds, permeable surfaces, and vegetated or natural filters to trap or filter stormwater runoff.
- The monument's spill prevention and pollution control program for hazardous materials will be followed and updated on a regular basis. Standard measures could include procedures for hazardous materials storage and handling, spill containment, cleanup, and reporting; and limitation of refueling and other hazardous activities in upland/nonsensitive sites.

Vegetation

- Areas used by visitors (e.g., trails) will be monitored for signs of native vegetation disturbance. Public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers will be used to control potential impacts on plants from trail erosion or social trailing.
- Proposed sites for new trails and other facilities will be surveyed for sensitive species before construction. If sensitive species are present, new developments will be relocated to avoid impacts.
- Revegetation plans will be developed for disturbed areas. Revegetation plans should specify such features as seed/plant source, seed/plant mixes, soil preparation, fertilizers, and mulching. Salvage vegetation, rather than new planting or seeding, will be used to any extent possible. To maintain genetic integrity, native plants that grow in the project area or the region will be used in

restoration efforts, whenever possible. Use of nonnative species or genetic materials will be considered only where deemed necessary to maintain a cultural landscape or to prevent severe resource damage, and will be approved by the monument's natural resource specialist. Restoration activities will be instituted immediately after construction is completed. Monitoring will occur to ensure that revegetation was successful, plantings were maintained, and unsuccessful plant materials were replaced.

Nonnative Plant Species

- Special attention will be devoted to preventing the spread of noxious weeds and other nonnative plants. Standard measures could include the following elements: ensure construction-related equipment arrives on-site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds before construction, treat noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.

Wildlife

- To the extent possible, new or rehabilitated facilities will be sited to avoid sensitive wildlife habitats, including feeding and resting areas, major travel corridors, nesting areas, and other sensitive habitats.
- Construction activities will be timed to avoid sensitive periods, such as nesting or spawning seasons. Ongoing visitor use and NPS operational activities could be restricted if their potential level of damage or disturbance warranted doing so. Measures will be taken to reduce the potential for wildlife to get food from humans. Wildlife-proof garbage containers will be required in developed areas (including visitor centers, picnic areas, trails, and interpretive waysides). Signs will continue to educate visitors about the need to refrain from feeding wildlife.
- Other visitor impacts on wildlife will be addressed through such techniques as visitor education programs, restrictions on visitor activities, and ranger patrols.

Threatened and Endangered Species and Species of Concern

Conservation measures will occur during normal operations as well as before, during, and after construction to minimize long-term, immediate impacts on rare species, and threatened and endangered species if they are identified in the monument. These measures will vary by specific project and the affected area of John Day Fossil Beds National Monument. Many of the measures listed above for vegetation and wildlife will also benefit rare, threatened, and endangered species by helping to preserve habitat. Conservation measures specific to rare, threatened, and endangered species will include the following actions:

- Surveys will be conducted for special status species, including rare, threatened, and endangered species, before deciding to take any action that might cause harm. In consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Oregon Department of Fish and Wildlife, appropriate measures will be taken to protect any sensitive species whether identified through surveys or presumed to occur.
- If breeding or nesting areas for threatened and endangered species were observed in the monument, these areas will be protected from human disturbance.

- New facilities and management actions will be located and designed to avoid adverse effects on rare, threatened, and endangered species. If avoidance of adverse effects on rare, threatened, and endangered species is infeasible, appropriate conservation measures will be taken in consultation with the appropriate resource agencies.
- Restoration or monitoring plans will be developed as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Measures will be taken to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

Noise Abatement

- Standard noise abatement measures will be followed during construction periods. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts on adjacent noise-sensitive resources, the use of the best available noise control techniques wherever feasible, the use of hydraulically or electrically powered impact tools when feasible, and the location of stationary noise sources as far from sensitive resources as possible.
- Facilities will be located and designed to minimize objectionable noise.

Scenic Resources

Mitigation measures are designed to minimize visual intrusions. These measures could include the following:

- Where appropriate, facilities such as boardwalks and fences will be used to route people away from sensitive natural and cultural resources while still permitting access to important viewpoints.
- Facilities will be designed, sited, and constructed to avoid or minimize visual intrusion into the natural environment or landscape.
- Vegetative screening will be provided, where appropriate.

Cultural Resources

All projects with the potential to affect historic properties will be carried out in compliance with Section 106 of NHPA to ensure that the effects are adequately addressed. All reasonable measures will be taken to avoid, minimize, or mitigate adverse effects in consultation with the Oregon State Historic Preservation Officer and, as necessary, the Advisory Council on Historic Preservation and other concerned parties, including American Indian tribes. In addition to adhering to the legal and policy requirements for cultural resources protection and preservation, the National Park Service will also undertake the following measures as required to further protect or mitigate resources potentially at risk of disturbance because of implementing proposed actions:

- All areas selected for construction will be surveyed to ensure that cultural resources (i.e., archeological, historic, ethnographic, and cultural landscape resources) in the area of potential effects are adequately identified and protected by avoidance or, if necessary, mitigation.
- Compliance with the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) will apply in the unlikely event that human remains believed to

be Native American would be discovered inadvertently during construction. Prompt notification and consultation with the tribes traditionally associated with John Day Fossil Beds National Monument will occur in accordance with NAGPRA. If such human remains were believed to be non-Indian, standard reporting procedures to the proper authorities will be followed, as will all applicable federal, state, and local laws.

- Archeological documentation will be done in accordance with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.
- Should construction unearth previously unknown archeological resources, work will stop in the area of discovery until the resources were properly recorded by the National Park Service and evaluated under the eligibility criteria of the National Register of Historic Places in accordance with Section 106 procedures. Data recovery excavations and/or other mitigating measures will be carried out where site avoidance is not possible.
- New construction or alterations and rehabilitation of historic structures will be sensitively carried out in accordance with the *Secretary of the Interior's Standards for Archeology and Historic Preservation* to ensure that character-defining features are protected. Vegetation screening and sensitive topographic and/or other site selection criteria will be used to minimize the visual intrusion of new construction on historic viewsheds or in historic areas.
- Ethnographic resources will be protected and mitigated by such means as identifying and maintaining access for recognized and affiliated groups to traditional, spiritual/ceremonial, or resource gathering, and other activity areas. As practical, new developments will be screened from these areas, and conflicting uses will be relocated or timed to minimize disruptions.
- Cultural landscapes will be protected and any alterations and changes affecting cultural landscapes and designated National Register Districts will follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes* (1996). All potential actions, such as thinning of vegetation to reduce fuel loads, removal of exotic species, modification of historic circulation patterns, removal of noncontributing or nonhistoric structures and landscape features, or adaptive use of a cultural landscape, will incorporate compatible design guidelines to retain essential historic character and mitigate potential adverse effects.
- Further background research, resource inventories, and National Register of Historic Places evaluations of historic properties will be carried out where management information is lacking. The results of these efforts will be incorporated into site-specific planning and compliance documents. All options for preserving historic properties will be considered and evaluated. However, if historic buildings, structures, or landscapes could not be reasonably preserved, historical and architectural documentation will be completed in accordance with the standards of the Historic American Buildings Survey (HABS), the Historic American Engineering Record (HAER), or the Historic American Landscapes Survey (HALS). The nature and scope of these mitigation measures will be developed in consultation with the Oregon State Historic Preservation Officer, Advisory Council on Historic Preservation, and other concerned parties.
- Visitors will be educated on the importance of protecting the monument's cultural resources and leaving these undisturbed for the enjoyment of future visitors.

- Museum collections will be accessioned, catalogued, protected, and preserved in accordance with NPS standards and guidelines.

Visitor Safety and Experiences

- Measures to reduce adverse effects of construction on visitor safety and experience will be implemented, including project scheduling and the use of best management practices (BMPs).
- Visitor safety concerns will be integrated into interpretative and educational programs. Directional signs and education programs to promote understanding among visitors will continue.

Socioeconomic Environment

- During the future planning and implementation of the approved management plan for John Day Fossil Beds National Monument, NPS staff will work with local communities and county governments to further identify potential impacts and mitigation measures that will best serve the interests and concerns of both the National Park Service and the local communities.
- Partnerships will be pursued to improve the quality and diversity of community amenities and services.

Environmentally Preferred Alternative

The environmentally preferred alternative is defined as “the alternative that will promote national environmental policy as expressed in Section 101 of the National Environmental Policy Act.” Section 101 states that it is the continuing responsibility of the federal government to . . .

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity, and a variety of individual choices;
5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferable alternative is alternative B, the NPS selected alternative for John Day Fossil Beds National Monument. This alternative best satisfies the national environmental goals – it provides the highest level of protection of natural and cultural resources while concurrently providing for a wide range of neutral and beneficial uses of

the environment. The selected alternative maintains an environment that supports a diversity and variety of individual choices, and it integrates resource protection with an appropriate range of visitor uses and understanding.

The selected alternative (alternative B) surpasses the other alternatives in realizing the full range of the Section 101 national environmental policy goals. The selected alternative provides more resource protection at Cathedral Rock due to a land exchange that would add 100 additional acres to the monument. In addition, the selected alternative would provide more opportunities for public enjoyment and understanding of the monument than the no-action alternative, and thus better fulfills criteria 3, 4, and 5 listed above.

Alternative C would provide for more visitor use opportunities, but there also would be a higher potential for more impacts to natural resources in comparison with the selected alternative. In addition, in alternative C the restoration of the Cant Ranch fields to native vegetation would be an adverse effect on the cultural landscape of a national historic district; however, it would provide a more natural landscape. Thus, alternative C would not satisfy criterion 3 (attain the widest range of beneficial uses of the environment without degradation) and criterion 4 (preserve important aspects of our national heritage) as well as the selected alternative satisfies these criteria.

Why the Selected Alternative will not Have a Significant Effect on the Human Environment

As defined in 40 Code of Federal Regulations (CFR) §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse

None of the impacts identified for the selected alternative will result in more than a moderate level of impact. Moderate beneficial impacts for the selected alternative were identified for soils and vegetation (due to riparian restoration, trail restoration, and user capacity monitoring and adaptive management), and visitor use and experience (due to increased recreation opportunities and visitor programs, as well as implementation of a user capacity framework). Moderate adverse impacts for the selected alternative were identified for vegetation (due to the effects of nonnative plants) and national monument operations (due to the requirements for staffing, maintenance, and operational needs).

Most impacts identified for the selected alternative were negligible to minor in intensity. Most negligible to minor impacts were adverse and included impacts to: paleontological resources (due to the increased potential for illegal fossil collecting), soils and vegetation (due to visitor use and development), and wildlife (due to continued visitor use). Negligible to minor beneficial impacts included impacts to: paleontological resources (due to the opening of the mammal quarry and removal/restoration of social trails), wildlife (due to vegetation and riparian restoration/protection), and visitor use and experience (due to improvements in opportunities for visitors and persons with disabilities).

Degree of effect on public health or safety

Visitor safety will remain a priority under the selected alternative. None of the actions proposed in the selected alternative will adversely affect public health or safety. Indeed, several of the actions will beneficially affect public health and safety, including: increasing NPS staff presence, formalizing and maintaining trails, providing shade structures at recreation sites, improving the road to Painted Cove, and redesigning the Painted Hills Overlook.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

As described in the environmental assessment, John Day Fossil Beds National Monument contains significant historic and cultural resources, prime farmlands, small wetlands along creeks, rivers, and springs, and a designated research natural area. The monument is also adjacent to Bureau of Land Management (BLM) lands and to portions of the John Day River that are designated wild and scenic river sections. No adverse effects will occur to historic structures and cultural landscapes under the selected alternative. Although prime farmland soils exist within the monument, primarily at the Cant Ranch, the selected alternative will not adversely affect these areas—no new developments will be proposed in these areas and the agricultural fields will remain in production. No impacts to wetlands as a result of the alternative will be expected. The research natural area located in the monument's Sheep Rock Unit will not be affected by the alternative and it will be maintained to protect its important natural qualities. The selected alternative will not impact adjacent BLM lands, other than the potential for a land acquisition that would alter BLM land holdings. The designated wild and scenic river sections of the John Day River are outside the monument boundary and no impacts to them will occur.

Degree to which effects on the quality of the human environment are likely to be highly controversial

None of the actions proposed in the selected alternative have the potential to be highly controversial. This is supported by the fact that the planning team received only a handful of comments in response to the draft environmental assessment.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks

There could be adverse impacts to fossils in the area due to increased potential for illegal collection in the monument and other cumulative projects in the region; however, the magnitude of the cumulative impact is unknown. It is not possible to predict the impact to the paleontological resources that occur outside the monument. The contribution of the selected alternative to any adverse cumulative impact is a small increment. Partnership actions under the selected alternative will help to minimize the impacts to area fossils and other geological resources.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

No actions are proposed in the selected alternative that are inconsistent with the enabling legislation for John Day Fossil Beds National Monument. The selected alternative will not set any NPS precedent for future actions with significant effects, nor represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts

As noted in the environmental assessment, there could be long term adverse cumulative impacts of unknown magnitude to area fossils. However, the actions proposed in the selected alternative will add a small beneficial and adverse increment to the overall cumulative impacts. Most of the cumulative impacts will be due to actions independent of the selected alternative. Partnership actions under the selected alternative will help to minimize the impacts to area fossils and other geological resources. In addition, the cumulative impact to visitor use and experience (specifically visitor understanding, education, and interpretation) will be long-term, beneficial, and of major intensity. The actions under the selected alternative will add an appreciable amount to this beneficial impact by increasing visitor opportunities and education programs related to the resources located in the monument and in the John Day region.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

As described in the environmental assessment, no significant scientific, cultural, or historical resources will be lost or destroyed as a result of the selected alternative. Compliance with §106 of the National Historic Preservation Act was completed with a concurrence with the NPS determination of no historic properties affected by the Oregon State Historic Preservation Office in letters issued on September 23, 2008 and December 17, 2008.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat

The NPS determined that the selected alternative will have no effect on federally listed threatened or endangered species or their critical habitat. This determination was discussed with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service on October 22, 2008 and the U.S. Fish and Wildlife Service on December 9, 2008 when both agencies indicated no additional consultation was needed.

Whether the action threatens a violation of Federal, state, or local environmental protection law

This action violates no federal, state, or local environmental protection laws.

Impairment

In analyzing impairments in conjunction with the NEPA analysis for this project, the National Park Service takes into account the fact that if impairment were likely to occur, by operation of the Council on Environmental Quality's regulations at 40 CFR, such impacts will be considered to be major or significant. This is because the context and intensity of the impact will be sufficient to render what will normally be a minor or moderate impact to be major or significant. Taking this into consideration, NPS guidance documents note that "Not all major or significant impacts under a NEPA analysis are impairments. However, all impairments to NPS resources and values will constitute a major or significant impact under NEPA. If an impact results in impairment, the action should be modified to lessen the impact level. If the impairment cannot be avoided by modifying the proposed action, that action cannot be selected for implementation" (*Interim Technical Guidance on Assessing Impacts and Impairment to Natural Resources*, National Park Service, Natural Resource Program Center, July 2003).

In addition to reviewing the list of significance criteria, the National Park Service has determined that implementation of the selected alternative will not constitute an impairment to the integrity of John Day Fossil Beds National Monument's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the environmental assessment. The environmental assessment identified less than major adverse impacts on paleontological resources, soils, vegetation, wildlife, archeological resources, and historic structures and cultural landscapes. This conclusion is further based on the superintendent's professional judgment, as guided by the direction in *NPS Management Policies 2006*. Although the selected alternative has some negative impacts, in many cases these adverse impacts are the result of actions taken to preserve and restore other monument resources and values. Overall, the plan results in benefits to monument resources and values, opportunities for their enjoyment, and it does not result in their impairment.

Public Involvement

A variety of public involvement techniques were used for this project, including the use of newsletters, public meetings, on-line information posting and commenting via the National Park Service's Planning, Environment, and Public Comment (PEPC) system, and the publication of notices in the Federal Register. In December 2004, a scoping newsletter was distributed and two public meetings were held in the vicinity of the monument to obtain feedback from the public about the monument and any ideas, issues, or concerns. A total of about 30 people attended these meetings and nine written comments were received in response to the newsletter. Topics raised included visitor uses, types and levels of facilities and services, resource protection and management, and partnerships.

A second newsletter was distributed in February 2006 that presented the plan's preliminary alternatives and three public meetings were held in the vicinity of the monument. About 30 people attended these meetings. Written comments were received from 37 individuals and organizations. Topics addressed by the commentators included visitor access, trails, facilities, resource protection and management, and research efforts.

The draft general management plan / environmental assessment was made available for public review during a 60-day period ending November 17, 2008. Public meetings were held during the comment period in Dayville, Fossil, and John Day, Oregon. These meetings were primarily informational in nature, with no substantive comments for the plan being expressed. A total of three individuals attended these meetings. Written comments were received from the Oregon State Historic Preservation Office; Friends of Rudio Mountain, Incorporated; the Oregon Natural Desert Association; the Bureau of Land Management's Prineville District Office; and three citizens. Selected public comments and NPS responses are below in the following section. A few minor changes were made in the text as a result of comments received and documented in an Errata prepared as a technical supplement to the environmental assessment.

A notice of intent to prepare an environmental impact statement was published in the *Federal Register* in September 2004. The notice that the project had received a waiver for preparing an environmental impact assessment and approval to prepare an environmental assessment was published in the *Federal Register* in April 2007. This waiver was granted on the basis that the project was noncontroversial.

Consultation and coordination with other agencies, officials and organizations was conducted during the development of the plan. This included Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. National Historic Preservation Act Section 106 review and consultation was completed with Oregon State Historic Preservation Office. Consultation with the traditionally associated American Indian tribes was initiated with a letter from the superintendent at the beginning of the planning process inviting their participation.

Responses to Selected Comments Received during the Public Review of the Draft General Management Plan

The following substantive comments and concerns were received during the public review of the Draft General Management Plan/Environmental Assessment. Substantive comments are defined by NPS Director's Order 12 (DO-12, Section 4.6A) as one that does one or more of the following:

- Question, with a reasonable basis, the accuracy of information in the EA;
- Question, with a reasonable basis, the adequacy of the environmental analysis;
- Present reasonable alternatives other than those presented in the EA; and/or
- Cause changes or revisions in the proposal.

The substantive comments have been summarized below along with NPS responses.

Comments or Concerns	Responses
<i>The need for protection and management of pictographs (rock art) was not adequately addressed in the plan.</i>	The NPS made a conscious decision to limit the information and discussion on pictographs (rock art) located in or near the park due to the sensitivity of those resources. The plan includes desired conditions and strategies for management of ethnographic resources (see pages 30-31) that provide guidance and management direction for these resources. The NPS will work with the tribes to ensure that these resources are adequately protected and managed. Furthermore, the NPS has committed to the future development of a resource stewardship strategy (see page 109 of the draft plan) that would guide the monitoring and management of all cultural resources in the monument, including rock art.
<i>Why did you dismiss ethnographic resources (namely rock art) as an impact topic?</i>	The NPS dismissed ethnographic resources (including rock art) as an impact topic to be considered in the environmental assessment because none of the management actions proposed in the alternatives would directly affect these resources and the level of adverse impact to these resources would be negligible to minor. Consequently, ethnographic resources was dismissed from further consideration as an impact topic. The plan includes desired conditions and strategies for management of these resources and the NPS is committed to ensuring their protection.
<i>Why did you not include the rock art within the “cultural” management zone since rock art is a type of cultural resource?</i>	The “cultural” management zone used at the Sheep Rock Unit is focused on the cultural resources and history of the Cant Ranch National Historic District. Even though the rock art is not included in this management zone, it will still be adequately protected as it would in all management zones, including the use of all relevant laws, policies, and regulations.

Comments or Concerns	Responses
<i>Will the “transportation” management zone adequately protect the rock art located along roads and highways?</i>	The “transportation” management zone is used along transportation corridors that include rights-of-way for roads and highways not owned or managed by the NPS. The NPS recognizes the importance of protecting rock art within these areas and will work collaboratively to protect any cultural resources that may be affected by transportation improvements proposed by another agency. The NPS will work to avoid or mitigate any impacts to these resources. Language used in the description of the transportation management zone on page 64 of the plan will be revised to stress the importance of resource protection. Furthermore, the rock art management plan (to be developed) discussed above will assist in the protection and management of these cultural resources.
<i>The irrigation techniques proposed for use at the Cant Ranch are not consistent with the character of its historic period.</i>	The NPS intends to preserve the historic character of the Cant Ranch while utilizing irrigation techniques that promote water conservation. Park staff will consult with the National Park Service’s cultural resource program and the Oregon State Historic Preservation Officer on the type and method of irrigation to ensure that they are compatible with the historic period. In consultation with these parties, the NPS will initiate a study to determine appropriate irrigation techniques.
<i>Doesn’t the NPS have to manage its lands to preserve and maintain their wilderness character?</i>	Although not proposed for wilderness designation, the NPS will manage its lands adjacent to Bureau of Land Management (BLM) lands that are potentially suitable for wilderness designation to protect their wilderness qualities and values. As described on page 14 of the plan, none of the management actions included in the plan would preclude future designation of these areas as wilderness.
<i>Why not include restoration of Pine Creek as a partnership opportunity in the plan?</i>	Although the plan does not include specific reference to restoration of Pine Creek, it does contain desired conditions and management strategies for ecosystem management and natural resources (see pages 19-23) that includes partnership opportunities with other federal and state agencies, American Indian tribes, and private landowners. Similar to what is proposed for the John Day River and Bridge Creek, the NPS would pursue opportunities to improve the condition of the park’s natural resources wherever possible.

Comments or Concerns	Responses
<i>Why do the plan alternatives not include any reference to energy conservation?</i>	Although not specifically included in the description of actions contained in the alternatives, the NPS will strive to be a leader in energy conservation and the use of sustainable practices. The desired conditions and management strategies for sustainable design/development presented in the plan on pages 34-35 will be used at all times by the NPS.
<i>How will the NPS manage livestock trespass and the impacts they cause to park resources?</i>	The monument has a four-part strategy to respond to cattle trespass. First, the NPS will continue to maintain its boundary fences that surround all three park units. Second, for those cattle that manage to jump or crawl through the fence, the NPS will contact the owners of the cattle and require their removal within days of discovery. The NPS will continue to work with neighboring ranchers to ensure that their cattle are removed from the park as soon as possible after discovery. This will include notification and in some cases providing NPS staff assistance in moving the cattle. Third, for non-responsive livestock owners, the NPS will pursue legal action against owners including fines, impoundment of cattle, and if necessary, court appearances. Fourth, for unbranded/unowned (slick) cattle that appear on park lands, the NPS will contact the state brand inspector and work cooperatively to either impound the cattle or destroy them if they cannot be safely impounded.
<i>Why did you dismiss water resources (including water quality and fish habitat) as an impact topic?</i>	The NPS dismissed water resources (including water quality, water quantity, and fisheries) as an impact topic to be considered in the environmental assessment because the effects of the management actions proposed in the alternatives would be negligible to minor (see pages 44-45 of the plan). Consequently, these resources were dismissed from further consideration as impact topics. The plan includes desired conditions and strategies for management of these resources (see pages 23-26) and the NPS is committed to ensuring their protection.

Comments or Concerns	Responses
<i>The plan does not include needed management direction for fish habitat.</i>	Chapter 1 of the plan includes desired conditions and management strategies for ecosystem management, natural resources, and federal-listed species (see pages 19-24) that provide management direction for fish habitat. Furthermore, as described above, the plan also includes desired conditions and management strategies for water quality, water quantity, and fisheries (see pages 24-26). The NPS will work cooperatively with the USFWS and other affected parties to ensure the protection and enhancement of fish habitat.
<i>The John Day River is listed by the Environmental Protection Agency (EPA) as a 303d stream; any impacts on water quality should be taken into consideration in this plan, including addressing total maximum daily loads (TMDL).</i>	The NPS proposes no actions in this plan that will have any effects other than beneficial ones on water quality.
<i>The use of NPS water rights should be evaluated and consideration given to dedication of some portion of water for use as in-stream flow.</i>	The NPS is currently working with the watermaster to establish an in-stream flow right on Rock Creek using a portion of an existing Rock Creek water right. The NPS will continue to evaluate the potential of transferring any surplus water right to in-stream flow wherever possible. Furthermore, pages 19-20 and 25-26 of the plan include desired conditions and management strategies for ecosystem management and water quantity that discuss partnerships with various agencies to protect and enhance natural stream flows.
<i>Information presented in the plan on the eligibility of BLM lands as wilderness is inaccurate.</i>	The comment letter provided by the BLM included updates to the information presented on pages 13-14 of the plan regarding the eligibility of BLM lands as wilderness.
<i>The plan presents an opportunity to coordinate with the BLM on the National Park Service's proposed user capacity indicators and standards to ensure that adjacent BLM and NPS lands are managed compatibly.</i>	The NPS welcomes the opportunity to work with the BLM on these lands, however, at the present time none of the adjacent BLM lands have established indicators and standards of the type required by statutes affecting the NPS. The NPS will continue to consult with the BLM to improve coordination and consistency of federal land management issues.

Conclusion

Based on the environmental analysis as documented in the environmental assessment, together with the capability of the mitigation measures to avoid, reduce, or eliminate impacts, and with the due consideration for the nature of public comments, results in determination that the approved plan is not a major federal action significantly affecting the quality of the human environment. Negative environmental impacts that could occur are no more than minor to moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the selected alternative will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared. The plan can be implemented as soon as practicable but not sooner than 30 days following the date of the approval of the General Management Plan.

Recommended: James F. Hemmelt 2/25/2009
Superintendent Date

Approved: Patricia A. Neubacher 3/3/09
acting Pacific West Regional Director Date

Errata Sheets
Environmental Assessment
General Management Plan
John Day Fossil Beds National Monument
February 2009

Corrections and revisions to the Draft General Management Plan / Environmental Assessment are listed in this section. Revisions were made in response to comments from public and agency reviews of the environmental assessment. These revisions have not resulted in substantial modification of the selected alternative. It has been determined that the revisions do not require additional environmental analysis.

Additions to the text are shown in bold and text removed is shown with strikeout. The page numbers referenced are from the *John Day Fossil Beds National Monument Draft General Management Plan / Environmental Assessment*.

Page 10 – Under “Fundamental Resources and Values; Other Important Resources and Values”

- Archeological sites and pictographs, ~~especially those in Picture Gorge~~, are valued for their association with and representation of the cultural heritage of American Indians and others.

Page 13 – Under “Wilderness Eligibility”

However, these lands ~~also~~ are adjacent to ~~unroaded~~ Bureau of Land Management (BLM) lands that ~~were recently evaluated by the BLM and, although unroaded, were found not to possess wilderness character due to previous logging activities. also may be suitable for wilderness designation, although the Bureau of Land Management has not recently evaluated these lands.~~ **The proposed management zoning of these lands by the BLM is compatible with the adjacent management of the NPS lands. The BLM will reevaluate the subject lands every five years to assess their wilderness character.** Recognizing the wilderness characteristics of the NPS lands, the lands have been included in management zones (i.e., primitive and backcountry zones) in the alternatives that would continue to protect these areas’ existing wilderness qualities. No actions are being proposed in the alternatives that would be inconsistent with or jeopardize possible future designation of the areas, in combination with the adjacent BLM lands, as wilderness.

Climate Change	Climate change is occurring and is expected to affect the monument’s weather, vegetation, wildlife, and visitors (e.g., use seasons). These changes will have direct implications on resource management and monument operations, and on the way visitors use and experience the monument. Although climate change will affect the park during the life of this plan, many of the specific effects, the rate of changes, and the severity of impacts are not known. While there are no laws or policies that provide direct guidance on addressing climate change, there is guidance that indirectly addresses climate change, including the NPS Organic Act, Executive Order 13423 (includes requirements for the reduction of greenhouse gases and other energy and water conservation measures), Department of the Interior Secretarial Order 3226 (ensures that climate change impacts be taken into account in connection with Departmental planning and decision making), and NPS <i>Management Policies 2006</i> (including sections on environmental leadership [§1.8], sustainable energy design [§9.1.1.6], and energy management [§9.1.7], Desired Conditions: John Day Fossil Beds National Monument is a leader in its efforts to address climate change, reducing its greenhouse gas emissions and increasing its use of renewable energy and other sustainable practices so it is a carbon neutral park. Education and interpretive efforts help visitors understand the process of global warming, climate change, changes to monument resources, and the wider environment, and how they can respond. NPS staff promote innovation, best practices, adaptive management, and partnerships to respond to the challenges of climate change and their effects on monument resources. NPS staff proactively monitor, plan, and adapt to the effects of climate change by using the best information as it becomes available. Strategies: John Day Fossil Beds National Monument will become a member of the Climate Friendly Parks program, measuring monument-based greenhouse emissions, developing sustainable strategies to mitigate these emissions and adapt to climate change impacts, educating the public about these efforts, and developing future action plans. Scientific studies and inventories will be encouraged to identify and document changes caused by climate change, to predict potential changes, and to assist in identifying potential responses to climate change. Since emissions from vehicles contribute to the monument’s emissions, options to improve transportation efficiencies will be explored, including NPS and visitor activities. Emissions from visitors driving to get to the monument, and from employees commuting to work and traveling for business all add to the emissions associated with the monument. Opportunities for alternative transportation options, as well as effective carbon offset strategies, will be explored. Education and interpretive efforts will engage NPS employees, partners, visitors, and the public on climate change, providing the latest monument research and monitoring data and trends, informing the public about what responses are being taken at the monument, and inspiring visitors to act to reduce their carbon footprint. NPS staff will work with local, regional, and national agencies, universities, and other partners to conduct scenario planning for climate change, and identify actions that can be taken to respond to these changes. Anticipated climate change impacts, such as changes in vegetation and river flows, will be incorporated into management plans. (See also the strategies identified above under “Sustainable Design / Development”)
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Climate Change

Climate change is a long-term phenomenon resulting from the effects of global warming that has affected natural and human systems world-wide. Changes within the natural systems of the Intermountain west and the John Day region include:

- Temperatures are increasing - average temperatures throughout the year have increased, with the greatest increases occurring in springtime temperatures. Nighttime temperatures have increased by 3.2 degrees Fahrenheit. The frequency and intensity of wildland fire has increased, with longer fire seasons.
- Precipitation is declining – the spring/summer flow volume of area rivers and creeks has declined by 22%. The median flow date of the John Day River has shifted 10 days earlier over the last century. Other expected hydrologic changes include increased winter flows and decreased summer flows.

These changes are expected to continue and possibly accelerate over time.

Because the drivers of climate change are largely outside the monument, the National Park Service alone does not have the ability to prevent climate change from happening. The full extent of climate change impacts to resources and visitor experience is not known, nor do managers and policy makers yet agree on the most effective response mechanisms for minimizing impacts and adapting to change. Thus, unlike other issues, this plan does not provide definitive solutions or directions to resolving the issue of controlling impacts of climate change on John Day Fossil Beds National Monument. Rather, the plan provides some general directions and strategies that can help minimize the monument’s contribution to climate change (see below). The plan also recognizes that the management actions and facilities being proposed in all of the alternatives need to be adopted with future climate change and impacts in mind as past conditions are not necessarily useful guides for future planning.

The NPS staff will consider this issue and incorporate it into its management strategies and operations in order to reduce the monument’s contribution to climate change and adapt and respond to the effects of climate change on monument resources.

All cultural resources would be preserved and protected ~~as much as feasible~~ **to the greatest extent possible.**

- a study/plan to determine the most appropriate irrigation techniques to be used at the Cant Ranch that promote water conservation and are compatible with the property’s historic character

The Clarno and Sheep Rock units contain pictographs (~~generally recognized to be the earliest record of human presence~~) that are ~~estimated to be between 3,500 and 150~~ **some 2,000 years old.** ~~Researchers suggest that these pictographs were created by American Indians traveling through the area.~~

APPENDIX B: LEGISLATION

(NOTE: Sections relating to John Day Fossil Beds National Monument are in **bold** type.)

Public Law 93-486
93rd Congress, H. R. 13157
October 26, 1974

An Act

To provide for the establishment of the Clara Barton National Historic Site, Maryland; **John Day Fossil Beds National Monument, Oregon** ; Knife River Indian Villages National Historic Site, North Dakota ; Springfield Armory National Historic Site, Massachusetts ; Tuskegee Institute National Historic Site, Alabama ; Martin Van Buren National Historic Site, New York ; and Sewall-Belmont House National Historic Site, Washington, District of Columbia ; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I

Historic sites and national monument.
Establishment.

Sec. 101. (a) Unless otherwise provided hereafter, the Secretary of the Interior (hereinafter referred to as the “Secretary”) is authorized to acquire by purchase with donated or appropriated funds, donation, exchange, or by transfer from another Federal agency such lands and interests in lands as hereafter provided for establishment as units of the national park system as follows:

Land acquisition.

(1) for establishment as the Clara Barton National Historic Site, Maryland, those lands depicted on the map entitled “Boundary Map, Clara Barton National Historic Site, Maryland”, numbered NHS-CLBA 90,001 and dated February 1974, which shall include the land and improvements occupied by Clara Barton, founder of the American Red Cross located at 5801 Oxford Road, Glen Echo, Maryland : *Provided*, That the above-mentioned land and improvements may be acquired only by donation : *And pro provided further*, That the donation of any privately owned lands within the historic site may not be accepted unless and until the property is vacant;

Clara Barton National Historic Site, Md.
16 USC 461 note.

(2) for establishment as the **John Day Fossil Beds National Monument, Oregon**, those lands depicted on the map entitled “Boundary Map, John Day Fossil Beds National Monument”, numbered NM-JDFB-20,014-A and dated June 1971: *Provided*, That the national monument shall not be established unless and until the State of Oregon donates or agrees to donate the Thomas Condon-John Day Fossil Beds, Clarno, and Painted Hills State Parks : *Provided further*, That the Secretary shall not acquire a fee title interest to more than one thousand acres of privately owned lands except by donation or exchange : *Provided further*, That the Secretary shall designate the principal visitor center as the “Thomas Condon Visitor Center”;

John Day Fossil Beds National Monument, Oreg.
16 USC 431
note.

Thomas Condon Visitor Center, designation.

(3) for establishment as the Knife River Indian Villages National Historic Site, North Dakota, those lands depicted on the map entitled "Boundary Map, Knife River Indian Villages National Historic Site, North Dakota", numbered 468-20,012 and dated July 1970;	Knife River Indian Villages National Historic Site, N. Dak. 16 USC 461 note.
(4) for establishment as the Springfield Armory National Historic Site, Massachusetts, those lands depicted on the map entitled "Boundary Map, Springfield Armory National Historic Site, Massachusetts", numbered NHS-SPAR-91,003 and dated January 1974, the oldest manufacturing arsenal in the United States: <i>Provided</i> , That the historic site shall not be established unless an agreement is executed which will assure the historical integrity of the site and until such lands as are needed for the historic site are donated for this purpose;	Springfield Armory National Historic Site, Mass. 16 USC 461 note.
(5) for establishment as the Tuskegee Institute National Historic Site, Alabama, those lands depicted on the map entitled "Boundary Map, Tuskegee Institute National Historic Site, Alabama", numbered NHS-TI 20,000-C and dated September 1973, which shall include the home of Booker T. Washington, the Carver Museum, and an antebellum property adjacent to the campus of Tuskegee Institute, known as Grey Columns ; and	Tuskegee Institute National Historic Site, Ala. 16 USC 461 note.
(6) for establishment as the Martin Van Buren National Historic Site, New York, those lands depicted on the map entitled "Boundary Map, Martin Van Buren National Historic Site, New York", numbered NHS-MAVA-91,001 and dated January 1974, which shall include the home of Martin Van Buren, eighth President of the United States.	Martin Van Buren National Historic Site, N.Y. 16 USC 461 note.
(b) The Secretary may also acquire personal property associated with the areas referred to in subsection (a) of this section. Lands and interests therein owned by a State or any political subdivision thereof which are acquired for the purposes of subsection (a) of this section may be acquired only by donation.	Personal property, acquisition.
Sec. 102. (a) When the Secretary determines that an adequate interest in lands has been acquired to constitute an administrable unit for each of the areas described in section 1 of this Act, he may, after notifying the Committees on Interior and Insular Affairs of the United States Congress of his intention to do so at least fourteen days in advance, declare the establishment of such unit by publication of a notice to that effect in the Federal Register. Such notice shall contain a map or other description of the boundaries of the unit, together with an explanation of the interests acquired and the costs incident thereto. The Secretary may refrain from acquiring property for establishment of any unit authorized by this Act where, in his judgment, satisfactory agreements or donations with respect to properties which are needed for the protection and administration of a particular unit have not been consummated with the owners of such properties.	Notice to congressional committees. Publication in Federal Register.
(b) Pending the establishment of each unit and, thereafter, the Secretary shall administer the property acquired pursuant to this Act in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented, and, to the extent applicable, the provisions of the Act of August 21, 1935 (49 Stat. 666), as amended.	Administration. 16 USC I. 16 USC 461.
Sec. 103. Notwithstanding any other provision of law, the Secretary is authorized to construct roads on real property in non-Federal ownership within the boundaries of the Tuskegee Institute National Historic Site. Any roads so constructed shall be controlled and maintained by the owners of the real property.	Tuskegee National Historic Site, road construction.

Sec. 104. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, not to exceed, however, the following:

Appropriation.

- (a) Clara Barton National Historic Site, \$812,000 for acquisition of lands and interests in lands and for development ;
- (b) John Day Fossil Beds National Monument, \$400,000 for the acquisition of lands and interests in lands and \$4,435,200 for development ;
- (c) Knife River Indian Villages National Historic Site, \$600,000 for the acquisition of hands and interests in lands and \$2,268,000 for development ;
- (d) Springfield Armory National Historic Site, \$5,300,000 for development;
- (e) Tuskegee Institute National Historic Site, \$185,000 for the acquisition of lands and interests in lands and \$2,722,000 for development; and
- (f) Martin Van Buren National Historic Site, \$213,000 for acquisition of lands and interests in lands and \$2,737,000 for development.

TITLE II

Sec. 201. In order to preserve for the benefit and inspiration of the people of the United States as a national historic site, the Sewall-Belmont House within the District of Columbia, the Secretary of the Interior is authorized to enter into a cooperative agreement to assist in the preservation and interpretation of such house.

Sewall-Belmont House National Historic Site, D.C.

Sec. 202. The property subject to cooperative agreement pursuant to section 101 of this Act is hereby designated as the “Sewall-Belmont House National Historic Site”.

16 USC 461 note.

Sec. 203. The cooperative agreement shall contain, but shall not be limited to, provisions that the Secretary, through the National Park Service, shall have right of access at all reasonable times to all public portions of the property covered by such agreement for the purpose of conducting visitors through such property and interpreting it to the public, that no changes or alterations shall be made in such property except by mutual agreement between the Secretary and the other parties to such agreement. The agreement may contain specific provisions which outline in detail the extent of the participation by the Secretary in the restoration, preservation, and maintenance of the historic site.

Cooperative agreement.

Sec. 204. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, but not to exceed \$500,000.

Appropriation.

Approved October 26, 1974.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 93-1285 (Comm. on Interior and Insular Affairs)

SENATE REPORT No. 93-1233 (Comm. on Interior and Insular Affairs)

CONGRESSIONAL RECORD, Vol.120 (1974):

Aug. 19, considered and passed House.

Oct. 8, considered and passed Senate, amended.

Oct. 16, House concurred in Senate amendments.

Excerpted from
Public Law 95-625
November 10, 1978

(11) John Day Fossil Beds National Monument, Oregon : To add approximately one thousand four hundred and eleven acres, and to delete approximately one thousand six hundred and twenty acres as generally depicted on the map entitled “Boundary Map, John Day Fossil Beds National Monument, Oregon”, numbered 177-30,000-B, and dated May 1978: \$3,500,000. The Act of October 26, 1974 (88 Stat. 1461), which designates the John Day Fossil Beds National Monument is amended by deleting the second proviso of section 101(a) (2). Furthermore, notwithstanding any other provision of law to the contrary, the Secretary may, if he determines that to do so will not have a substantial adverse effect on the preservation of the fossil and other resources within the remainder of the monument, convey approximately sixty acres acquired by the United States for purposes of the monument in exchange for non-Federal lands within the boundaries of the monument, and, effective upon such conveyance, the boundaries of the monument are hereby revised to exclude the lands conveyed.

Land conveyance.

APPENDIX C: ANALYSIS OF BOUNDARY ADJUSTMENT AND LAND PROTECTION CRITERIA

The National Park and Recreation Act of 1978 (16U.S.C. § 1a-7) directs the National Park Service to consider, as part of a planning process, what modifications of external boundaries might be necessary to carry out park unit purposes. Subsequent to this act, Congress also passed Public Law 101-628, the Arizona Desert Wilderness Act. Section 1216 of this act, codified at 16 U.S.C. §1a-12, directs the Secretary of the Interior to develop criteria to evaluate any proposed changes to the existing boundaries of individual park units. 16 U.S.C. §1a-13 calls for among other things the National Park Service to consult with affected agencies and others regarding a proposed boundary change, and to provide an estimate of acquisition cost, if any, related to the boundary adjustment. The legislation also requires that a statement on the relative priority of acquisition of each parcel be provided.

These legislative provisions are implemented through NPS *Management Policies 2006*, Section 3.5, which states that the National Park Service will conduct studies of potential boundary adjustments and may make boundary revisions to

- protect significant resources and values, or to enhance opportunities for public enjoyment related to park purposes;
- address operational and management issues, such as the need for access or the need for the boundaries to correspond to logical boundary delineations such as topographic or other natural features or roads; or
- otherwise protect park resources critical to fulfilling park purposes.

If the acquisition will be made using appropriated funds, and is not merely a technical boundary revision, the criteria set forth by Congress at 16 U.S.C. 4601-9(c)(2) must be met.

- The added lands will be feasible to administer, considering their size, configuration, and ownership; costs; the

views of and impacts on local communities and surrounding jurisdictions; and other factors such as the presence of hazardous substances or exotic species.

- Other alternatives for management and resource protection are not adequate.

During the course of the planning process, one area, known as the Cathedral Rock Property, was identified as potential addition to John Day Fossil Beds National Monument. The following is a review of the criteria for boundary adjustment as applied to John Day Fossil Beds National Monument. This review is included as supporting documentation for the alternatives, which include a recommendation for a boundary adjustment in the Sheep Rock Unit of the monument.

This plan does not address the legislative requirement to provide a cost estimate for the boundary adjustment nor does it include the relative priority for acquisition. However, the legislative proposal for the boundary adjustment and accompanying support materials would include both of these requirements.

CATHEDRAL ROCK PROPERTY

The monument would pursue a land exchange with an adjacent private landowner and the Bureau of Land Management in order to protect the scenery of Cathedral Rock, an important landmark and key geologic feature; to protect riparian resources along the John Day River; and to facilitate public access and enjoyment of this resource.

Description of the Property

The property is approximately 100 acres and is located along State Highway 19 and the John Day River halfway in between the Blue Basin area and the Foree area in the northern portion of the Sheep Rock Unit. The property is adjacent to an isolated 40-acre NPS-owned parcel and is highly visible by the public traveling on State Highway 19. The

property is currently owned by Jim and Charlotte Barker and contains no permanent improvements. Their primary interest is to obtain title to BLM land adjacent to their ranch. The area that surrounds Cathedral Rock is a steep canyon and encompasses the John Day River.

***Criterion:** To protect significant resources and values or to enhance opportunities for public enjoyment related to park unit purposes.*

Protection of Significant Resources or Values. The property contains dramatic scenery that flanks Cathedral Rock. Cathedral Rock is identified in the *General Management Plan* as a fundamental resource and value. Fundamental resources and values are those elements that are essential to maintaining the significance of the monument and meeting its legislated purpose. The Cathedral Rock area is specifically identified as a representative example of a scenic resource. The property also contains approximately one mile of the John Day River. The John Day River is identified in the *General Management Plan* as a fundamental resource and value. The property contains important riparian habitat and is a valued resource. Acquiring the property would ensure the National Park Service's ability to protect the dramatic scenery of and surrounding Cathedral Rock and prevent cattle from damaging vegetation and causing erosion around the well-known feature and in the riparian zone. Acquisition of the property would also protect them from future development.

Enhance Opportunities for Public Enjoyment. Acquisition of the property would enhance public enjoyment by protecting the impressive scenic resources of Cathedral Rock. Both Cathedral Rock and the John Day River are highly visible by the public traveling on State Highway 19. Acquisition of the property would also provide general public access to the John Day River, as well as present a special opportunity to provide a put-in/takeout site for recreational boating and fishing. The

property would offer opportunities for visitors seeking to view scenic lands, explore a remote natural area, and participate in river recreation.

***Criterion:** The added lands will be feasible to administer, considering their size, configuration, ownership; costs; the views of and impacts on local communities and surrounding jurisdictions; and other factors such as the presence of hazardous substances or exotic species.*

Feasibility to Administer. The recommended addition and boundary adjustment will be feasible for the National Park Service to manage and would not substantially increase the NPS workload to manage these lands. Acquisition of the property would allow the National Park Service to eliminate cattle grazing in the vicinity of Cathedral Rock and in its adjacent riparian zone. The added lands can be conveniently accessed and are adjacent to existing NPS land. Acquiring the property actually improves access to the adjacent monument land since the property can be accessed from State Highway 19.

Impacts to Local Communities. These lands are currently in private ownership. However, since public lands would be traded on an equal value basis there would be no change to tax revenue to Wheeler County.

Other Factors. There are no known hazardous substance issues associated with the property, and appropriate hazardous material surveys would be conducted prior to acquisition.

***Criterion:** Other alternatives for management and resource protection are not adequate.*

Other alternatives for management and resource protection have been considered and are not adequate. The alternative to NPS acquisition is the continuation of private ownership. Historic and current land use has been primarily cattle grazing, which has degraded this key scenic resource and

continues to impact the riparian and scenic qualities of the area. Acquiring fee simple title to the property is the only way to adequately protect the resource. The current landowner is willing to cooperate with a land exchange involving the Bureau of Land Management and the National Park Service. This is a creative approach, and actual costs are unknown at this time. This opportunity could be lost if these lands are sold to another owner.

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APPENDIX D: STATE HISTORIC PRESENTATION OFFICE CONSULTATION LETTER



Oregon

Theodore R. Kulongoski, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

www.oregonheritage.org



December 17, 2008

Mr. James Hammett
USDI John Day Fossil Beds NM
32651 Hwy 19
Kimberly, OR 97848

RE: SHPO Case No. 08-2147

John Day Fossil Beds National Monument Draft General Management Plan/EA
Multiple legals, John Day, Grant County

Dear Mr. Hammett:

We have reviewed the materials submitted on the project referenced above, and we concur with your determination that Alternative A and Alternative B (preferred alternative) will have a no adverse effect on your cultural resources. Alternative C is considered an adverse effect. If the National Park Service moves forward with Alternative C, please continue consultations and coordination with this office to mitigate for the adverse effect. This office concurs with moving forward with Alternative B as the preferred alternative.

Our response here is to assist you with your responsibilities under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800). Please feel free to contact me if you have further questions, comments or need additional assistance.

Sincerely,

Sarah Jalving
Historic Compliance Specialist
(503) 986-0679 or Sarah.Jalving@state.or.us

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National Park Service, Denver Service Center

Kerri Cahill, Community Planner

- Responsible for writing the description of user capacity and for developing indicators and standards.
- M.S.P., Natural Resource Planning; Ph.D., Natural Resource Recreation Management. Six years with the National Park Service.

Greg Jarvis, Project Manager

- Overall responsibility for preparation of the plan.
- B.S., Geology. Twenty years with the National Park Service.

Patrick Malone, Natural Resource Specialist

- Responsible for writing the descriptions of visitor use and experience and monument operations; assessing impacts on these topics; assisted with developing user capacity indicators and standards.
- B.S., Natural Resources and Environmental Management; M.P.A., Environmental Policy Analysis. Three years with the National Park Service; nine years with state and local government; two years with a nonprofit land trust.

Michael Rees, Natural Resource Specialist

- Responsible for writing the description of natural resources; assessing impacts on natural resources; and writing the floodplain statement of findings.
- B.A., Environmental Studies; M.F.S., Forest Science. Eighteen years with the National Park Service.

Larry Van Horn, Cultural Resource Specialist

- Responsible for writing the descriptions of archeological resources, historic structures, and cultural landscapes; and assessing impacts on these resources.
- B.A., History; M.A., Anthropology; Ph.D., Anthropology. Thirty years with the National Park Service.

National Park Service, John Day Fossil Beds National Monument

Regan Dunn, Paleobotanist

- Involved in the development of alternatives and the selection of the preferred alternative; provided input on paleontological concerns, needs, and impacts.
- Seven years with the National Park Service.

John Fiedor, Chief of Visitor Services

- Involved in the development of alternatives and interpretive and visitor service concerns, needs, and impacts.
- Thirty-four years with the National Park Service.

Ted Fremd, Paleontologist and Science
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- Involved in the development of alternatives and paleontological concerns, needs, and impacts.
- Twenty-nine years with the National Park Service.

Jim Hammett, Superintendent

- Involved in all aspects of the general management plan, from initial planning through selection of the preferred alternative.
- Thirty-five years with the National Park Service.

Shirley Hoh, Integrated Resource Manager

- Involved in the development of alternatives and the selection of the preferred alternative; provided input on natural and cultural resource concerns, needs, and impacts.
- Thirty-one years with the National Park Service.

**National Park Service,
Pacific West Regional Office**

Keith Dunbar, Chief of Park Planning and
Environmental Compliance

- Involved in the development of alternatives and the selection of the preferred alternative; provided input on planning concerns and needs.
- Thirty-two years with the National Park Service.

Erica Owens, Historical Landscape Architect

- Assisted with the description and impact assessment of historic structures and cultural landscapes; involved in the development of alternatives and the selection of the preferred alternative.
- Seven years with the National Park Service.

Cheryl Teague, Landscape Architect/Planner

- Involved in the development of alternatives and the selection of the preferred alternative; provided input on planning concerns and needs.
- Sixteen years with the National Park Service.

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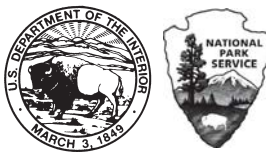
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As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

National Park Service
U.S. Department of the Interior

John Day Fossil Beds National Monument
Oregon



John Day Fossil Beds National Monument
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