

CHAPTER 3 - CULTURAL RESOURCES

3.1 RESOURCE OVERVIEW

Managing cultural resources is viewed as an integrated system of identifying and evaluating cultural resources, deciding on their appropriate uses, and administering them accordingly, both on public lands and in areas of BLM decision making responsibility. Cultural resources are defined as those fragile and nonrenewable remains of human activity, occupation, or endeavor (including both prehistoric and historic remains) representing a part of the continuum of events from the earliest evidence of people to the present day. These resources consist of 1) physical man-made artifacts, features, structures and sites; 2) areas where significant events occurred (although evidence of the event may no longer remain); and 3) the environment immediately surrounding the actual resource.

The Moab Field Office (FO) recognizes the potential public and scientific uses of, and the values attributed to, cultural resources on the public lands, and seeks to manage the lands and cultural resources so that these uses and values are not diminished, but rather are maintained and enhanced. Cultural resource management contributes to land use planning by supporting the development of multiple use management strategies for public lands that make optimum use of the thousands of years of land use history inherent in cultural resource information while safeguarding opportunities for achieving appropriate uses of cultural resources. Inherent in this effort is the need to protect and preserve in place representative examples of the full array of cultural resources on public lands for the benefit of scientific and public use by present and future generations. The Moab FO management plans strive to ensure that proposed land uses, initiated or authorized by BLM, avoid inadvertent damage to Federal and non-Federal cultural resources.

The Moab FO has a wide variety of environmental settings and resources and has long been used by humans. The Moab BLM area encompasses a large and diverse assemblage of prehistoric archaeological sites, historic archaeological sites and localities, and locations of traditional religious and cultural importance to various Indian tribes. Cultural resources are those non-renewable remains of past human activity. For BLM management purposes, these remains take the form of sites, artifacts, buildings, structures, ruins, features, and natural landscapes with particular cultural importance. With a few exceptions, these remains, or in the case of natural landscapes, the period of traditional use of that landscape must be at least 50 years old.

Some types of cultural resources are more sensitive to impacts than others. For example, prehistoric organic remains including structural timbers, wooden ladders, fiber sandals, arrow shafts, and basketry, are all materials that typically weather and decompose with exposure to the natural elements. Given the fact that prehistoric occupation of the region probably began over 10,000 years ago, many of the artifacts made from these materials are in an extremely fragile condition. Other prehistoric materials include stone, bone, and ceramics, all of which are better suited to withstand natural weathering and decomposition processes. Historic artifact materials are typically less decomposed since they were deposited much more recently than prehistoric materials. However, structures such as cabins, bridges, settlements, etc., also contained artifacts or features made from wood that are susceptible to weather and decomposition.

In sum, regardless of whether the site is prehistoric or historic in age, many of these materials are prone to weathering, decomposition, and the effects of fire. All cultural resources are susceptible to the effects of human impacts to archaeological sites. Human impacts can be intentional, such as looting or collecting of cultural materials or eroding of sites by walking across them. Impacts can also be the secondary result of other activities. All types of impacts generally cause erosion to one degree or another. By degrading the landscape of an archaeological site, the chances of recovering data that will lead to inferences regarding past human behavior diminish. The most common procedure to collect data at archaeological sites is the scientific and controlled excavation of the ground. As such, any damage or impacts to archaeological sites can diminish the accuracy of the data potential of archaeological sites.

Undertakings and uncontrolled visitor use of public lands can cause irreversible damage to nonrenewable archaeological resources. Those undertakings may include recreational uses, authorizations for rights-of-ways, mining, development of public facilities, habitat improvements, urban development, and other legitimate and necessary uses of the public lands. Some forms of undertakings will inadvertently contribute to resource damage, theft, and vandalism. Resulting impacts from undertakings may range from minor physical disturbances that damage some of the important values of sites, to illegal excavation of sites or complete site destruction. The amount of artifact collecting and site vandalism and damage, however, is predicted to increase as more sites are discovered, made more accessible, and are publicized in the media.

Because cultural resources have intrinsic values (e.g., scientific, traditional, or public interpretation values) that must be managed, planning and implementing management practices related to cultural resources involves a multiple resources approach. NEPA, NHPA (as amended), and other federal legislation require that the BLM assess the impacts of a proposed action on cultural resources. This review includes Class I and Class III, Section 106 inventories.

In the Moab FO, Class I and Class III Section 106 inventories comprise the vast majority of the workload. Class I inventories, which focus on compiling all known cultural resource management information about certain parcels of land, are completed for all projects. Class III, Section 106 inventories are completed for any proposals that have the potential to disturb surface soils. The Moab FO area contains a variety of valuable natural resources including oil, natural gas, minerals, livestock forage, recreation areas, and campgrounds, plus unique vistas and rock formations that draw filmmakers and visitors to the area. Each resource presents specific issues that are part of the current management practices. These user groups place demands on the resources under the jurisdiction of the BLM that can either directly or indirectly affect the management of cultural resources.

At present, it is estimated that most cultural resource management work carried out by the Moab FO is required by various sections of the NHPA (as amended). Native American consultation adds another dimension to cultural resource management and provides additional considerations during the planning process.

3.1.1 Resource Overview

3.1.1.1 Culture History of the Moab Field Office

Occupation of southeastern Utah is divided into several distinct and temporally bounded time periods. The creation of distinct time periods has, in large part, been driven by differences in artifact assemblages through time. In many instances, this type of fine-scale division is informative. However, as new sites and artifacts are routinely being discovered, these divisions are susceptible to significant revision. The dates provided here serve only as general time-frame markers; any new dating technology advances or new discoveries will likely alter these date ranges. Five broad time periods will serve as temporal foundations for explaining human behavior through time in this area, and an outline of these five periods, and their associated behavioral trends is detailed in Appendix A. These periods are defined temporally, behaviorally, and technologically.

A detailed overview of the prehistory and history of the region included in the Moab FO jurisdiction is presented in *Grand Resource Area Class I Cultural Resource Inventory* (Horn et al 1994). Much of the information in Appendix A is taken whole, or in part, from Chapter 4: Prehistoric Cultural History and Chapter 5: Historic Cultural Resource Synthesis. The culture history overview is divided into two basic time periods of prehistoric and historic. Brief descriptions of each period will be presented in this section, with attention paid to the relevant stages or themes. However, the Horn et al (1994) document is recommended for highly detailed information regarding all statements included in the culture history.

The basic periods include the Paleoindian, Archaic, Formative, and Protohistoric/Historic Aboriginal Stages and Historic. The historic period is further subdivided into Indian/White Interaction, Spanish Exploration, Fur Trade and Early Indian Trade, U.S. Government Exploration and Survey Expeditions, Initial Euroamerican Settlements, Ranching, Farming, Transportation, Communication, Towns and Settlements, Mining, Water Control, Speculative Ventures, Civilian Conservation Corps, Military, Federal Land Management, Antisocial Activities, and Ethnic Diversity themes.

3.1.1.2 Archival Literature Review

While there have been a multitude of inventories of cultural resources in the Moab FO, there are significant gaps in the database that have increased the difficulty in management of these resources. These limitations include large unsurveyed areas where there is no current knowledge about cultural resources, gaps in the database of particular site types, and research-related data limitations. Despite the many cultural resource inventories within the Moab FO, the total percentage of the area covered has been relatively small. While a systematic audit of surveyed and as yet unsurveyed lands within the Moab FO is beyond the scope of this document, a cursory review of previous project location mapping available at the State Historic Preservation Office (SHPO) suggests that less than 10 percent of all BLM lands within the Moab FO area have been subjected to intensive-level cultural resource inventories. As a consequence, there are still large areas for which there is no current information regarding the numbers, types, and distribution of cultural resources. This limitation can affect management decisions related to large areas. It can

be difficult to develop efficient large-area plans without at least a preliminary understanding of the potential cultural resources in an area.

Further, the majority of previous cultural resource inventories within the area have been driven by Section 106 compliance related to specific development or land use projects. These inventories have addressed discrete locations and have typically resulted in the “clearance” of small parcels of land and narrow linear corridors. As such, much of the current understanding of site types and their distributions as well as of prehistoric and historical land use patterns is based on random information gleaned from this patchwork of small, disparate surveys. Appendix B lists some of the surveys that have been done in the Moab FO area.

The level of management necessary for any given cultural resource depends on the nature of that resource, including such things as site type, site vulnerability, location, and eligibility for the National Register of Historic Places (NRHP), among other things. Individual artifacts, commonly referred to as isolated artifacts or isolated finds, and sites determined to be ineligible for nomination to the National Register, are generally not subject to consideration under the various laws and regulations governing cultural resource management by federal agencies. As such, active management, protection or conservation of this particular type of cultural resource is minimal as these cultural remains are NOT protected. On the other hand, cultural resource sites, historical buildings, and Traditional Cultural Places (TCPs) are subject to consideration under existing cultural resource law and practice and necessitate greater levels of active management and planning by federal land managers. For this reason, and to ensure that limited agency financial and personnel resources are directed toward managing only those cultural resources mandated for consideration under existing law, the Utah BLM developed an operational definition of what constitutes a cultural resource site. BLM Handbook H-8110 (2002) defines sites as those manifestations of past human activity that are at least 50 years old and consist of one or more of the following:

1. At least 10 artifacts of a single class (e.g., 10 ceramic sherds) within a 10-meter diameter area, except when all pieces appear to originate from a single source (e.g., one ceramic pot, one glass bottle).
2. At least 15 artifacts that include at least two classes of artifact types (e.g., ceramic sherds, nails, glass) within a 10-meter diameter area.
3. One or more archaeological features in temporal association with any number of artifacts.
4. Two or more temporally associated archaeological features without artifacts.

Approximately 2,254 cultural resource sites in Grand County and approximately 3,000 cultural resource sites in San Juan County have been documented thus far under the jurisdiction of the BLM Moab FO. An estimated 90 percent of all of these sites are located on federal lands, with the majority of these being under the jurisdiction of the BLM. The BLM’s management responsibility for the archaeological record of Grand County and part of San Juan County grows significantly each year. Over the 18 years since the completion of the current RMP, approximately 125 new cultural resource sites have been documented each year. Most of these sites were identified as a result of the Section 106 process of the NHPA of 1966 associated with applications for use of public lands (see below for more discussion of this process).

3.1.1.3 National Register Listed Cultural Resources

Table 3-1 summarizes these sites and is based on the data that was collected. Of the known sites within the Moab FO, four are listed on the NRHP as either individual sites or part of a larger archaeological district, found on the internet at: www.historicdistricts.com/UT/Grand.state.html and www.historicdistricts.com/UT/San+Juan.state.html.

Year	Name	Trinomial	Type	Vicinity	County	NR #
1968	Desolation Canyon	NA	Site	Green River	Grand	68000057
1980	Thompson Wash Rock Art District	42GR275-277	District	Thompson	Grand	80003909
1982	Robidoux Inscription	NA	Site	Westwater Creek, Book Cliffs, Cisco	Grand	82004124
1991	Julien, Denis: Inscription	42GR0111	Site	Mouth of Hell Roaring Canyon	Grand	91000617

3.2 SPECIFIC MANDATES AND AUTHORITIES

3.2.1 Cultural Resource Laws, Regulations, and Guidelines

Several laws, regulations, and formal guidelines exist that guide the management of cultural resources on federal lands, lands administered by the BLM, and on non-federal lands where there is federal involvement. Laws, executive orders, and BLM guidelines related to cultural resources and to consultation with Native American tribes are briefly described in this section. Applicable laws are listed in Table 3-2. A brief synopsis of the legislation is found in Appendix C.

Title	Applicable Regulation(s)	Year Enacted and/or Amended
Antiquities Act	43 CFR 3	1906
Historic Sites Act	N/A	1935
Reservoir Salvage Act amended as the Archeological and Historic Preservation Act, Archeological Data Preservation Act of 1974 or Moss-Bennett Act	N/A	1960; as amended 1974
National Historic Preservation Act (NHPA)	36 CFR 65 36 CFR 800 36 CFR 801 36 CFR 63	1966; as amended 1980, 1992
Department of Transportation Act	N/A	1966; amended 1983 (relevant for easements through BLM land)

Title	Applicable Regulation(s)	Year Enacted and/or Amended
Executive Order 11593: Protection and Enhancement of the Cultural Environment	N/A	1971; codified as part of the 1980 amendments to the National Historic Preservation Act
The American Indian Religious Freedom Act (AIRFA)	N/A	1978
Archaeological Resources Protection Act (ARPA)	43 CFR 7	1979; as amended
Native American Graves Protection and Repatriation Act (NAGPRA)	43 CFR 10	1990
Executive Order 13007: Indian Sacred Sites	N/A	1996
Executive Order 13175: Consultation and Coordination With Indian Tribal Governments	N/A	2000
Executive Order 13287: Preserve America	N/A	2003

3.2.2 BLM Manuals and Handbooks

In addition to legal mandates and laws, several other manual and handbooks generally provide guidance on the management of cultural resources. These documents provide an explanation of the management goals and objectives of the BLM as they relate to cultural resources and specific directives on how to manage such resources. The primary documents of this nature are the *Land Use Planning Handbook* BLM Handbook H-1601-1 (2000b), the Bureau of Land Management Strategic Plan FY 2000-2005 (2000a), and the current resource management plans for the Grand Resource Area (1985). Additional guidance comes from the 8100 series handbooks (listed below), the National Cultural Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers. These guidance documents provide an explanation of the over-arching goals of the BLM as they relate to cultural resources and specific directives on how to manage such resources.

Manual Sections in the 8100 Series

- 8100 - The Foundations for Managing Cultural Resources
- 8110 - Identifying and Evaluating Cultural Resources
- 8120 – Tribal Consultation Under Cultural Resource Authorities
- 8130 - Planning for Uses of Cultural Resources
- 8140 - Protecting Cultural Resources
- 8150 - Permitting Uses of Cultural Resources
- 8160 - Preserving Museum Collections [Reserved]
- 8170 - Interpreting Cultural Resources for the Public

3.2.3 Agreements

In addition to those laws and regulations listed above, several sources of direct guidance on managing cultural resources have been developed that are specific to the Utah BLM in general.

The 2000 State Protocol Agreement between the Utah BLM and the Utah SHPO provides specific direction on cultural resource management for Utah field offices as well as Native American consultation requirements and procedures. Procedural guidance for Native American Consultation is provided in the BLM Manual Handbook, section H-8160-1 (BLM 2002b). Subsections include Consultation Issues, Consultation Guidance, and Procedures Unique to Specific Laws. Appendices include the Policy on Compensation to Native Americans for their Participation in the BLM's Administrative Process; Tribal Management of Non-Tribal Lands and Resources; Rights Secured to Tribes by Treaty; Competition Over Natural Resources-Traditions Versus Commerce; and Water Rights.

3.2.3.1 Historic Preservation is Integrated into Multiple-Use Management under FLPMA

The parties to this agreement agreed that historic preservation in BLM will be best achieved by integrating NHPA responsibilities as fully as possible into land-use planning and resource management procedures under FLPMA. Correspondingly, management of the public lands and other public land resources will benefit from early attention to the statutory authorities, executive orders and national policies concerning cultural resources.

3.2.3.2 National Programmatic Agreement Regulates BLM's Compliance with NHPA

The Programmatic Agreement executed by the BLM, the Advisory Council on Historic Preservation (Council), and the National Conference of State Historic Preservation Officers (NCSHPO) on March 26, 1997, legally replaces 36 CFR Part 800, the Council's government wide regulations, as the procedural basis for BLM managers to meet their responsibilities under Sections 106, 110(f), and 111(a) of the NHPA.

Under the National Programmatic Agreement and the States' BLM-SHPO Protocols, SHPOs' direct involvement in determining eligibility should be limited to exceptional properties and to those for which the BLM FO lacks the appropriate expertise (e.g., historic architecture). Otherwise, full responsibility for eligibility judgments, negative and positive, rests with the responsible field office managers and their professional staffs. Improperly made or inadequately documented eligibility determinations, if subjected to appeal or injunction proceedings, would at a minimum result in extended delays to the land use authorization process. If a field office manager and his or her professional staff are uncertain about a property's eligibility, or if a field office manager disagrees with a staff recommendation, the manager shall consult with the SHPO to resolve the eligibility question. If the FO manager and SHPO are then unable to agree about the property's eligibility, they shall apply the formal determination of eligibility procedure (36 CFR Part 63).

3.2.3.3 State Protocol Agreement between the Utah BLM and the Utah State Historic Preservation Office

This agreement supplements the above-referenced national PA, and pertains to Sections 106, 110, 111 (a) and 112 (a) of the NHPA. It describes specific procedures regarding how the Utah SHPO and the BLM will interact and cooperate under the national PA. The goals of this Protocol and the national PA are to enhance planning for and management of historic properties under the BLM's jurisdiction or control and to ensure appropriate consideration of historic properties

outside BLM's jurisdiction, but which may be affected by its actions. Undertakings involving non-federal lands for which BLM is considered the lead agent shall be considered federal actions and will be subject to requirements outlined in this Protocol. This agreement does not apply to tribal lands as defined in NHPA. Likewise, all general compliance agreements not including on-going project specific programmatic agreements or MOAs, are terminated. Any BLM manager in Utah who elects not to follow the process set forth in this Protocol will comply with 36 CFR 800 procedures regarding individual undertakings until his or her difficulties with applying the Protocol are resolved following procedures detailed in Section IX (A), after which use of this Protocol will resume.

SHPO and BLM agree that 1) BLM conducts continuing programs and carries out specific undertakings that involve land disturbance and modification of the built and natural environments; 2) BLM bears legal responsibility for carrying out such undertakings consistent with the NHPA; and 3) BLMs undertakings, including actions assisted, licensed, permitted, approved, funded, or authorized by BLM, being "undertakings" as defined in the Code of Federal Regulations [36 CFR 800.16(y)], are numerous, complex and far-reaching in their effects on lands and properties in Utah. One critical element in assessing an undertakings' impact to cultural resources is the definition of the area of potential effect (APE). Areas of potential effect must encompass all lands that will be effected either by primary, secondary, or cumulative impacts resulting from the proposed undertaking. Areas of potential impact may range from a narrow corridor to a large landscape-based assessment area, depending upon the type of project proposed. Landscape-based APEs are necessary when considering potential traditional cultural and/or religious properties as identified through the Native American consultation process.

Under the SHPO-BLM Protocol and H-8160 manual, the BLM is mandated to consult with Native American tribes concerning the identification of cultural values, religious beliefs, and traditional practices of Native American people that may be affected by actions on federal lands. Places that may be of traditional cultural importance to Native American people are frequently referred to as Traditional Cultural Properties (TCPs). TCPs are generally identified by traditional groups (e.g., Native American tribes) as sacred or otherwise important to the maintenance of group identity even if no physical manifestation of past activities is present at that location.

The need for the BLM to identify TCPs is predicated upon the need to preserve and protect traditional cultural properties and associated sites. Local, regional, and national interest in heritage tourism and the high demand in the Four Corners area to experience history and prehistory in original natural settings, continues to bring tourists to this area, and to provide a powerful sense of place for local residents. Inventory and management concerns with TCPs will be discussed along with recommendations for future assessment and consultation particularly with Native Americans.

3.2.4 Native American Consultation

The BLM is mandated to consult with Native American tribes concerning the identification of cultural values, religious beliefs and traditional practices of Native American people that may be affected by actions on federal lands. The BLM has developed several sets of guidelines for consultation with Native American groups and evaluation of cultural resources with an emphasis on traditional use values. BLM Manuals 8160, *Native American Coordination and Consultation*,

and H-8160-1, *General Procedural Guidance for Native American Consultation*, provide consultation requirements and procedural guidance to ensure that the consultation record demonstrates, “that the responsible manager has made a reasonable and good faith effort to obtain and consider appropriate Native American input in decision making” (H8160-1, 2002:4). The BLM Handbook, H-8110 *Evaluating Cultural Resources* offers guidelines for management considerations when allocating cultural resources to use categories, including considerations for traditional use values.

Places that may be of traditional cultural importance to Native American people include, but are not limited to, locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world; locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules of practice; ancestral habitation sites; trails; burial sites; and places from which plants, animals, minerals, and waters possessing healing powers or used for other subsistence purposes, may be taken (Ferguson et al. 1993:30; Hopi Cultural Preservation Office 1995:2; Parker and King 1989:1). Additionally, some of these locations may be considered sacred (as opposed to “traditional”) to particular Native American individuals or tribes. Under the auspices of the NHPA of 1966, as amended; American Indian Religious Freedom Act of 1978 (AIRFA); Executive Order 13007–Indian Sacred Sites, dated May 24, 1996; and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), as amended, the BLM must take into account the effects of federally linked projects or land uses on these types of locations. Additional information about Native American Consultation is found in Appendix D.

3.2.5 Tribal Consultation List and Tribal Concerns

The Moab FO has historically consulted with Ute, Navajo, and Puebloan groups concerning cultural resource issues, including the identification of Traditional Cultural Properties (Table 3-3).

Table 3-3. Native American organizations contacted by the Moab Field Office.
Uintah and Ouray Ute Indian Reservation Southern Ute Tribe Ute Mountain Ute Tribe Navajo Nation Navajo Utah Commission Hopi Tribal Council Pueblo of Zuni Pueblo of Santa Clara Pueblo of Laguna Paiute Tribe of Utah

In August of 2003, BLM Utah State Director, Sally Wisely, mailed initial consultation letters requesting input for the land use planning documents from Native American organizations. Response letters were received from four organizations with specific requests to consult on cultural resource issues in the Moab FO: Pueblo of Santa Clara, Pueblo of Laguna, Hopi Cultural Preservation Office, and the Paiute Indian Tribe of Utah. Meetings have been scheduled with

these four organizations. The Moab FO will also meet with the Ute Tribes, Navajo Nation, and Pueblo of Zuni to discuss resource issues.

The Hopi Cultural Preservation Office has stated a concern for the BLM's reburial policy, known as Memoranda 98-131-2. The Moab FO Field Manager and Archaeologist met with the Hopi Cultural Preservation Office in December 2003 to discuss this issue and other cultural resource preservation concerns.

3.2.6 UDOT Section 4(f) Specific to the BLM and Moab Field Office

In the area of the Moab FO, the Utah Department of Transportation (UDOT) holds many easements along roadways located on BLM lands. It is standard UDOT procedure to include the BLM as a consulting party on any UDOT projects with easements on BLM lands. As such, the BLM has the opportunity to comment on cultural resource reports and environmental documents prepared as part of the NEPA process.

3.3 CURRENT MANAGEMENT PRACTICES

The Grand Resource Area Resource Management Plan signed in 1985 guides the current direction of cultural resource management in the Moab FO. The analysis upon which the final Management Plan was crafted stated, "approximately 1,063 prehistoric and historic sites have been documented in the Grand Resource Area." These sites range in significance from low to high and are scattered throughout the region. Cultural sites are continually being discovered as new archaeological clearances are performed. The new sites are documented and added to the existing record of sites. Due to the number of sites and the legal mandates that require site protection, the 1985 EIS recommended that any proposed action (such as road building, oil and gas development, etc.) be reviewed and an archaeological clearance performed. A clearance requires an actual onsite inspection by a qualified archaeologist, followed by a detailed written report describing any cultural findings and discussion, and, where necessary, appropriate mitigating measures for the sites.

Ultimately, the Grand Resource Management Plan simply stated that, "cultural resource clearances will be completed on all projects requiring BLM approval or initiated by the BLM that include surface disturbance. Areas or sites eligible for nomination to the National Register of Historic Places will be considered for nomination" (USDI 1985:32). Both the EIS and the final management plan briefly mentioned cultural resources. In fact, projects that generated the need for additional Section 106 surveys were encouraged in order to identify and protect "high value" sites. Due to dramatic changes in the current demands placed upon public lands, the 1985 guidance for cultural resources does not comply with the mandates that require protection of cultural resources.

Currently in the Moab FO, the management of cultural resources directly and indirectly affects multiple programs including:

- Filming and recreation commercial permits,
- Oil and gas exploration and development (well pads, roads, seismic 3-D projects),
- Solid mineral exploration and production,

- Realty actions (rights-of-way, land exchanges, etc),
- Range improvements (ponds, fences, cattle guards, etc.),
- Science-based projects,
- Facility construction activities,
- Road maintenance,
- Campground construction,
- Trail development, maintenance and construction,
- Off-highway vehicle use/activities, and
- Activities associated with wild fires and prescribed burns.

Direct effects to archaeological resources can be related to the degree of ground-disturbance associated with such activities as livestock grazing, wildlife habitat improvements, urban development, mineral development, road construction, maintenance and restoration, and recreational developments and activities. Increased recreational uses of federal lands, especially off-highway vehicle (OHV) activity, authorizations associated with urban development, and transportation and access improvements can also cause indirect effects to archaeological resources that are difficult to mitigate. Each of these circumstances can lead to improved access to previously remote locations resulting in site disturbance or looting.

Direct and indirect effects to archaeological resources can also occur due to human-induced modifications to the landscape such as vegetation treatments, prescribed burns, and wildfire suppression activities. Broad-acre vegetation treatments, particularly over the short term, can result in changes to ground cover density, increased snowmelt and frost heave. Those conditions can place archaeological sites at risk due to soil deflation and wind and water erosion by exposing and displacing materials and making sites vulnerable to looting. Similarly, prescribed fires and wildfire suppression activities can expose materials at archaeological sites to looting as well as burning wood, glass, and metal objects found at historical sites or crushing them during operation of heavy equipment. Burning that exceeds a certain temperature threshold can also result in project induced fire-cracked rock and changes in the chemical composition of some types of stone tool material. Such changes can lead to erroneous conclusion about when artifacts may have been produced or the source of the stone tool material.

Despite the direct and indirect affects that can and do occur to archaeological resources, the standards for their protection are the same. Resource inventories are conducted for all proposed activities that have the potential to affect archaeological resources. In order to ensure the incorporation of cultural resources management in resource management activities, it is critical for the cultural resource staff to be involved at the NEPA document stage with a class I literature review and Native American tribal consultation where applicable. The number of NEPA documents that require cultural resource input has increased ten-fold over the last ten years as has the number of proposed actions that require Native American consultation.

Currently, the number of sites that are being vandalized is on the increase due to the accessibility of many previously remote areas by off-road vehicles including 4-wheel drives, all-terrain vehicles, and motorcycles. The increase in off-road travel since the 1985 RMP has created numerous threats to cultural heritage sites located in the Moab FO. The need to protect eligible

cultural resources sites has caused project plans to be modified. This has resulted in conflicts during construction and maintenance of recreation facilities, roads, trails, filming activities, oil and gas development, range improvement maintenance, and construction of facilities such as fences, ponds, and science projects. The demand for additional single track trails for motorized use, hiking and horse trails, and permitted events and other commercial activities also pose problems when complying with the laws that protect eligible cultural resources sites.

3.3.1 Fire Management

Prior to the severe fire seasons of the past eight years, the effects of fire and prescribed burning on cultural resources were given little attention. Since that time, both land management agencies and private researchers have conducted scientific experiments and post-fire assessments to determine the effects of fire on non-renewable cultural resources. The conclusion of the current research is that land managers need to understand both the adverse and beneficial effects of fire on particular types of cultural materials in order to implement a fire management policy that avoids unnecessary loss of heritage resources. In many cases, post-fire erosion following a large catastrophic wildfire is more damaging than the fire itself.

The damage or destruction of artifacts by fire damage eliminates some types of scientific information that can be obtained from archaeological sites and may reduce or eliminate the cultural use values of sites. Even mild fire-related changes in artifacts can significantly alter the accuracy of certain scientific studies that are used to refine the understanding of past human behavior and to help land managers assess the importance of sites under their jurisdiction.

In addition to the direct impacts of fire, activities associated with fire suppression and prevention also affect cultural resources and cultural resource sites. These effects may be the result of direct physical disturbance related to the use of heavy equipment and hand fire control lines to create firebreaks. Other types of destructive effects may occur from chemical treatments for both the suppression and prevention of fire, which may irreversibly damage artifacts and contaminate datable materials.

Knowledge of the various effects that fire, and fire prevention and treatment, have on cultural materials guided the preparation of the BLM's Moab Field Office Area Fire Management Plan (MDFMP) (1998). This plan determines an appropriate distribution of fire management activities relative to the types of resources that are either known or likely to be present in a given area. Within the Moab FO, the MDFMP called for 22 projects treating a total of 110,000 acres with prescribed burning and mechanical treatment. It was estimated that a reasonably achievable level of treatment under existing budget and personnel constraints would be between 5,000 and 6,000 acres per year. Compliance with Section 106 of the NHPA, and consultation with the SHPO and interested Native American groups, will be completed on a project-specific basis before decisions are made to carry out fire management activities that could affect cultural resources. Individual fire management activities carried out under this plan will be preceded by a complete review of known resources and field survey, as appropriate, to identify cultural resources that might be affected by the proposed activities. Recommendations will be made to protect sites from proposed activities.

While the overall fire management plan for the Moab FO area was not predicated upon protection of cultural resources, affording sites this protection is a major focus of the plan. In addition to calling for appropriate levels of archaeological inventory of areas to be treated for fire prevention and post-fire rehabilitation, the plan identifies specific types of treatments (i.e., hand tools versus heavy equipment) to be used in areas of high archaeological sensitivity.

Some locations within the Moab FO are at high risk for catastrophic wildfire. The potential for large, hot, uncontrolled crown fire that threatens these locations also threatens prehistoric and historic archaeological remains with high levels of fire effects damage such as scorching, charring, smoke-blackening, oxidation rinds, complete consumption of artifacts, alteration/contamination and destruction of potential dating samples, damage resulting from suppression activities, and extensive post-fire erosion. Cooperative efforts to reduce the possibility of catastrophic crown fire, such as mechanical thinning of small diameter fuels, and re-introduction of relatively cooler and less damaging low-intensity ground fire, can also help to minimize wildfire damage and preserve both prehistoric and historic archaeological remains over the long term.

Thousands of prehistoric archaeological sites representing at least 11,000 years of human occupation have been recorded on BLM-managed land in the Moab FO. Prehistoric sites tend to concentrate near seeps, springs, and along perennial streams. They include properties as diverse as alcoves/rock shelters, open camps, tool production/procurement areas, gathering/subsistence locations, pithouse habitations, coursed masonry architecture, water control devices, and rock art. Some of these sites have not previously experienced fire and are very sensitive to the effects of fire. Others have previously experienced fire numerous times and have reached stasis with fire.

Historic sites are generally more sensitive to fire, since they often have not yet experienced fire and contain a higher percentage of flammable artifacts. Site types include remnants of early homesteading, mining, logging, Civilian Conservation Corps camps, and water control devices, among others.

In general, protection measures are site-specific and include avoidance of archaeological remains. Vehicles are not allowed within site boundaries. Hand thinning, using chainsaws, is often recommended. Re-introduction of low intensity prescribed fire is often recommended for fire-adapted sites. Slash piles resulting from thinning are not allowed within site boundaries.

3.3.2 Data Sufficiency

Only those resources that have been identified or can be reasonably predicted to exist in a given location can be managed proactively. Comprehensive management planning cannot take place for areas where little or no knowledge of site types and frequencies are available. While there have been a multitude of inventories of cultural resources in the Moab FO, there are significant gaps in the database that have increased the difficulty in management of these resources. These limitations include large un-surveyed areas where there is no current knowledge about cultural resources, gaps in the database of particular site types, and research-related data limitations. Despite the many cultural resource inventories within the Moab FO area, the total percentage of the area covered has been relatively small. This limitation can affect management decisions

related to large areas. It will be difficult to develop an effective land plan without at least a preliminary understanding of the potential cultural resources in an area.

The majority of cultural resource inventories within the Moab FO Area have been driven by Section 106 compliance related to specific projects. These inventories have addressed discrete locations and have typically resulted in the “clearance” of small parcels of land and narrow linear corridors. As such, much of the current understanding of site types and their distribution as well as our understanding of prehistoric and historical land use patterns are based on piece-meal information gleaned from this patchwork of small, disparate surveys. This is particularly true for oil and natural gas fields within the field office. While hundreds of 10-acre parcels have been inventoried, these parcels are separated from each other, and the irregularly shaped areas between them and the access roads remain unsurveyed. Further, well pads, processing facilities, and access roads are typically placed in locations that fit within a narrow range of topographic parameters (areas with flat profiles), and thus, do not sample the full range of environmental/topographic settings within the oil and natural gas fields.

Additionally, the number and distribution of particular cultural resource types is also relatively poorly known; only a small number of Paleoindian sites, prehistoric platform sites, prehistoric and historical trails, ceremonial sites, early-period historical sites, historical agricultural sites, burials, and other major site categories and behavioral themes (e.g., the origins of local agriculture) within the Moab FO have been identified and thoroughly investigated. While greater numbers of rock art sites have been identified, it is still clear that the proportion of identified sites relative to the probable total number of these sites is low. Because of the many values and interest groups associated with these rare and relatively unique sites, the lack of a comprehensive site and survey database hinders effective site management. In essence, it is difficult to determine how to allocate use for a particular type of site without being able to compare that site to others and determine its relative value.

3.3.3 Procedures for Identifying Resources

There are multiple procedures currently in place for identifying cultural resources within the Moab FO area. These range from informal data gathering, through more formal sampling strategies, to total coverage inventories of particular areas. It is anticipated that all of these procedures will continue to be utilized; however, increased coordination between them may lead to increased efficiency in identifying and ultimately managing the resources.

Informal data gathering takes a variety of forms. Concerned members of the public report on cultural resources, amateur archaeological groups such as the Utah Statewide Archaeological Society (USAS) provide information, tribal groups provide information during various consultation processes, and volunteers can assist the BLM in gathering data. These data have the advantage of being provided at a relatively low cost, but they have the disadvantage of lacking systemization and quality control assurances, and the accuracy of the information, including resource location, is sometimes questionable.

More formal sampling strategies have also been utilized. Sampling surveys or Class II inventories have been carried out in the region, although fewer of these have been carried out in recent years. The results of these surveys have been mixed. Although these surveys have

attempted to cover broader areas at a lower cost than intensive, total coverage inventories, due to various problems inherent to statistical sampling, the utility of the data from the surveys has been limited.

The most thorough and formal resource identification methods consist of intensive, total-coverage, and Class III inventories. These inventories have been conducted as part of the process outlined as Section 106 of the NHPA or in work related to the overall NEPA process. These inventories have the advantage of providing nearly complete data on cultural resources for a given area. The disadvantage of these inventories is that the areas for inventory are selected on the basis of anticipated development rather than scientific data needs. Thus, while they provide a detailed picture of cultural resources within a given area, they do not provide a detailed overview of the cultural resources in an entire region.

While all three of these data gathering techniques have distinct advantages, perhaps the biggest disadvantage relative to all of them is that the understanding of the regional data is difficult to develop from the individual data provided by each data gathering technique. The number of cultural resources overall in the Moab FO area are vast, and it is impossible for any single individual to maintain all the necessary information to manage these resources in a single set of files. This is particularly true given that the cultures represented by archaeological sites in eastern Utah did not stop at the state or county borders. Rather, the cultures and their attendant technologies, site types, and behavioral patterns extended into surrounding states and regions. Thus, cultural resource studies conducted in southwestern Colorado and southeastern Utah have a bearing on the understanding of resources within the Moab FO. Therefore, it is desirable for the land management agencies within all of these regions to work together to identify broader culture areas and establish a shared database system in which studies and site information from the various agencies can be readily accessed.

Improving the database of known cultural resources could be a valuable first step towards better managing the resources. Developments in Geographic Information Systems (GIS) technology in recent years have indicated that digital map databases in standard GIS formats can provide an invaluable means of tracking, searching, and compiling data on resources such as cultural resource sites. The Utah SHPO is currently attempting to transfer site data from the entire state, including the southeastern Utah region, into a GIS format. Efforts to develop the capability to electronically access this database and search it from the Moab FO was proposed in 2004.

3.3.4 Procedures for Evaluating Resources and Defining NRHP Eligibility

Under the NRHP and associated laws, it is important to determine whether certain resources are eligible to the NRHP in order to determine how to manage them. For nearly all types of resources, the NRHP standards identify the need to establish “contexts” that are used to evaluate these resources. Contexts are “...those patterns or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear” (National Register Bulletin 16). Contexts provide the necessary background to understand how a given site or property relates to other sites, and contexts define the relevant research questions that apply to given sites. Whether based on site types (e.g., lithic scatters) or on behavioral trends or themes (e.g., Prehistoric/Formative agriculture), contexts outline the existing state of knowledge and interpretation for a given region

and identify those data gaps or weak areas of understanding. These contexts also provide recommendations for specific topics of study as well as targeted research questions and outlines of data needs (i.e., physical site characteristics) for addressing the outstanding questions about a given topic. Contexts have been successfully developed and applied in nearby regions (e.g., Reed and Metcalf 1999 for the Northern Colorado River Basin) and in other western states such as Nevada and provide examples for the preparation of similar contexts within the Moab FO area.

Development of contexts for the Moab FO area has the potential to improve the ability to manage cultural resource sites. Contexts would provide, in essence, a more discrete set of criteria that could be used to determine the significance of sites. For example, a site type context for prehistoric lithic/artifact scatters or a thematic context for hunting and gathering would, through detailed study of existing data and gathering of new data, identify those characteristics of a lithic/artifact scatter or other types of sites that are necessary in order to answer those important questions about hunting and gathering that remain as data gaps or as poorly understood components of the existing body of knowledge regarding prehistoric behavior patterns in southeastern Utah. Sites that contain these crucial elements may then be managed differently (i.e., temporarily allocated to the scientific, experimental, or conservation use categories) than sites that do not contain these elements. In addition, contexts could be used to define criteria for evaluating more difficult resource types such as prehistoric landscapes. Furthermore, these contexts would also interface with those identified in the Utah Historic Preservation Plan.

Additionally, the development of contexts could provide certain considerations for ranking the relative values of sites based on established criteria. For instance, the scientific value of many archaeological sites are relative to a number of discrete factors such as assemblage size and diversity, the number and type of features on the site, proximity to other sites, the location of the site in the landscape, the rarity or uniqueness of artifacts, features, or rock art on the site, the degree of preservation or integrity, and on-site soil types and their affect on site deterioration. Conservation values will be influenced by the relative rarity or uniqueness of the site, its location, and the degree to which threats of vandalism or other human impacts can be controlled. The public use values of a site might be affected by access, visibility, and an ability to protect the site. Traditional use values will be determined by individual tribal groups.

With a better understanding of the total range of resources, and a better understanding of the contexts and relative values of the resources, it should be possible to more efficiently manage the resources. Because the contexts that may be relevant to a cultural resource site will change as more data are produced and research questions develop, it is necessary that contexts be updated. In all probability, contexts could be produced and updated on a 5-year basis.

3.3.5 Site Condition

There is a direct relationship between site distance from high human population areas and the potential for the resource to be impacted. The potential for resources to be impacted is exacerbated by considering the fact that the greater the site distance from human populations, the more difficult it is for the BLM to provide appropriate monitoring and protection. Spray painted graffiti, illegal etching of rock art panels, unauthorized excavation of eligible archaeological sites, and unauthorized impacts due to recreational uses have all impacted the cultural resources of the Moab FO. Site condition of many resources is currently unknown, as many sites have not

been re-visited since their initial recordings; many sites were originally documented in the 1950s, 1960s, 1970s, and early 1980s. Likewise, due to the inconsistency in mapping—15-minute maps versus 7.5-minute maps, for instance—the accuracy of locational data for sites varies tremendously.

The direct use of cultural resources for scientific purposes, such as thorough excavation, is currently low, with very few applications being made to the BLM in any given year. Such use of cultural resources is generally limited to academic institutions and non-profit organizations. Annual budgets for such entities are traditionally low and do not allow for extensive and frequent research excavations. In general, the trend at academic institutions across the United States has been toward decreasing budgets for anthropology and archaeology programs as well as toward the complete elimination of such programs from many institutions. Should this trend reverse itself, scientific use of cultural resources within the Moab FO would be expected to increase. Given current conditions, however, such use is expected to either remain steady or slowly decline.

3.4 RESOURCE DEMAND AND FORECAST

The Moab FO area encompasses a vast and varied landscape that has been a region of human activity since the Paleoindian period. This human activity has left its mark on the area in the form of archaeological, architectural, and other heritage sites. The desire and need for increased uses of federal lands will continue to create conflicts with cultural resources. The recreational use of the Moab FO Area has increased significantly in the last ten years. Frequently energy-related activities, permitted recreation activities, recreation facility development and range management-related activities require project modification in order to comply with cultural resource mandates. Other activities such as filming and permitted commercial ventures as well as non-commercial demands for public land access (such as off road vehicle use) have also increased dramatically, placing pressure on the characteristics that make archaeological sites eligible for the National Register. The Moab FO area is also experiencing an increase in the need for vegetative treatments and wildlife facilities to offset the impacts of the current six-year drought. Vegetative treatments that disturb soils increase the potential to irreversibly impact cultural resource sites.

Limiting activities that contribute to site degradation would diminish adverse effects to eligible sites but would also curtail some peoples' recreational and transportation pursuits in planning area. Activities that would be restricted from locations of eligible cultural resources, on a case by case basis, may include but not be limited to use of mechanized vehicles, surface occupancy for mineral exploration and development, rock climbing, horseback riding, dispersed camping, target shooting, and livestock grazing. Methods used for restricting depreciatory activities will include posting signs and fencing cultural resource areas. Limiting activities within the boundaries of eligible cultural resources will conserve the integrity of those resources for years, and possibly decades, to come. Without management intervention, deterioration and attrition to eligible cultural resource sites will continue due to natural and human induced threats.

3.5 CONSISTENCY WITH NON-BUREAU PLANS

In order to be effective in its land management responsibilities, the Moab FO must at least be aware of the management practices and goals of adjacent landowners, be they private or governmental. To the degree possible, the Moab FO coordinates its planning efforts with the goals and practices of these non-bureau entities. The following section outlines the areas of convergence and divergence between bureau and non-bureau plans.

3.5.1 Utah State Division of History

Executive Order of the State of Utah, passed in 1969, created a registry of significant sites, buildings, and objects important and significant to Utah's history. It also created the Division of State History whose mandate was maintain a State Register of Historic Places and to nominate historic and cultural properties to the State and National Registers of Historic Places. The Executive Order also mandated that all construction projects in the state must allow the Division of State History time to review and make recommendations regarding construction plans and to suggest mitigation measures that would preserve the integrity of significant districts, sites, buildings, and/or objects. This executive order concerns "all antiquities, historic and pre-historic ruins, sites, buildings, and objects" .

The Utah State Antiquities Act, passed into state law in 1973, created the Division of State History and established a state antiquities law that provides for the preservation of and protection of archaeological sites, provides for the excavation and study of cultural resources, and provides for the coordinated and organized preservation of documents associated with the management of Utah's archaeological and anthropological resources. The Act requires the State Division of History to oversee the cultural resource permitting process statewide and to support the nomination of significant sites to Utah state history. The Museum of Natural History shall be the official repository of cultural resource records and documents as well as all artifacts or specimens removed from state lands. The Act mandates that all objects will be identified as original or genuine versus reproductions or re-worked items.

3.5.2 Manti-La Sal National Forest Plan

The guiding management document for the Manti-La Sal National Forest is the *Land and Resource Management Plan (1986a)*. The Record of Decision (1986b:4) for the forest plan states the "high archaeological values, especially [those] on the Moab District [of the Manti-La Sal National Forest], will be protected from loss by theft, vandalism, and where possible, from natural destructive forces." The primary goal of the cultural resources management component of the plan is to carry out the federal mandates and to take into account the effects of federal undertakings on eligible cultural resources. Additionally, the Forest Plan promotes increased proactive identification of cultural resource sites rather than reactive identification when applications for specific, localized land use permits are received. Management practices outlined in the current RMP for the Moab FO, and current practices not included in that RMP, are consistent with the Manti-La Sal National Forest Plan. Opportunities exist for the BLM and the USFS to share resources that may assist both agencies in reaching their long-term cultural resource management goals.

3.5.3 Grand County General Plan Update (2003)

The management document for Grand County is the county's General Plan (GCGP, adopted April, 2004). The General Plan, which recognizes the significance of cultural resources in Grand County and recommends that the BLM, USFS, NPS, and any other agency, cooperate with Grand County when formulating plans or making land-use decisions.

In general, the GCGP supports the role of the other land-management agencies and identifies Grand County's goal to achieve a "stable economic base while minimizing degradation of the economic, social, ecological, and cultural resources of the public lands. Protecting public lands resources is sound policy for the long term economic well-being of Grand County" (GCGP 2004:48).

The GCGP states in the Planning Policies chapter under "Protection of Sensitive Lands (Section 4.2.9)", that Sensitive Lands are "defined by the Grand County Land Use Code to include: ... floodplains and riparian habitats; ... and significant geological, biological, and archaeological sites. These areas have not (with the exception of the flood-prone areas) been mapped and must either be better defined, or addressed on a site-by-site basis during development review" (GCGP 2004:55). Therefore, the GCGP generally acknowledges the value of cultural resources and that the management of cultural resources should be the agency's primary concern. The only goal identified in the GCGP regarding cultural resources is balancing the economic base with protection of cultural resources on public lands.

3.6 ISSUES OR CONCERNS

Compliance with federal legislation requires the protection of cultural resources while supporting the BLM policy of multiple use. The issues and concerns stemming from the need to protect cultural resources have the potential to drive alternative development for the Moab FO area. While federal laws exist which provide specific mandates to the BLM and other federal land management agencies regarding their responsibilities toward cultural resources, the Moab FO has a wide array of opportunities to effectively comply with those mandates while addressing important cultural resource related issues. Following is a list of issues or concerns.

3.6.1 Issue #1: Lack of areas inventoried for cultural resources

- The total percentage of the Moab FO area that has been inventoried for cultural resources is very small. This limitation effects management decisions related to large areas. It is difficult to develop an effective land use plan without at least a preliminary understanding of the potential cultural resources in an area.
- The Class I inventory of Cultural Resources in the Moab FO Area is out-of-date. The information does not provide an adequate synthesis of known cultural surveys and sites and therefore does not promote adequate planning in particular for oil and gas leasing, range allotment uses, and recreation area management plans.
- Most cultural resource management issues within the Moab FO are directly related to recreational uses of the public lands. As such, it is critical that field office recreational planners place protection of cultural resource values at the forefront of their management

considerations; recreation plans developed within the Moab FO should be joint recreation and cultural resource plans.

3.6.2 Issue #2: Cultural resource database shortfalls

- The lack of a GIS database of historical transportation routes/sites within the Moab FO prevents adequate protection of significant sites. Linear sites offer a challenge in site protection due to the fact that the site may stretch for many miles across the countryside. A database could be constructed both from historical maps and modern cultural resource surveys. Database information for a given area would provide management opportunities and limitations when planning projects. The Old Spanish Trail, for example, is listed on the National Historic Trails systems and yet the lack of specific on-the-ground knowledge of the route prohibits adequate protection of the route's integrity.
- Lack of baseline data prevents adequate long-term protection of cultural resources in the Moab FO. Lack of baseline and monitoring data hinders the ability of archaeologists to adequately address long-term and cumulative impacts to cultural resources. In addition to locating and characterizing the distribution of all surveyed areas and recorded cultural resources, qualitatively and quantitatively, regional overviews should interpret the potential cultural resource contents and densities of unsurveyed areas. Data and data interpretations, including projected cultural resource distributions in the unsurveyed areas, should be presented in GIS format.
- The difficulty in coordinating various forms of cultural resource data gathering systems into BLM databases decreases the ease of use, and accessibility of, the database. The inadequate database limits the ability to delineate target areas needing additional inventories.
- Limitations exist in the knowledge of the relationship between surface and subsurface data in the Moab FO area. It may be possible to utilize existing excavation data to evaluate the relationship between surface and subsurface data in order to determine if surface data provide a reliable estimator of temporal associations and site types. The lack of correlation between surface and subsurface components presents difficulties in planning uses of areas where significant cultural resources are concentrated.

3.6.3 Issue #3: Integration of cultural resource planning in proposed future projects

- Early notification procedure should be implemented in order to ensure that all project areas have undergone a Section 106 cultural resource inventory to meet the schedule of the project. Each project that is considered an undertaking requires a cultural resource clearance prior to implementing the proposed project. Owing to the large number of recorded archaeological sites (5,200), the large area covered by the Moab FO (1,819,554 acres), and the small number of Cultural Resource Specialists in the Moab FO (two), the Cultural Resource Specialist is constantly conducting cultural resource inventories for projects in the Moab FO area.
- At present, Section 106 compliance for well pad and pipeline surveys generally includes the survey of a narrow corridor (for access roads) and 10- to 40-acre block parcels (for the pads themselves). The consistent use of such inventories results in a discontinuous patchwork of surveyed and unsurveyed lands within the development areas. This creates

a difficult management situation for the BLM in that a clear picture and understanding of the overall nature of archaeological sites within these preferred development zones is rarely fully reached. Thus, decisions of whether to allow or disallow a development permit are often made without a strong grasp of the cumulative impacts to the archaeological record in the area.

- The revised Section 106 regulations, NAGPRA, and Executive Orders 13007 and 13175 all mandate increased levels of consultation with Native American tribal groups who may have concerns related to traditional religious or cultural sites located on lands managed by federal agencies or subject to disturbance by federal undertakings and afford additional consideration for protection of sites so identified. The increased consultation mandated by this recent legislation constitutes a substantial portion of the workload for cultural resource managers in federal agencies.
- NAGPRA mandates that land managers assign cultural patrimony or affiliation to human remains found as part of a federal undertaking. This has dramatically increased the workload of most agency cultural resource representatives because NAGPRA cases are often complex, full of strong emotions and opinions, and not easily addressed. Even if cultural affiliation can be ascribed as mandated, NAGPRA stops short of identifying the appropriate subsequent management action on the part of the agency representative. In order to address this gap in the legislation, the BLM has established a limited policy with regards to human remains such that no remains discovered on BLM lands can be left *in situ* or reburied on BLM lands.

3.6.4 Issue #4: Adverse impacts to cultural resources

- Impacts to archaeological sites from recreational uses (especially off-road travel) and energy-related exploration and development activities have increased dramatically in the last ten years. Many cultural resource sites may be “at-risk” and their NRHP eligibility threatened. Inventory and evaluation will provide BLM with a better understanding about the extent of individual at-risk resources and their NRHP eligibility. Site monitoring will reveal changes to at-risk site condition over time.
- In order to protect the integrity of cultural resource sites, activities that contribute to site degradation may have to be limited. Limitations will diminish adverse effects to “at-risk” sites but will also curtail some peoples’ recreational and transportation pursuits. Activities that would be restricted from locations of at-risk resources, on a case by case basis, may include but not be limited to use of mechanized and motorized vehicles, rock climbing, horseback riding, dispersed camping, target shooting, and livestock grazing.
- Cultural resources are being adversely impacted by various uses ranging from recreational, energy-related exploration and development, and range-related activities. The BLM must be better able to quantify these impacts from various uses in order to develop adequate mitigation measures that protect eligible cultural resource sites. Once the BLM has a better understanding of exactly what the cost of the various land uses is in terms of data loss or cultural distress (for Native American tribes and other heritage groups), it can better effect solutions to either preventing the impacts or focusing the impacts in specific locations. As a result of these measurements, certain areas may be deemed too vulnerable to allow full access but they may be appropriate for restricted use.

- Conflicting policies applicable to cultural resource management with regards to the issuance of OHV permits and construction of single-tracks are in direct conflict with each other. Under the revised federal NHPA regulations, issuance of OHV permits by the BLM is considered an undertaking and is subject to review under the Section 106 process, thus it is necessary for the BLM to formally take into account the effect that issuing OHV permits will have on cultural resources within the Moab FO. However, the statewide protocol established between the BLM and the Utah SHPO, as well as existing Utah BLM handbooks, indicate that issuance of permits is exempt from Section 106 review. This discrepancy provides unclear direction to Moab FO resource specialists in the practical application of their management prescriptions. OHV use in open areas are adversely impacting cultural resources—surface use stipulations for ground disturbing activities are needed to prevent adverse impacts from occurring. Designating routes and preventative fencing would help address the current user impacts to cultural resources. Potential areas of high site density or significant site types may need to be closed to vehicular travel.

3.6.5 Issue #5: Changing conditions of cultural resources

- Areas truly distinct and outstanding relative to the broader region in the Moab FO area are seeing impacts to cultural resources that damage site integrity. Designation of sites and/or areas of significant site density would be a valuable management tool and help alleviate loss of cultural site integrity. Designation of these zones, utilizing a thorough understanding of scientific data, scientific, public, and traditional use values, could be a component of a management zones and strategies document. The cultural resources management zones and strategies document could be updated, in order to account for changing circumstances, and would outline guidelines and strategies for evaluating various resources, resolving or preventing impacts, and balancing the interests and values in the resources.
- The condition of cultural resource sites documented more than five years ago (1998) in the Moab FO is unknown. Due to erosion and/or human-related impacts site condition, eligibility, and size may change—if changes occur management of the site may also change. In areas where archaeological sites are adversely impacted under current management strategies—areas such as Ten Mile Canyon, North and South Forks of Mill Creek, Seven Mile Canyon, Kane Springs Canyon, Behind the Rocks, and the Potash Road—new protective measures would be required.
- Vandalism of archaeological sites has increased dramatically in the last ten years in the Moab FO area. Conservation of vandalized sites has proven costly yet effective in preventing continued site damage. Likewise, interpretation of vandalized sites, where applicable, will increase the public's opportunity to learn more about the prehistory and history of the area and the illegal acts that destroy archaeological values. Site interpretation of some archaeological resources could be viewed as disagreeable to local Indian tribes because of the cultural significance of those sites to some tribes. Rock art panels, in particular, have been targeted by looting activities including the introduction of graffiti, use of panels as target practice, and attempts to remove panels or particular symbols on panels. The Moab FO Cultural Resource Specialist has observed that rock art panels that are not damaged are more likely to stay that way. However, panels that

currently exhibit damage will continue to be further damaged. Consequently, the damage to rock art panels needs to be repaired immediately in order to prevent further damage to the sites.

3.6.6 Issue #6: Native American Consultation and Traditional Cultural Properties

- Legislation requires the BLM to protect TCPs that are of cultural significance to Native American tribes. Native American consultation is critical to the identification of culturally sensitive areas and these areas need to be identified on topographic maps in order for the sites to be protected.

3.6.7 Issue #7: Cultural Resource Areas that are eligible to the National Register of Historic Places

- The Moab FO Cultural Resource Specialist has identified several areas that contain significant cultural resources. These resources are considered to be significant and would meet NRHP criteria. Identifying NRHP Districts and an associated cultural resource management plan would provide a systematic way of proactively managing cultural resources.

3.7 MANAGEMENT OPPORTUNITIES

Besides the inventory and planning requirements in the Federal Land Policy and Management Act (FLPMA), which apply to all resource management programs, the BLM is required to consider the short- and long-term management of cultural resources under Sections 106 and 110 of the NHPA, Section 14 of the Archaeological Resources Protection Act (ARPA), and the BLMs national Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers (PA).

The RMP now in effect generally defers decisions about cultural resources until a conflict with a proposed land use is identified. Then, the need to comply with Section 106 of NHPA forces managers to make cultural resource decisions without the benefit of prior analysis. When these decisions default to mitigation of adverse effects by means of data recovery (excavation), this formula often results in the inappropriate loss of resources that should be preserved, or, at the other extreme, costly mitigation operations that are not warranted by the resource's research potential. Consequently, any proposed use of, or impacts to, cultural properties must be compatible with cultural resource management objectives established through evaluation and planning, and must be closely coordinated with and draw on the technical expertise of the cultural resource staff.

3.7.1 Opportunity #1: Opportunity for increased cultural resource inventories

- Inventory and evaluate the extent and the number of archaeological sites that are “at-risk” resources. Develop a monitoring program that will assess “at-risk” sites at a set interval. Site monitoring will reveal changes to at-risk sites over time and provide strategies for site mitigation. Methods used for restricting depreciatory activities will include posting signs and fencing at-risk resource areas. Limiting activities within the boundaries of at

risk resources will conserve the integrity of those resources for years, and possibly decades, to come. Without management intervention, deterioration and attrition to at-risk resources will continue due to natural and human induced threats.

- A compilation and synthesis of cumulative cultural resource data is desirable. Similar projects have occurred in the past (e.g., Alpine Archaeology 1993), and have proven to be invaluable for assessing resources. Identifying the known resources in a systematic document would be an invaluable management tool. Such an analysis could be conducted on a periodic basis, such as every 5 to 10 years.
- Although all lands managed by the Moab FO are considered to be important, there are certain areas in the Moab FO area that contain cultural resources that are known to have been impacted by other resource demands. Additional data should be gathered in an effort to identify these areas via sample cultural resource inventories in areas where the existing data are inadequate, conducting test excavations on archaeological properties where difficulties in interpreting surface data make management allocations tentative, or ethnographic studies where little or no information is currently available.
- "Landscape" scale overviews. For current planning purposes, some overviews warrant development at the "landscape" scale, focusing less on administrative boundaries and more on the continuity of geographic and cultural similarities and influences. For example, basing an overview on a linear cultural-geographical feature such as an historic trail, or a natural physiographic unit such as a watershed, might be a better way to organize cultural resource data for planning than field office or other arbitrary boundaries would be. A single landscape-level overview may contribute to the cultural resource information needs for more than one RMP.

3.7.2 Opportunity #2: Completion of cultural resource database

- Conduct an audit of BLM lands within the Moab FO to identify the overall percentage of lands that have already been inventoried for cultural resources as well as those areas or environments in which few if any surveys have been done. The audit would allow the BLM to identify specific data gaps.
- Coordinate management efforts with other federal agencies both in Utah (southeastern Utah specifically) and Colorado to develop a regional database and research program. Information obtained through studies in all of these areas affect the understanding of cultural resources within the Moab FO.
- Conduct problem-oriented and targeted studies of individual cultural resource site types within the Moab FO with a focus on identifying specific criteria and site characteristics for more rigorously evaluating sites for eligibility to the National Register of Historic Places and developing more efficient and effective mitigation actions.
- Conduct a comprehensive study of the archaeology within the most intensively utilized oil and gas fields in order to achieve a better understanding of the site types and distributions in these areas as well as of the impacts of development on such sites. The study should utilize data from previous inventories as well as include new, proactive surveys to identify additional sites and site distribution patterns.

3.7.3 Opportunity #3: Development of cultural resource management areas in planning

- Identify cultural resource management zones based on an analysis of known site distributional information, vulnerability to impacts, and other measures. Areas of high site density, areas with unique or particularly valuable sites, or areas identified by Native American groups are of particular concern. In many ways, these areas are similar to the prehistoric landscapes and would provide an extremely useful starting point for identifying areas that could be designated special cultural resource management.
- Using the information gleaned from the preparation of the resource-specific contexts, targeted studies, consultation with Native American tribes, and consultation/coordination with county governments and state preservation agencies, establish a ranking system of resource use values such that individual sites, site clusters, and landscapes can be designated for the appropriate management strategy (i.e., managed for public values, traditional values, scientific/experimental/conservation values).
- Conduct a targeted thematic study of prehistoric and ethnographic burials on BLM lands within the Moab FO. This document would centralize all currently known information regarding the locations, ages, and physical attributes of such burials, as well as the use values for relevant groups, governing laws and regulations, and tribal beliefs and concerns. Establish a minimum of a 1/4-mile no use buffer zone around all known prehistoric and ethnographic burials.

3.7.4 Opportunity #4: Evaluation and alleviation of adverse impacts to cultural resources

- Rock art can have scientific, public, traditional, and conservation use values. A targeted inventory, designed to predict probable rock art locations based on the currently available data regarding where these sites are located and to then systematically examine these areas and record new sites would provide a strong basis for confidently determining the best use allocation(s) for a given resource. One interest group may wish that they have full access to rock art; another interest group may wish that only they have access to rock art, and yet another may wish that no one have access to rock art. In order to manage the various interests, it may be necessary to establish compromises under which some rock art is available to the public, some to only scientists, and others completely protected. Such compromises would need to occur within the constraints of AIRFA and Executive Order 13007, and with sensitivity to Native American beliefs regarding rock art. Decisions on how to best allocate rock art sites into one these categories need to be based in a good understanding of the full range (or nearly the full range) of sites to choose from and place into various management categories. It may even be possible, utilizing volunteers, to conduct these inventories at a relatively low cost.
- It is recommended that the BLM establish at least a limited program for systematically identifying and studying the impacts of the various use groups that place value on cultural resource sites. This can be accomplished through an experimental program designed specifically to monitor impacts to a small set of representative sites.
- Implement the research questions and recommendations contained within *Grand Resource Area Class I Cultural Resource Inventory*, (Jonathon C. Horn, Alan D. Reed and Susan M. Chandler, 1994). Conduct targeted landscape or systems oriented studies of those areas identified in this document by the BLM as archaeologically or culturally

sensitive zones to determine their veracity. Implement a restricted use policy for those zones determined to include high scientific, conservation, and traditional use values that are in danger of damage or destruction under current land use practices.

3.7.5 Opportunity #5: Changing conditions of cultural resources

- Opportunities managing changing conditions of cultural resources (following NRHP Section 106) can be met by developing Cultural Resource Protection Plans (CRPPs), Cultural Resource Management Plans (CRMPs), and incorporating them into other sub-activity plans.
- All cultural resource protection and management plans would include a Monitoring Protocol developed for geographic areas or types of cultural resources. Currently, cultural resource sites may be impacted by various multiple uses of public lands. Development of a monitoring protocol to identify the impacts and effects to the resources would assist the resource managers with identifying and tracking the effects of impacts to cultural resources sites. Proactive management decisions can then be made based on monitoring data.

3.7.6 Opportunity #6: Recommendations for Native American Consultation and Traditional Cultural Properties

- The BLM must consult with all Native American tribes with aboriginal territories within the study area as part of the Section 106 process to determine the presence of non-archaeological site types that are usually identified as traditional cultural places and sacred areas. The BLM should make every effort to keep any information concerning these site types confidential to the extent possible. Often a tribe will not be comfortable giving any information about these site types. However, the federal government will not be able to protect these sites if there is no locational information. In these cases, a boundary marker placed on a topographic map could at least provide sufficient locational information to protect the site. Potential traditional cultural properties can be further protected if a tribe is willing to provide traditional use information that can be used to determine eligibility to the NRHP.
- Include Native American groups in planning management strategies and research programs for prehistoric and ethnographic sites within the Moab FO.
- The BLM should make determinations of eligibility for the NRHP when a site or location is identified as culturally important by a culture group. Doing so will elevate the site from a simple known culturally sensitive area to a formal TCP that is subject to certain protections under federal law. To date, none of the sacred sites and areas discussed in the sub-section of this report entitled "Identified Traditional Cultural Properties" have been formally designated as TCPs, thus no official documentation exists to support the claim of the Native American groups that these sites are culturally important. As such, land use decisions based upon the informal knowledge of such sites/locations may not withstand legal scrutiny or the challenges of land users. The BLM should draft a site form to be used for TCPs that would include locational data, especially a boundary line, as well as appropriate supporting cultural data, and statements/justifications of the site's importance to the affiliated group.

- Develop a cooperative agreement with the SHPO to allow for the official documentation of TCPs within the existing record keeping system. Owing to the often significant sensitivity the cultural groups have about the confidentiality of the information related to TCPs, a separate storage location (apart from the site files) may need to be designated. This separate storage area could be subject to more stringent access restrictions, possibly restricted to agency personnel only.

3.7.7 Opportunity #7: National Register of Historic Places Nominations

- At the time a site or group of sites is documented, a determination of eligibility for the NRHP would be completed. Identification of areas that contain eligible, significant cultural resources is the first step in the process to nominate these areas to the NRHP. As National Register sites, these areas gain additional protection in management decisions. As such, land use decisions based upon the designation and nomination of such sites/locations would withstand legal scrutiny or the challenges of land users. The BLM should identify areas with critical and significant cultural resources and also draft a formal action plan for the nomination of such areas to the NRHP. Nominations would be closely coordinated with the Utah State Historic Preservation Office.

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APPENDIX A

A CULTURAL HISTORY OF THE MOAB FIELD OFFICE AREA**Prehistoric Culture History***Paleoindian Stage*

The Paleoindian Stage (app. 10,000 to 7,800 B.C.) is the earliest stage of culture history evident in the region and represents the adaptation to the terminal Pleistocene environments, and is characterized by small groups of relatively mobile hunting and gathering peoples who used most sites only briefly. The Paleoindian tool kit typically included large, lanceolate (Clovis, Folsom, and Plano) projectile points (Schroedl 1991), spurred end scrapers, graters and borers, and crescents (Frison 1978:78; Schroedl 1991). This stage is further split into three traditions including the Clovis (10,000 to 9,000 B.C.), Folsom (9,000 to 8,300 B.C.), and Plano (8,300 to 7,800 B.C.). The primary difference between these traditions is the slight variations in projectile point typologies resulting from slowly changing climate and subsistence strategies. In many cases Clovis and Plano associated artifacts occur in lower elevations along major river valleys where Pleistocene megafauna such as mammoths, sloths, horses, bison, sheep, deer, and bear congregated. As climate warmed and vegetation changed, Plano peoples also began to exploit resources found in higher elevations such as the La Sal Mountain range as well as lower elevation river valleys. Because of their great age, Paleoindian features and structural deposits, such as hearths, are normally found in alcoves and rock shelters. However, *in situ* structural deposits have been located recently in an open site in Colorado. The absence of specialized plant processing tools and the frequency of large projectile points best suited for killing large game animals point to a reliance on hunting by Paleoindian groups. In the Moab Field Office, a small number of diagnostic isolated artifacts have been found on sites that have not been excavated.

Archaic Stage

At the terminal Pleistocene, the climate became warmer and drier which resulted in the expansion of xeric vegetation zones and a consequent retreat of cooler and moister vegetation zones to higher elevations. Changes in the climate caused a reduction in the distribution of Pleistocene megafauna, in some cases to the extinction of animals that were typically adapted to the cooler, moister climates. With changing climates came the expansion and modification of artifact assemblages as people adapted to a wider, more dispersed fauna and plant resource base. The artifact assemblage associated with the Archaic Stage (7,800 B.C. to 500 B.C.) is typified as including large projectile points with side and corner notching and stemmed points (Humboldt Concave-base, Pinto series, McKean, Northern Side-notched, Sudden Side-notched, Mallory Side-notched, Gatecliff Contracting-stem, and possibly San Rafael Stemmed varieties) (Holmer 1978), as well as basketry, cordage, netting, matting, fur clothing, tumplines as carrying devices, sandals, and atlatl darts. As prehistoric peoples exploited more plant resources, digging sticks and ground stone tools such as hand-held manos and pestles were used with basin shaped metates to process vegetal materials. During this time period, peoples began to occupy more open spaces where they constructed brush-covered excavated earthen pit habitation structures. This expansion may have resulted from population increases as well as changing demographic situations and more intensive subsistence strategies. Trade networks became evident as sites contained *Olivella* shells. Archaic Stage feature and structural deposits, such as hearths, bell-

shaped cists, and brush huts are common in alcoves and rock shelters, and are increasingly common in open sites, due to decreasing age. Positively dated rock art appears during this stage.

Excavations from seven different archaeological sites have provided over twenty chronometric dates, all derived from radiocarbon samples, attributable to the Archaic stage (Horn et al 1994). Ranging from 7700 BC up to 550 BC, the dates indicate a long-term occupation of the area by early peoples. The Late Archaic period shows a greater reliance on a gathering subsistence strategy than during the Early Archaic. Bighorn sheep dominate the faunal record and *Sporobolus* seed appear to have been a staple food item. Other artifacts characteristic of the Archaic period included fire drills, bunt points, wooden clubs, horn-shaft wrenches, and tubular pipes. The terminus of the Archaic is suggested by the presence of domesticated corn in the archaeological record (Matson 1991; Jett 1991; Wilde and Newman 1989).

Formative Stage

The Formative Stage (500 B.C to app. 1,200 A.D.) is characterized by the reliance on domesticated corn and squash, increasing sedentism, and substantial habitation structures, ceramics, and bow and arrow technology in the latter traditions. Two major traditions occur in the region: the Fremont tradition north of the Colorado River, the Anasazi tradition to the south of the Colorado River. A third—the Gateway Tradition—has been used by a few archaeologist to identify archaeological sites that contain both Fremont and Anasazi manifestations (Horn et al 1994:123).

The Fremont adapted to the changing environment by using hunting and gathering subsistence styles of survival along with some horticultural farming. The variability of Fremont sites have caused archaeologist to classify Fremont manifestations as regional variants—variants characterized by differing settlement and subsistence strategies. Those variants associated with Moab FO Area include the Uinta Basin and San Rafael. Generally, the artifact assemblage associated with the Fremont includes gray, coiled pottery types distinguished by specific temper materials and decorative styles (Madsen 1977), one-rod-and-bundle basketry, leather moccasins constructed from the hock of a deer or mountain sheep, and ornate clay figurines with trapezoidal bodies (Horn et al 1994:213). San Rafael distinctive traits include wet and dry laid masonry structures, slab-lined pithouses, slab stone paved firepits, and Emery Gray pottery with surface modeling. The Uinta variant features shallow, saucer shaped pithouses, surface masonry structures, a mixed horticultura/hunting/ and gathering subsistence strategy, gilsonite covered baskets and Uinta Gray ceramics. Feature and structural deposits include surface rooms and pithouses with increasingly sophisticated architectural technique over time, several variations of storage facilities, hearths, brush huts, campsites, etc. Rock art becomes increasingly common and sophisticated. The line between Anasazi and Fremont is blurred and there appears to be instances where interaction occurred between the two cultures. Hence, there are numerous sites that contain characteristics of both cultural groups.

The Anasazi people, whose homeland centered in the Four Corners area of the American Southwest, have been identified as a sedentary, horticultural based group whose focus on corn, beans, and squash encompassed the later period. The Anasazi tradition has been subdivided into periods (from earliest to most recent): Basketmaker II, Basketmaker III, Pueblo I, Pueblo II, and Pueblo III. The Basketmaker II period marked the transition from a hunting and gathering lifestyle to a more sedentary occupation of regional areas. With increased sedentism came the

need for storage; thus the Anazasi tradition is characterized by slab-lined or bell-shaped storage cists, and distinctive grayware, whiteware, redware, and polychrome ceramic traditions. While the Basketmaker peoples lived in early pitstructures with considerable homogeneity of intramural features (antechambers, wingwalls, and sipapus), later groups became more concentrated and began adding jacal surface rooms onto roomblocks. Large-scale, highly patterned villages emerged with the increased population densities of the Puebloan periods as did the use of kivas and rectangular roomblocks-- sometimes representing multi-storied structures and multi-storied towers. Other features of Anazasi occupation in southeastern Utah include water control structures such as canals, reservoirs, check dams, and terraces, and complex intra- and inter-regional relations with Chaco Outliers, northern neighbors, and hierarchical distribution of site types of varying complexity (Horn et al 1994:114). In the Moab Field Office, sites associated with the Basketmaker II tradition have been documented as well as sites linked to the Puebloan traditions. Numerous storage cists--both bell-shaped and slab-lined—as well as masonry structures, pitstructures with storage features, and lookout structures have been recorded plus a range of pottery types indicative of the Anazasi time period, although the documented artifacts do not provide a continuous spectrum of use. The lack of artifact assemblage continuity and lack of documented kilns, may be more indicative of trading networks than of actual occupation by Anazasi groups.

Protohistoric/Historic Aboriginal Stage

During the Protohistoric/Historic Aboriginal Stage, it is commonly believed that the Utes were the primary occupants of eastern Utah and western Colorado (Horn et al 1994:130). Linguistic and archaeological evidence (especially ceramics) indicate that the Utes immigrated to the region by app. A.D. 1,100, shortly before the disappearance of Formative Stage peoples. Other evidence characteristic of Ute occupation includes sparse lithic scatters with low quantities of crude brownware ceramics, rock art, and occasional wickiups. In addition to the fingertip-impressed brownware ceramics, other diagnostic artifacts include locally designated Uncompahgre Brown Water and Desert side-notched and Cottonwood triangular projectile points (Buckles 1971). As Utes interacted more with local Europeans during the late 17th and 18th centuries, varying quantities of Euroamerican artifacts such as sheet metal cone tinklers, tin cans, weaponry, and equestrian tack become part of the artifact assemblage. Sites containing diagnostic Ute artifacts have been reported in all parts of the Moab FO area.

The Navajo homeland is located south of the Moab Field Office area, in the southeastern corner of Utah, northeastern Arizona, and in northwestern New Mexico (Brugge 1983). Although the Navajo homeland lies south of the Moab Area, historic records mention Navajo inhabitants farming parts of Spanish Valley in 1855. Based on additional references, these farmers may have resided in Spanish Valley until the 1870s. No archaeologist sites of definite Navajo affiliation have been documented in the Moab Field Office Area.

Small amounts of yellow ware pottery have been found at three sites in the Moab Field Office area. In addition to ceramics, Hopi elders have identified rock art panels that contain Puebloan motifs. Although there is a paucity of Hopi-related ceramics, the tribe maintains ancestral ties to the Moab Planning Area.

Historic Culture History

Historic cultural resources in the Moab Field Office area can be classified into one or more themes: Indian/White Interactions, Spanish Exploration, Fur Trade and Early Indian Themes, U.S. Government Exploration and Survey Expeditions, Initial Euroamerican Settlement, Ranching, Farming, Transportation/Railroads, Communication, Towns and Settlements, Mining, Mineral Exploration, Mineral Processing, Water Control, Speculative Ventures, Civilian Conservation Corp, Military, Federal Land Management, Antisocial Activities, and Ethnic Diversity (Horn et. al. 1994). For a comprehensive discussion of the historic period in the region, the Horn et. al. (1994) document is again recommended.

Numic speaking Utes primarily occupied the Moab Field Office Area during the time of European contact. Contacts with Spaniards increased during the late 1700s and the early 1800s with the establishment of the Old Spanish Trail, portions of which traverse the Moab Field Office. The Old Spanish Trail connected missions in southern California to the New Mexico trade centers of Taos and Sante Fe on the east. As cultural interactions with traders and travelers increased, changes occurred with Native American populations. The influx of Euroamericans into the Moab Field Office area eventually fostered conflicts with long-time Indian inhabitants that resulted in the creation of reservations and the movement of traditional peoples off their ancestral lands. Nonetheless, aboriginal uses of what are now federal lands continued through the 1930s on a seasonal basis as groups continued to exploit resources in the canyons and adjacent mountains. Many sites that are Native American in origin may include various historic artifacts, in particular food cans. A thorough investigation of the artifacts and their use/re-use may provide insights as to who left the cultural remains.

Exploration of the Moab Field Office Area is first mentioned in the 1765 accounts of Juan Maria Antonio de Rivera who led an expedition through what is now Grand County. Although traders and early travelers probably traversed through the Moab Field Office area, very few left lasting records. The Robidoux and Denis Julien inscriptions remain the only lasting links between modern times and the fur trapper/trader era.

Several U.S. government sponsored exploration and survey expeditions in the middle to late nineteenth century passed through or took place within the area now encompassed by the Moab Field Office area. These were all of short duration, but served to make the country better known, thus stimulating later development and settlement. Subsequent explorations and continued use of the Old Spanish Trail eventually resulted in Euroamerican settlement of the area by Mormon settlers in 1855. Although the first settlement, called Elk Mountain Mission, was abandoned in 1856, the area attracted later settlers who established a post office in upper Spanish Valley in 1879. As population increased, homesteads occupied locations where perennial springs promised consistent water for crops, livestock, and household uses. Camps, homestead remains, corrals, cellars, dugouts, privies and transportation routes in the form of trails may provide insights into early occupation and use of the land encompassed by the Moab Field Office area.

Euroamericans, dependant upon ranching and farming, continued to expand and settle in various places in the Moab Field Office area. The Moab post office opened its doors in 1880 and the burgeoning town eventually became the hub of Grand County commerce. Numerous other towns sprang up throughout the Moab Field Office area. Settlements with the names of Segoe, Castleton, Dewey, Green River, Richardson, Coyote, Miner's Basin, Pinhook, Wilson Mesa,

Castle Valley, Picture Gallery, Harley Dome, Agate, Danish Flats, Marrs, Crystal Carbon, Valley City, Elgin, Plainfield, Thompson Springs, Sagers, La Sal, Westwater, Webster City, Cisco, Acheron, Cottonwood Station, Crescent Station, Whitehouse Station, Floy Station, and Solitude Station flourished and faded. Many of these have become ghost towns, yet their associated artifacts and features communicate a legacy of past accomplishments of Euroamerican settlement and expansion. Logging activities quickly exploited surrounding reserves of timber as the need for building materials skyrocketed. The sawmill in the town of La Sal provided jobs as well as much needed lumber. A look of permanency was given to the region as lime and brick kilns produced non-combustible building materials. Physical remains dating from early town-building and isolated settlement activities dot the landscape and provide the Moab Field Office area with a rich historical archaeological record.

The economic backbone of the Moab Field Office area in the mid-nineteenth century focused on livestock ranching with cattle dominating the industry until the 1890s when sheep became a viable option. The remains of sheep camps, line camps, and stock driveways all indicate the pervasiveness of the livestock industry in Grand County. The construction of the Denver and Rio Grande railway through Grand Valley in the early 1880s spurred on the livestock industry by providing efficient transportation to viable markets. Railroad associated activities included camps for workers who cut railroad ties and constructed the railroad grade. Even though the railroad did not connect to Moab, the fact that the railroad was close and that it connected Denver, Colorado to Salt Lake City, Utah a fostered continued development and use of the lands encompassed by what is now Grand County, Utah. Various ethnic populations also grew in the region as many of the people who came to help build the railroad stayed on enjoying the environment of southeastern Utah.

The naturally warm climate fostered the growth of fruit orchards and by 1910 Moab was renowned for its fruit, especially peaches. The need to control water—the essential component of survival in southeastern Utah—became critical. Since the first irrigation ditches were built by Native Americans to water their gardens, humans have continually sought to manipulate this liquid gold. The first Euroamericans continued the tradition of water control by creating irrigation systems and governing management of water through water districts. The pleas to protect farm lands from seasonal floods were heard and acted upon during the 1930s when the Civilian Conservation Corps (CCC) spent many man-hours building flood control contour dams throughout the Grand and Spanish valleys. Remnants of CCC camps, and numerous water control structures as well as farmer constructed irrigation systems can be found throughout the Moab Field Office area.

Next to ranching, mining has continued to have significant impacts to the region and its landscape. Miners flocked to the region during the 1890s when gold was discovered in the La Sal Mountains. Although the strike was small and quickly became depleted, many who came decided to stay. As population grew and the twentieth century dawned, oil exploration created quite a stir followed by the development of the uranium industry. Likewise, the coal industry boomed briefly in the Bookcliff region during the early 1900s, causing the construction of a narrow-gauge spur that connected the town and mill at Seago to the Denver and Rio Grande railroad at Thompson Springs. The boom was brief and the use of the railroad ceased as the mines closed. In the Moab Field Office area, it is expected that oil and gas exploration sites exist from the earliest known drilling in the 1890s up to the present. Remnants of the coal industry

also provide evidence of industrial resource extraction. In addition to the drill sites, remains of steam-powered machinery, associated workers quarters and camps, will be part of the archaeological record and should be considered significant.

Uranium, in the form of pitchblende, was identified near Central City, Colorado in 1871 by an Englishman who leased the Wood Mine and shipped three tons of ore to London. In 1898 Gordon Kimball mined 10 tons of the Copper Prince uranium ore and shipped the ore to Denver, Colorado, where it was sold for \$2,600 to French buyers. Within a year the value of the autonite or uranochre stimulated a prospecting boom that included Castle Valley, LaSal Creek, Sinbad Valley, and Disappointment Valley. None of the areas produced like the Copper Prince. Nonetheless, Kimball opened some mines on LaSal Creek from which he shipped ore (Hahne 1989). At first radium was used to color glass and ceramics but soon experiments by medical researchers showed it could be an effective cancer treatment.

In the summer of 1898 John Wetherill, a cowboy better remembered for his archaeological expeditions on Cedar Mesa in San Juan County, staked what was probably the first uranium claim in southeastern Utah (Shumway 1970:1, 11). That same year, in the Richardson Amphitheater south of the Colorado River and east of Moab, Utah, John Welsh and James Lofftus both found an ore body that looked as though it, too, might contain uranium. Cowboy-explorers Frank Silvey, Tom Francis and others also found a uranium bearing deposit in the Paradox Valley area (Boutwell 1904:207; Silvey 1990:56). With other mills in production, the radium recovery rate from southeastern Utah mines in 1904 was 1 gram per 200-300 tons of 2 percent uranium oxide (Hilpert and Roberts 1964:125). By the next year the area produced 5 percent of the radium recovered in the United States (Cohenour 1967:16). After an inventory of the radium industry in 1912, the Bureau of Mines concluded that the carnotite deposits on the Colorado Plateau contained most of the world's supply of radium (Shumway 1970:16). Throughout the early twentieth century uranium prospectors filed claims throughout the Colorado Plateau. Miners improved access to the areas rich in ore so trucks could move ore from mines to the railroad. With increased uranium production on the Colorado Plateau and radium refineries operating at improved capacity the United States dominated the radium market until 1921 (Coffin 1954:5; Hilpert 1964:125; Shumway 1970:76, 78; Hahne 1989). Between 1924-1936 the carnotite industry in Colorado and Utah produced 180,000 pounds of vanadium, an average of 13,846 pounds per year. In spite of the Great Depression the steel industry still needed vanadium.

Although the United States was officially a neutral country in Europe's war, long-standing ties with allied countries moved America to become a major source of war materials. The federal government listed vanadium as a strategic mineral in 1940 and limited its export as a raw material (Shumway 1970:114). The Metals Reserve Company was established by the government to stock pile vanadium and they contracted with Balsley to operate a buying station in Moab. Other stations were established across the Colorado Plateau. On December 7, 1941 the Japanese ended America's neutrality by bombing the U.S. fleet at Hawaii. By 1943 eight vanadium mills operated on the Colorado Plateau, with a combined capacity of 795 tons per day (Cohenour 1967:16). Due to the war effort the United States had become the world's largest producer of vanadium and Colorado Plateau mills had processed over 200,000 tons of ore between 1937-1944 (Bennett 2002:28-29).

The search for minerals have left a legacy of exploratory mines as well as two-tracks and roads that support and foster recreational use of federal lands. By the twenty-first century, mining generated routes added several thousand miles to the transportation network covering the Moab Field Office area. In between the boom and bust cycles of the mining industry, ranching and farming sustained those who weathered the extractive industrial rollercoaster.

Representative Prehistoric Sites

- Although it is uncommon to find sites that date to the Paleoindian Stage, the Montgomery Folsom Site, 42GR1956, located south of the town of Green River in the Moab Field Office area, clearly represents the Folsom tradition (Davis 1985). There are no recorded sites representing the Clovis or Plano traditions in the Moab Field Office area.
- Only Squaw Park Cave, 42GR981, located approximately 6 km west of the Colorado River, west of its confluence with the Dolores River, has been dated to the Archaic Stage in the Moab Field Office area (Sharp et al 1989).
- Most of the thousands of sites located in Moab Field Office area are attributed to the Formative Stage, usually based on ceramic types. Thus, the specific sites are too numerous to mention.
- At this time, the Navajo were known to be in the area. Hopi and Pueblo artifactual remains have been recovered in Moab Field Office area, but are believed to be the result of trade (Horn et al 1994:136-137).
- The Pinhook Battlefield site (42GR1672) has been documented. However, it is anticipated that many sites from the Indian/White Interaction theme would be present in the region.

Representative Historic Sites

- Inscriptions associated with French trappers are located near Cisco, on the Green River, and in Arches National Park. Two sites from the fur trade period that have been formally documented in the region include the Denis Julien Inscription on the Green River (42GR0111; NR#91000617) and the Antoine Robidoux Inscription near Cisco (NR#82004124).
- Several sites have been recorded that are indicative of the Transportation theme, including one segment of the Spanish Trail located in Arches NP, the Stock Driveway (42Sa23800), a segment of the Denver & Rio Grande Western Railroad (42GR935) which was part of the Pikes Peak Ocean to Ocean Highway prior to the construction of Highway 50 in 1934 (Horn et al 1994:168). Several railroad construction camps and railroad stations were historically located in the region, including 42GR921, 42GR1677 (Whitehouse Station), 42GR1678, 42GR1679, 42GR1726, 42GR2289 (Reed and Nickens 1980; Bradley et al 1986; Pierson 1992).
- The La Sal Mountain Telephone and Electric Company/Midland Telephone Company (42Sa11566) was established in 1903 and ran from Moab to Castleton.
- Several historic towns and settlements are located on BLM lands including Acheron, Cisco (original location), Danish Flat, portions of Dewey, and Whitehouse Station. The location and ownership of Agate, Crystal Carbon, and Marrs are unknown and therefore, may possibly be on BLM lands (Horn et al 1994:184).

- Several mining areas, including the Se-go mining exploration and the Yellowcat Mining District (later uranium mining) located northeast of Arches NP (Horn et al 1994:190), are in the MFO.
- The Pittsburgh Cattle Company to Coyote Flats ditch (Horn et al 1994:192) is a recorded example of the water control theme.
- The Coal Creek Hydropower Plant (42GR613) (Horn et al 1994:193) represents an example of Speculative Ventures in the region.
- Dalton Wells (DG-32), Dry Valley (DG-157), and Camp Warner (F-20) (see Horn et al 1994:196 reference to Append C and D) are examples of the Civilian Conservation Corps' work in the Moab Field Office area. The CCC crews built numerous flood control features that remain in evidence today. During WWII, Dalton Wells became the Moab Isolation Center (Horn et al 1994:196) and was used to house Japanese prisoners of war.
- During the late 19th century, the Green River, Thompson, and Dolores Triangle areas were known for a certain type of antisocial illegal activity - cattle rustling.

APPENDIX B

SELECTED ARCHEOLOGICAL SURVEYS IN THE MOAB FIELD OFFICE AREA

Year	Author	Title	Location
1979	Lindsay, LaMar W.	Grand County: An Archaeological Summary	Grand County
1979	Hauck, F. R.	Cultural Resource Evaluation in Central Utah 1977	Book Cliffs/Roan Plateau and Mancos Shale Lowlands
1980	Pierson, Lloyd M.	Cultural Resource Summary of the East Central Portion of Moab District 1980.	Portions of Grand and San Juan Resource Areas south of the Colorado River
1983	Coulam, Nancy, Jessie Embry, and David Merrill	Class I Cultural Resource Overview for the Moab District of the Bureau of Land Management	Planning unit covering southeastern Emery County, southwestern Grand County, and extreme northwestern San Juan County.
1990	Honeycutt, Linda and Jerry Fetterman, and Susan Eininger	Report on Class I Inventory Conducted for Northwest Pipeline Corporation's Mainline Expansion Project, Eastern Utah and Western Colorado	Portions of Grand and San Juan Counties
1994	Horn, Jonathon C., and Alan D. Reed, and Susan M. Chandler	Grand Resource Area Class I Cultural Resource Inventory	Area encompassed by the current Moab Planning Area. All of Grand County and the northern portions of San Juan County.

Author	Project Title	Type	Significant Sites
1960	1960 Test Excavations in the Plainfield Reservoir Area	Water Storage	42Gr237, 42Gr238, 42Gr239
1979	Archaeological Test Excavations, Mill Creek, San Juan County, Southeastern Utah. 1979	Water Storage	42Sa6573, 42Sa6577, 42Sa6578, 42Sa6580, 42Sa7405
1979	Archaeological Excavations in the La Sal Junction Locality of San Juan County, Utah, 1979	Oil and Gas	42Sa6218
1982	Test Excavations: Sixteen Prehistoric Sites along the MAPCO Rocky Mountain Liquid Hydrocarbons Pipeline, 1982	Water Pipeline	42Gr1012, 42Gr1014, 42Sa9055, 42Sa9056
1985	The Montgomery Folsom Site Excavations, 1985	Academic Research	42Gr1956
1988	Archaeological Data Recovery at Sites 42Sa17444 and 42Sa17446, Union Oil Company of California, 1988	Oil and Gas	42Sa17444, 42Sa17446
1988	UDOT Project No. NF-13, 1988	Highway Construction	42Sa10636, 42Sa18241, 42Sa20040

Table B-2: Selected Archaeological Projects Located on the Moab Field Office			
Author	Project Title	Type	Significant Sites
1989	Interim Report: Excavations in Squaw Park, Utah, 1989	Academic Research	42Gr981, 42Gr2134
1989	Sandy Ridge: An Aceramic Habitation Site, 1989	Academic Research	42Sa18500
1990	Excavations along SR313, 1990	Highway Construction	42Gr2211, 42Gr2232, 42Gr2236
1990	Excavations along US191, 1990	Highway Construction	42Sa18421, 42Sa20040
1991	Moab Archaeological Society, excavations 1990, 1991	Recreation	42Gr2206 (Orchard Pithouse)
1991	Columbia Gas Development Corporation/P-III, 1991	Oil and Gas	42Gr2369, 42Gr2370
1981	Archaeological Survey of Central Lisbon Valley, 1981	Oil and Gas	539 sites recorded. Notable sites include: 42Sa9078, 42Sa9390, 42Sa9390, 42Sa9392, 42Sa9398, 42Sa9419, 42Sa9447, 42Sa9449, 42Sa9476, 42Sa9479, 42Sa9554, 42Sa9628, 42Sa9632, 42Sa9676, 42Sa9686, 42Sa9704, 42Sa9707, 42Sa9711, 42Sa9728, 42Sa9756, 42Sa9756, 42Sa9770, 42Sa9772, 42Sa9865, 42Sa9866, 42Sa9896, 42Sa9902, 42Sa9907, 42Sa9915.
Hauck (1978)	Cultural Resource Evaluation in South Central Utah 1977-1978. Hauck, F.R.	Coal Mining (Environmental Impact Statement for US Geological Survey)	295 Previously unrecorded, or incompletely recorded sites. Notable sites include: 42Ga1584, 42Ga1585, 42Ga1652, 42Ga1659, 42Ga1694, 42Ga1697, 42Ga1705, 42Ga1719, 42Ga1745, 42Ga1751, 42In439, 42In442, 42Ka1799, 42Ka1857, 42Ka1863, and 42Ka1891.
Hauck (1977)	Cultural Resource Evaluation in Central Utah 1977. Hauck, F.R.	Coal Mining (Environmental Impact Statement for US Geological Survey)	1,747 sites investigated. Notable sites include: 42Cb102, 42Em820, 42Em859, 42Em873, 42Em880, 42Em882, 42Em884, 42Em885, 42Em894, 42Ga1395, 42Ga1397, 42Ga1401, 42Ga1404, 42Gr763, 42Gr764, 42Sp72, 42Sv1015, 42Sv1036, 42Sv1050, 42Sv998, 42Wn1062.
Pierson (2001)	Old and Historic Roads of the Moab Region.	Personal Research	Looking Glass Rock Road, Kane Springs Roads, Moab Canyon Road, Salt Lake Wagon Road
Bennett (2002)	Yellow Cat Mitigation Project: History and Historic Archaeology in the Heart of the Yellow Cat Mining District.	Oil and Gas	42Gr3142, 42Gr3148, 42Gr3149, 42Gr3160

APPENDIX C

FEDERAL LAWS AND REGULATIONS GOVERNING CULTURAL RESOURCES

Federal Laws

An Act for the Preservation of American Antiquities, also known as the Antiquities Act of 1906 (P.L. 59-209; 34 Stat. 225; 16 U.S.C. 432, 433), is chronologically and philosophically the basic legislation for the protection and preservation of cultural properties (archaeological and historic, without regard to minimum age) on Federal lands. It provides for permits to authorize scholarly use of properties, for misdemeanor-level penalties to control unauthorized use, and for presidential designation of outstanding properties as national monuments for long-term preservation. The act is implemented by uniform regulations at 43 CFR Part 3. Both broader in scope than and superseded in part by the Archaeological Resources Protection Act (see .O3J), it remains a fully active statutory authority.

Recreation and Public Purposes Act of 1926 (P.L. 69-386; 44 Stat. 741; 43 U.S.C. 869) authorizes the lease or sale of historic properties under certain conditions. (See 43 CFR Subpart 2741 and BLM Manual Section 2740.)

Historic Sites Act of 1935 (P.L. 74-292; 49 Stat. 666; 16 U.S.C. 461) declares national policy to identify and preserve “historic sites, buildings, objects and antiquities” of national significance, authorizing the National Historic Landmarks program of the National Park Service and providing a foundation for the later National Register of Historic Places (see .O3E). Regulations implementing the Landmarks program are at 36 CFR Part 65.

Reservoir Salvage Act of 1960, as amended by Archeological and Historic Preservation Act of 1974 (P.L. 86-523; 74 Stat. 220, 221; 16 U.S.C. 469; P.L. 93-291; 88 Stat. 174; 16 U.S.C. 469) provides for the preservation of historical and archaeological data that might otherwise be lost as the result of a Federal construction project or a federally licensed or assisted project, activity, or program having an effect on cultural resources. Although amended and broadened after 1966, the act makes no distinction regarding National Register eligibility (see .O3E). The act provides that up to one percent of funds the Congress authorizes to be appropriated for a project may be spent to recover, preserve, and protect archaeological and historical data. Because BLM projects are rarely subject to line item authorization and appropriation, this provision generally does not apply to BLM.

National Historic Preservation Act of 1966 (P.L. 89-665; 80 Stat. 915; 16 U.S.C. 470), as amended, extends the policy in the Historic Sites Act to include State and local as well as national significance, expands the National Register of Historic Places, and establishes the Advisory Council on Historic Preservation, State Historic Preservation Officers, Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs all Federal agencies to take into account effects of their undertakings (actions and authorizations) on properties included in or eligible for the National Register of Historic Places, and Section 110 sets inventory, nomination, protection, and preservation responsibilities for federally owned cultural properties. Section 110 requires each Federal agency to designate a Preservation Officer to coordinate activities under the act. Section 106 of the act is implemented by regulations of the

Advisory Council on Historic Preservation, 36 CFR Part 800. The 10 Western BLM States and Alaska comply with Section 106 of the Act according to a national Programmatic Agreement dated March 26, 1997.

Executive Order 11593 (“Protection and Enhancement of the Cultural Environment,” 36 F.R. 8921, May 13, 1971) directs Federal agencies to inventory cultural properties under their jurisdiction, to nominate to the National Register of Historic Places all federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed, and also to assure that Federal plans and programs contribute to preservation and enhancement of nonfederally owned properties. Some of the provisions of the Executive Order are also found in Section 110 of the National Historic Preservation Act.

American Indian Religious Freedom Act of 1978 (P.L. 95-431; 92 Stat. 469; 42 U.S.C. 1996) resolves that it shall be the policy of the United States to protect and preserve for the American Indian, Eskimo, Aleut, and Native Hawaiian the inherent right of freedom to believe, express, and exercise their traditional religions, including but not limited to access to religious sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites. Federal agencies are directed to evaluate their policies and procedures to determine if changes are needed to ensure that such rights and freedoms are not disrupted by agency practices. The act, a specific expression of First Amendment guarantees of religious freedom, is not implemented by regulations. (Note: A U.S. Court of Appeals has determined that there is a compliance element in the American Indian Religious Freedom Act, requiring that (1) the views of Indian leaders be obtained and considered when a proposed land use might conflict with traditional Indian religious beliefs or practices, and that (2) unnecessary interference with Indian religious practices be avoided during project implementation, but specifying that (3) conflict need not necessarily bar Federal agencies from adopting proposed land uses in the public interest. Wilson v. Block, 708 F.2d 735, 747 (D.C. Cir. 1983).) An amendment in 1994 (P.L. 103-344) provided for Indians’ use, possession, and transportation of peyote for traditional religious purposes.

Archaeological Resources Protection Act of 1979 (P.L. 96-95; 93 Stat. 721; 16 U.S.C. 470aa et seq.) as amended (P.L. 100-555; P.L. 100-588) provides felony-level penalties, more severe than those of the Antiquities Act of 1906 (see .O3A), for the unauthorized excavation, removal, damage, alteration, defacement, or the attempted unauthorized removal, damage, alteration, or defacement of any archaeological resource, more than 100 years of age, found on public lands or Indian lands. The act also prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained from public lands or Indian lands in violation of any provision, rule, regulation, ordinance, or permit under the act, or under any Federal, State, or local law. No distinction is made regarding National Register eligibility. The act establishes definitions, permit requirements, and criminal and civil penalties, among other provisions, to correct legal gaps and deficiencies in the Antiquities Act (see .O3A). The act overlaps with and partially supersedes the Antiquities Act. It is implemented by uniform regulations and departmental regulations, both at 43 CFR Part 7. An amendment in 1988 gives Federal agencies explicit direction to establish educational programs explaining the importance of archaeology, to help members of the public understand why archaeological resources are protected from unauthorized removal or damage.

Native American Graves Protection and Repatriation Act of 1990 (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) establishes rights of Indian tribes and Native Hawaiian organizations to claim ownership of certain “cultural items,” including human remains, funerary objects, sacred objects, and objects of cultural patrimony held or controlled by Federal agencies and museums that receive Federal funds. The act requires agencies and museums to identify holdings of such remains and objects and to work with appropriate Native American groups toward their repatriation. Permits for the excavation and/or removal of “cultural items” protected by the act require Native American consultation, as do discoveries of “cultural items” made during land use activities. The Secretary of the Interior’s implementing regulations are at 43 CFR Part 10.

National Trails System Act of 1968 (P.L. 90-543; 16 U.S.C. 1241 et. seq. as amended through P.L. 107-325, December 4, 2002) established a national trails system to promote preservation of, public access to, travel within, and enjoyment of the open-air, outdoor areas, and historic resources of the nation. The Act designated initial trail system components and established methods and standards for adding additional components. Trails are added to the system only by act of Congress. Historic Trails, trail sites, and trail segments must be evaluated against the National Register criteria at 36 CFR Part 60, whether congressionally designated or not, to determine National Register qualification (See Manual Section 8110.3; Departmental Manual 710; National Register Bulletin #30) and related NHPA Section 106 responsibilities.

Executive Order 13007 (“Indian Sacred Sites,” 61 F.R. 104, May 24, 1996) provides that in managing Federal lands, agencies—to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions—shall accommodate Indian religious practitioners’ access to and ceremonial use of Indian sacred sites, shall avoid adversely affecting the physical integrity of such sites, and shall maintain the confidentiality of sacred sites. The responsibility to identify such sacred sites to the managing agency resides with the Indian tribe or appropriately authoritative representative of an Indian religion. The responsibility to inform tribes, where practicable and appropriate, of proposed actions or land management policies that could restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites, rests with the agency. The Order directs agencies to comply with the Executive Memorandum of April 29, 1994, “Government-to-Government Relations with Native American Tribal Governments.” It explicitly does not create any new right or benefit for Indian tribes, nor any new trust responsibility for the Federal Government.

Executive Order 13287 (“Preserve America” 68 F.R. 43, March 5, 2003) orders the Federal Government to take a leadership role in protection, enhancement, and contemporary use of historic properties owned by the Federal Government, and promote intergovernmental cooperation and partnerships for preservation and use of historic properties. The order establishes new accountability for agencies with regard to inventories and stewardship.

Code of Federal Regulations

36 CFR Part 60 - National Register of Historic Places. Section 60.4 sets out the criteria and criteria considerations, and the procedures, for determining National Register eligibility

36 CFR Part 800 - Protection of Historic Properties. Regulations of the Advisory Council on Historic Preservation implement Section 106 of the National Historic Preservation Act, including

consultation with tribes pursuant to Section 101(d)(6) of the Act (see .03B above). The BLM, operating independently of the regulations through agreements with the Advisory Council and the State Historic Preservation Officers (see Manual Section 8120, App. 1), must observe a tribal consultation process comparable to the process in the regulations.

43 CFR Part 7 - Protection of Archaeological Resources. Section 7.7 defines the process for “Notification to Indian tribes of possible harm to, or destruction of, sites on public lands having religious or cultural importance,” pursuant to Section 4 of the Archaeological Resources Protection Act (see .03C above).

43 CFR Part 10 - Native American Graves Protection and Repatriation Regulations. These regulations cover procedures for complying with the Native American Graves Protection and Repatriation Act.

APPENDIX D

NATIVE AMERICAN CONSULTATION

Consultation efforts sometime result in the identification of “Traditional Cultural Properties.” (TCPs) which first came into use within the federal legal framework for historic preservation and cultural resource management in an attempt to categorize historic properties containing traditional cultural significance (Parker and King 1989:1). National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties defines a Traditional Cultural Property as “one that is eligible for inclusion in the National Register [of Historic Places] because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.” To qualify for nomination to the National Register as a Historic Property, a Traditional Cultural Property must be more than 50 years old, must be a place with definable boundaries, must retain integrity, and meet certain criteria as outlined in National Register Bulletin 15 (National Park Service 1995).

Potential Traditional Cultural Properties

As mentioned earlier, there are several site types, both archaeological and non-archaeological, that can be potentially identified by Native American groups as TCPs. An ethnographic study is currently being prepared for the Moab Field Office that will focus on the ethnographic, ethnohistoric, and archaeological record to determine which groups ascribe cultural values to lands managed by these field offices and to identify existing and potential TCPs within the study area. Meetings, field visits, and oral interviews with tribal elders may also be included as part of this study. The following is a general discussion about some of the archaeological and non-archaeological site types that may be identified as TCPs on lands managed by the Moab Field Office.

Archaeological Sites

Many Native American groups claim affiliation with prehistoric archaeological sites such as rock art, burials, and village sites. The Hopi Tribe, for example, claims that often the exact locations of some of these places, such as ancestral archaeological sites and burials, are unknown to tribes until these sites are identified by Hopi cultural experts during ethnographic or ethnohistoric investigations or by archaeologists during archaeological investigations of a given study area. Not only do the Hopi consider these sites to be TCPs, they also believe that they are historic properties eligible to the National Register under Criteria A, B, C, and D for the following reasons (Ferguson 1997; Hopi Cultural Preservation Office 1995):

- Criterion A because they are associated with the Hopi clan migrations, which have made a significant contribution to the broad patterns of Hopi history.
- Criterion B because they are “associated directly with Ma’saw and the Hopis’ covenant to leave their footprints across the land.”
- Criterion C because “ancestral archaeological sites, that may be individually anonymous, are identified as part of the great clan migration that are central to all that is Hopi.”

- Criterion D because they have yielded or have the potential to yield information important to Hopi prehistory.

Other tribes also consider ancient Native American archaeological sites as places of traditional importance. For example, the Zuni have identified all “ancestral” archaeological sites as places of traditional importance, as well as being eligible to the National Register (Anyon 1995; Hart 1993:40). They say that these sites meet Criteria A and B (as outlined in National Register Bulletin 15) because of their association with the Zuni ancestors and their oral migration histories (Panteah and Zuni Cultural Resources Advisory Team 1997). The Utes also consider some of these sites to be culturally significant and sacred and maintain that the spirit of their ancestors dwell at archaeological sites and will remain as long as the sites are not disturbed (Newton 1999; Perlman 1998). Recently, a spiritual leader of the Uintah and Ouray Ute Tribe has stated that the disturbance of significant archaeological sites is leading to the destruction of Ute religion and diminishing the power of the spirits that remain at these sites (Molenaar 2003a).

Rock Art Sites

Many tribes have strong spiritual convictions regarding petroglyphs and pictographs and usually request that these sites not be disturbed, especially if the site was created with the intention of connecting with a spiritual or natural power. Many Ute and Puebloan groups also believe that rock art created by their ancestors retains the spirits of their ancestors. The Hopi Cultural Preservation Office has ascribed cultural values to Fremont rock art panels as far north as Nine Mile and Desolation Canyons. (Molenaar 2003b; Blaine Miller personal communication 2003).

Rock art panels are also seen by tribes as physical evidence for Native American land use indicating territorial boundaries, hunting and camping sites, and trail or migration markers. Some panels depict tribal stories and legends, but can only be interpreted by those with the specialized knowledge to understand their meaning (Evans 1990). In the past, Utes have derived spiritual powers and authority from special petroglyph panels for their Bear Dances (Spangler 1995:775). The Uintah and Ouray Ute Tribe often request one-half mile buffers around rock art panels, if possible, during Section 106 consultations (Molenaar 2003b).

Rock Shelters

Rock shelters and cave sites located within the MFO can potentially be identified as TCPs. These locations include overhangs, crevices and cave sites and are significant to Native Americans as ancestral dwellings. These site types are also potential ancestral grave sites for the Ute Tribe. (Pettit 1990). These sites may also be identified as places where Native Americans communicated with the supernatural world by means of prayers, offerings, and vision quest sites (Molenaar 2003a).

Non-Archaeological Site Types

Non-archaeological site types are distinguished from archaeological site types in order to discuss places that are not necessarily associated with prehistoric or historic artifact assemblages and collections. These sites are typically identified by tribal representatives during the government to

government consultation process that is required of federal agencies. Some common site types are lakes and springs, land features, and traditional gathering or collection areas.

Lakes and Springs

Native Americans often claim places of water as places of traditional importance and have traditional stories about mythical beings, or water spirits that live in lakes, springs, and rivers. The Colorado River and its tributaries have sacred significance to the Navajo. The Colorado, Green and Price Rivers have been identified as sacred to the Navajo because they come from natural spring water. According to the Navajo, when the Green River is impacted, the cultural integrity of the spring water is affected, which in turn affects traditional procurement use values (Molenaar 2003c).

Traditional Gathering or Collection Areas

Traditional plant or other resource gathering areas may be places of traditional importance to Native American groups. These areas are generally places where Native Americans go to collect resources such as medicinal plants used and minerals to be used in ceremonies and are often in current use when identified.

Land Features

Large geographic regions, such as deserts, mountain ranges, and valleys are often identified as TCPs but few have been formally documented as such. Examples of such types of places in the vicinity of the Moab Field Office are Sleeping Ute, the Henry Mountains, and Rainbow Bridge (listed on the National Register as a TCP).

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