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Rock Art in the Public Trust:
Managing Prehistoric Rock Art on Federal Land

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in

History

by

John Patrick Hale

March 2010

Dissertation Committee:
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ABSTRACT OF THE DISSERTATION

Rock Art in the Public Trust:
Managing Prehistoric Rock Art on Federal Land

by

John Patrick Hale

Doctor of Philosophy, Graduate Program in History
University of California, Riverside, March 2010
Dr. Clifford Trafzer, Chairperson

Cultural resource management conducted by the United States government revolves around the concept of proper stewardship of the land and the resources contained therein. By definition, stewardship means to take proper management for the good of the items entrusted. Practically, however, stewardship is a set of cultural resource management practices that seeks to manage the cultural resources that fall within the bounds of federally-managed lands, consistent with the perceived needs and desires of the public at large. Rock art is a unique and valuable resource that can and should be inventoried, recorded, protected, researched, and used to educate the public on the past lifeways of native peoples who occupied the United States in the pre-contact era. While the federal government has had some success in rock art management programs on public lands, for the most part federal land managers have historically disenfranchised Native Americans by minimizing their input into management practices of archeological resources, including rock art. This dissertation analyzes the salient aspects of managing rock art sites on federally-administered land, and argues for a more comprehensive, inclusive, and effective management strategy that is inclusive of Native Americans. For

effective rock art site management, historians, archeologists, and land managers must focus on three main goals in management strategy: more actively and effectively incorporating Native Americans in the management process, taking a multidisciplinary approach to site management that incorporates concepts of landscape and cultural heritage principles, and maximizing the potential for rock art sites as an educational tool to teach about Native American lifeways, practices, and philosophies.

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INTRODUCTION

Rock art may be seen by many as a purely archeological topic, and having little to do with history. That perspective may be exactly what is wrong with all previous rock art research, namely, it is seen as having little bearing on the study of living cultures, and the role rock art has in influencing contemporary Native American cultures. Furthermore, the history that *does* deal with Native Americans both past and present often lacks written sources that make up the bulk of the typical sources used for historical inquiry. As Henry Glassie noted, “the written record is superficial and elitist.”¹ While Glassie referred to the lower classes—and in particular women—in the Mid-Atlantic states, his comments are equally relevant to Native American history. For those that have been overlooked in the pages of history books, Glassie suggests that “If we can accumulate enough portraits of times and places, carefully chosen to stop the largest lacunae in our ignorance we might be able to offer a compassionate, accurate alternative to the historian’s account.”² Glassie referred to archeological inquiry, of course, but through careful study of the historical record, coupled with ethnographic study, a more nuanced portrait of rock art’s place in both history and contemporary society emerges.

¹ Henry Glassie, “Archeology and Folklore: Common Anxieties, Common Hopes,” in *Special Publication Series*, NO. 2, ed. Leland Ferguson (Society for American Archeology, 1977), 29.

² *Ibid.*

History expands an individual's understanding of the world and the people within it, allowing each person to negotiate his or her place. It gives each person a perspective that is not confined to what he or she has directly experienced, and allows that person to see a larger picture. As Bronislaw Malinowski stated in his seminal work *Argonauts of the Western Pacific*, "our final goal is to enrich and deepen our own world's vision, to understand our own nature and to make it finer, intellectually and artistically."³ One goal of historical inquiry, therefore, should be to develop what the poet Percy Shelley called the "moral imagination," which he describes as a capacity to occupy another mind and feel the emotional pulse of another heart. Shelley recommends the development of empathy, and it is through the understanding achieved through empathy that turns knowledge into wisdom. Ultimately, history can develop wisdom in its audience.

It is the goal of this dissertation to analyze the significance rock art has in public places through the development of strategies designed to bring public awareness of a resource that is underappreciated, misunderstood, and in constant danger from looters, vandals, and indifference. This dissertation will examine the methods land managers, archeologists, and historians use to manage and interpret rock art sites on federal land and provide an analysis of those methodologies federal employees can use to develop site specific management plans. It is hoped that through the management of rock art sites, the public at large can gain a better understanding of both the phenomenon of rock art, and its place in contemporary Native American society. Through a better understanding of

³ Bronislaw Malinowski, *Argonauts of the Western Pacific* (Prospect Heights: Waveland Press, 1984), 518.

this precious and irreplaceable resource, it is hoped that the audience will develop an appreciation and knowledge that develops into wisdom.

THE VALUE OF ROCK ART IN MODERN SOCIETY

At the end of 1991, William E. Leuchtenberg delivered the Presidential Address to the American Historical Association on the subject of History and the Public Realm. He began his presentation by stating that no issue in the past twenty years had polarized the historical community more than the dispute over the proper role of historians and the public. The crux of the issue, as seen by Leuchtenberg, was whether or not historians had a responsibility to use knowledge gained through an understanding of the past to influence current policy and affairs. He stated that it had been an assumption dating back many years, to at least the founding of the American Historical Association itself in 1884 when the first president, Andrew Dickson White. According to Leuchtenberg, that advocacy has taken two paths: informing the public so that they could understand the trend in current events and in actively influencing public policy.⁴

The importance of history to the general public is central to the discussion of history's significance in the public sphere. The view of the historian as an important social actor faded in the aftermath of World War II: clearly the war had not been prevented through an understanding of history. How then, asked Leuchtenberg, does history justify itself "wholly apart from any utility to the public realm?" Simply, "insofar as history is an art form, which the best historical writing surely is," he stated, "it no more

⁴ William E. Leuchtenberg, "The Historian and the Public Realm," Presidential Address to the American Historical Association, December 28, 1991, <http://www.historians.org/info/AHA_History/weleuchtenberg.htm>, accessed June 6, 2006.

needs justification by good works than does a sonnet or a sonata.”⁵ Nonetheless, historians are as much a product of their society as any other citizen and should be as concerned about current affairs as any other citizen. The historian is also uniquely qualified to present current affairs within an historical context, thus providing critical details that might otherwise go unconsidered by the general public. Leuchtenberg believed that not only should historians be active in the political realm, but that they have a vital professional stake in being involved. Historians, he argued, had an obligation to their community to provide a proper perspective against the self-serving rhetoric of politicians, and, in the words of Alan Brinkley, to arm each citizen with the knowledge necessary to “consider critically the claims of political figures.”⁶ The danger, according to Leuchtenberg, is that historians may come to believe themselves omniscient or will sacrifice a commitment to the professional practices of history scholarship and research.

It is ironic that in our country the value of education is more clearly understood today than it has ever been. We have increasingly moved away from the most vital aspect of that education, however: how to better yourself and thereby humanity as a whole. Instead our society continues to be more rather than less fragmented, less rather than more personal. This increased isolationism is a result of the positivist movement since the Age of Enlightenment. It is also ironic that the concept of the sublime, also a product of the Age of Enlightenment, did not survive as well. As the writer William Carlos Williams put it, “It is difficult to get the news from poems, yet men die miserably

⁵ Leuchtenberg, “The Historian and the Public Realm.”

⁶ Alan Brinkley to William Leuchtenberg, January 13, 1992, qtd. in Leuchtenberg, “The Historian and the Public Realm,” <http://www.historians.org/info/AHA_History/weleuchtenberg.htm>.

every day for lack of what is found there.” Historians have the responsibility to bring to the public the wonder and excitement of the past, but though historians must write in an engaging manner, that alone is not enough. Historians must expose audiences to as rich a story of history as possible, illustrating that story with the material culture of the past.

Many scholars have recognized the value of the cultural heritage created by past peoples. While North American rock art does not necessarily have the spectacular visual impact of the Paleolithic cave paintings of Europe, it is nonetheless a valuable record of one aspect of Native American culture that can offer an added insight into the spiritual or cognitive realms as few other artifacts can. Rock art is unique in that it provides a glimpse into aspects of prehistoric and historic life that are unavailable otherwise. Polly Schaafsma noted that rock art can provide insight into cosmologies and mythic systems, and it can provide data on cultural relationships, patterns of communication, and evidence of cultural interaction.⁷ By properly preserving and managing rock art sites historians and the public can provide future generations with a dimension of Native American life that will provide a clearer, more nuanced understanding of life, culture, religion, literature, and art before the arrival of Europeans.

THE ROCK ART DILEMMA

Federal land managers face tough decisions when considering whether or not to allow visitation to rock art sites on their land. They must ask important questions, and the historians and archeologists must be prepared to answer those questions thoroughly.

⁷ Polly Schaafsma, *Indian Rock Art of the Southwest*, (Santa Fe, New Mexico: School of American Research, 1980), 3.

1. Is it appropriate to allow visitation to the rock art sites, and is visitation in keeping with the wishes of the Native American community?
2. Can the agency provide adequate protection for the site, both from the threat of malicious actions and from the unintentional deterioration caused by visitation in general?
3. What strategies will be used to record, protect, and manage the site so that future generations can visit the site and take away a better understanding of rock art and Native American lifeways?
4. Can the agency commit to a long term program, so that the site does not become vulnerable to vandalism and looting if continued funding is withdrawn?

The more pressing dilemma, however, is a much less concrete dilemma, and one with which the land manager must wrestle: is the net impact of allowing visitation to a site positive or negative? Thus far an answer to that question has not been quantified, and can be answered only in the judgment of the land manager. If land managers assume that the net impact will be negative, then it is never appropriate to allow visitation to *any* archeological site, let alone the particularly vulnerable rock art sites. If, however, land managers come to the conclusion that the net impact will be a positive one, then they must make the effort to educate themselves and their staff on the strategies for properly managing rock art sites for public visitation. This dissertation assumes the latter: that visitation to rock art sites will enhance the public understanding of these enigmatic artifacts. It assumes that a well-constructed management plan will protect the resource while providing an enriching and meaningful visit for the public at large, and will offer an opportunity for Native American groups to share their culture and their heritage.

ROCK ART

The urge to preserve a record of significant events is apparently a desire that was deeply ingrained in the human psyche. The Mesopotamians developed the first forms of writing to record business transactions, but the cuneiform system was gradually adapted to record events, send information in the form of missives, record fables, and many other uses. Though scholars continue to debate whether or not rock art is a form of writing or a prelude to a formal writing system, it nonetheless fulfilled a similar desire in the people that made the images.⁸ The act of making rock art surely had some form of significance, if the sheer amount of rock art found the world over is any indication. Like the tales of Gilgamesh recorded by the Sumerians between the second and third millenniums BCE, rock art holds the secrets to the ideology and belief systems of people that left their marks on the rocks. Unlike the cuneiform tablets, however, historians have no translations for the enigmatic symbols left by Native Americans on boulders and cliff faces all over the Great Basin both prehistorically and historically. Anthropologist Robert Layton argued that rock does not simply reflect social, political, or religious systems; rather, because the

⁸ M. A. Baumhoff, R. F. Heizer, and A. B. Elsasser, "The Lagomarsino Petroglyph Group (Site 26-St-1) Near Virginia City, Nevada," Reports of the University of California Archaeological Survey; no. 43. (Berkeley, Calif. : University of California Archaeological Survey, Dept. of Anthropology, University of California, 1958), 7; Robert L. Heizer and C. W. Clewlow, *Prehistoric Rock Art of California* (Ramona, California: Ballena Press, 1973), 9; Margaret Conkey, "Structural and Semiotic Approaches," in *Handbook of Rock Art Research*, David Whitley, ed. (Walnut Creek, California: Alta Mira Press, 2001), 273-310; James D. Keyser and Michael A. Klassen, *Plains Indian Rock Art* (Seattle: University of Washington Press, 2001), 31-32; Michael A. Klassen, "Icon and Narrative in Transition: Contact-Period Rock-Art at Writing-on-Stone, Southern Alberta, Canada," in *The Archaeology of Rock Art*, ed Christopher Chippendale and Paul S. C. Taçon (Cambridge: Cambridge University Press, 1998), 42-72.

artist is actively interpreting those systems in the act of making the art, the art itself becomes a valuable insight into the nature of those systems, and therefore provides insight into the mindset of the artist and the culture.⁹ The study of rock art, then, can provide a glimpse into the mind of a society that had no known written language, and whose ideology must be teased from the material culture left behind, including the record found on rock faces.

The phenomenon of rock art has captured the imagination of historians, archaeologists and everyday folk alike for as long as it has been known. Specifically, rock art is a phenomenon wherein humans pecked, inscribed, or painted images onto rock surfaces, prehistorically and historically. Rock art can encompass everything from the Paleolithic cave paintings of Lascaux, France, or Alta Mira, Spain, to modern graffiti. It can include the monumental hill figures or intaglios of Great Britain, such as the White Horse of Uffington carved into the chalk bedrock of the English countryside, or the enormous geoglyphs etched into the desert floor north of Blythe, California. The majority of the rock art found across the globe, however, consists of petroglyphs and pictographs.

⁹ Robert Layton, *The Anthropology of Art*, 2d Ed. (Cambridge, England: Cambridge University Press, 1991), 92.



Figure 1. Bighorn sheep petroglyphs from the Sheep Springs petroglyphs in Kern County, California, showing the strong contrast between the desert varnish on the surface and the lighter parent rock below.

Petroglyphs are those elements fashioned using the rock surface itself. The word petroglyph is derived from Greek words petros (stone) and glyphein (to carve), and coined by the French as pétroglyphe.¹⁰ In creating petroglyphs, elements can be scratched, abraded, pecked, carved, drilled, incised, or sculpted into the rock surface. The artists often utilized the color variance between the weathered rock surface and the parent rock material beneath the surface to provide contrast in the petroglyph. In the Great Basin in particular, petroglyphs are often carved into rocks that have a dark patina,

¹⁰ Caroline Arnold and Richard Hewett, *Stories in Stone: Rock Art Pictures by Early Americans* (New York: Clarion Books, 1996), 11.

called a desert varnish. Desert varnish is mineralization that forms on the surface of rocks in deserts from a combination of intense heat and infrequent but intense rainfall. The petroglyphs made on rocks with a dark-colored desert varnish often contrast strongly with the lighter parent rock material underneath (Figure 1).¹¹

In contrast to petroglyphs, pictographs are images that were painted on or otherwise applied to the rock surface using paints made from organic and mineral pigments. Native Americans rendered pictographs in a variety of colors, but the most common colors that survive are red, yellow, white, and black. Artists used a variety of pigments for each color, but some of the minerals used were hematite or charcoal (black), burned ochre (red or yellow), gypsum or calcite (white), and sometimes green earth, a name given to a variety of naturally occurring green pigment of a variety of compositions (green). To make the paint, the artist mixed the ground pigment with some form of organic binder, such as rendered animal fat, saliva, blood, egg, fish oil, and plant oils. He or she then applied the paint to the rock surface using reed brushes, fingers, feathers, or by blowing the paint from the mouth through reed tubes to produce a look similar to airbrushing.¹²

Societies all over the world created rock art, including across North America.

The greatest concentrations in North America occurred in the Great Basin and the

¹¹ David S. Whitley, *Introduction to Rock Art Research* (Walnut Creek, California: Left Coast Press, 2005), 11-13; Benjamin K. Swartz, Jr., "Klamath Basin Petroglyphs," in *Anthropological Papers*, No. 12, ed. Lowell John Bean and Thomas C. Blackburn (Socorro: Ballena Press, 1978), 9; Campbell Grant, *Rock Art of the American Indian* (Dillon, Colorado: Vistabooks, 1992), 12-13.

¹² Whitley, *Introduction to Rock Art Research*, 4-11; Grant, *Rock Art of the American Indian*, 13-14; Campbell Grant, "Rock Art in California," in *The California Indians: A Source Book* ed. Robert Fleming Heizer and Mary Anne Whipple (Berkeley, CA: University of California Press, 1971), 239.

Southwest. Many rock art sites astound visitors, such as the Coso Range petroglyphs site located at the China Lake Naval Air Weapons Station in the northern Mojave Desert.¹³



Figure 2. Polychromatic pictographs created by the Cochimi in the Baja Peninsula in Mexico, showing the diversity of colors that can be created using naturally occurring pigments.

For all their visual impact, however, scholars have often neglected rock art in their study of prehistoric and historic North America. From the beginnings of modern archaeology and for the better part of the twentieth century, rock art remained more the purview of art historians than archaeologists.¹⁴ Even art historians, however, have paid

¹³ Arnold and Hewett, *Stories in Stone*, 37; Amy J. Gilreath, “Rock Art in the Golden State: Pictographs and Petroglyphs, portable and Panoramic,” in *California Prehistory*, ed. Terry L. Jones and Kathryn Klar (Walnut Creek, California: Rowman Altamira, 2007), 284.

¹⁴ Julie E. Francis, “Style and Classification,” in *Handbook of Rock Art Research*, ed. David Whitley (Walnut Creek, California: Alta Mira Press, 2001), 222; Clement W. Meighan, “Theory and Practice in the

little attention. Jo Anne Van Tilburg noted that “Rock art has fallen through the cracks—it’s not archaeology, it’s not history, it’s not science, it’s not art. It’s all of those things.”¹⁵ Recent trends in archaeological research have rectified that oversight, however.

The majority of archaeologists and historians recognize that rock art is just as much a part of the archaeological record as any other artifact, regardless of what can or cannot be said about it, or what it can contribute to an understanding of the lifeways of past Native American cultures. On the contrary, the enigmatic nature of rock art makes it all the more important to properly record, preserve, and study, in the hopes that historians, archeologists, and anthropologists may one day better understand not only Native American culture, but by extension human culture in general.

Despite the reluctance of scholars and researchers to accept rock art as a legitimate field of study, a large segment of the public has enthusiastically embraced rock art as a unique and fascinating subject. Without valid scientifically and anthropologically derived interpretations of rock art available, enthusiasts have developed their own body of theory. Unfortunately, many of the popular interpretations range from inaccurate to outlandish, and do harm to the field of study by suggesting that rock art is the product of extraterrestrials, or worse, oversimplify and minimize Native American belief systems and abilities.¹⁶ For public historians, then, rock art represents an opportunity to engage an audience already fascinated by the phenomenon, to rectify the misunderstanding of

Study of Rock Art,” in *Messages from the Past: Studies in California Rock Art*, Monograph XX, ed. Clement Meighan (Los Angeles: Institute of Archaeology UCLA, 1981), 3-6.

¹⁵ Jo Anne Van Tilburg, “California Times,” in *Prehistoric Indian Rock Art: Issues and Concerns*, UCLA Institute of Archaeology, Monograph XIX (1981), 30.

¹⁶ Whitley, *Introduction to Rock Art Research*, xi-xii; Gilreath, “Rock Art in the Golden State,” 273.

rock art as a cultural manifestation, as well as seize the opportunity to educate the public on the belief systems of Native Americans, both past and present.

In addition to historians and archeologists coming to accept rock art as a legitimate field of study, much of the current debate around rock art interpretation and understanding centers on a new understanding of historic environments.¹⁷ The concept of a historic environment is increasingly eclipsing previous, more limited perspectives on cultural properties, recognizing that the individual site or location is inextricably integrated into the much larger landscape, including all those factors that impacted daily life for historic individuals.¹⁸ That larger perspective on the nature of cultural resources also influences how particular elements of the historic environment are valued, that is, what resources are more significant and are considered more worthy of conservation efforts. Clearly not all resources can be preserved, nor would it be feasible to do so even if funding was available. Land managers are therefore in a continuous process of determining how funding will be used and which historic properties are priorities and which are not.¹⁹ As the concept of the historic environment continues to inform the decisions of land managers, historians, and archeologists, resources that were previously

¹⁷ An *historic property*, as defined in Section 106 of the National Historic Preservation Act, is any “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places.” As such, rock art sites fall under the definition of an historic property, and can also be considered an historic district under certain circumstances.

¹⁸ Benjamin K. Swartz, Jr. and Thomas S. Hurlbutt, “Space, Place and Territory in Rock Art Interpretation,” in *Rock Art Research*, Vol. 11, No 1 (Melbourne, Australia: Australian Rock Art Research Association, 1994), 13-22.

¹⁹ Kate Clark, “Between a Rock and a Hard Decision: The Role of Archaeology in the Conservation Planning Process,” in *Preserving Archaeological Remains In Situ*, ed. Taryn Nixon (London: Lavenham Press, 2004), 202-208.

lower priorities, such as rock art, take on a new importance for research and conservation efforts.

MANAGING ROCK ART ON PUBLIC LANDS

Rock art shares many similarities with historic architecture, and many of the problems, as well. Both are static and immobile, highly visible, and often inextricably integrated into their surroundings. Like rock art, historic architecture is subject to weathering, vandalism, and theft. Unlike rock art, however, most historic buildings had a purpose that is known, and some can still serve a continuing purpose today that is independent from its historical context. With the exception of some very large works of modern art, rock art stands alone as a unique artifact class that is a purely aesthetic creation, immobile, irreplaceable, and in constant danger from people and nature. The land manager responsible for either does not have an easy or enviable job, but often the remote locations and misunderstood nature of rock art presents the land manager with an exceptionally difficult and challenging task.

Unlike historic architecture, however, rock art has the benefit of the existing legislation to protect it virtually without argument. Historians and other scholars know very little about rock art, and every site is therefore unique both by virtue of the individual elements contained therein, and by its location in the landscape. Until the day when researchers can confidently decipher the meaning of rock art—if that day ever comes—each site may be as important as the next. It is therefore imperative that land managers preserve as many sites as possible in order to ensure that future researchers and laymen alike will have access to as large a pool of information as possible. Fortunately

lawmakers have seen fit to provide archaeologists, historians, and land managers with a sufficient arsenal of laws that are intended to prevent the loss of rock art sites wherever they occur on public land.

Knowledge of the laws that protect rock art sites is only one facet of their management, however. By federal law, every government agency or installation must have a Cultural Resources Management Plan (CRMP) in place to govern all activities that impact or may impact cultural resources on government owned or administrated land.²⁰ The CRMP provides a specific process for dealing with any cultural resources including prehistoric and historic archaeological sites, traditional Native American resources (e.g., sacred sites or gathering places), and historic properties and structures. In addition, it outlines and assigns responsibilities, identifies concerns, and establishes standard operating procedures for the management of culturally and/or archaeologically significant resources. The CRMP is intended to assist land managers in the planning, development, and implementation of a cultural resources management program that fits the requirements of their specific facilities and land holdings.²¹

The management process should always be part of a larger, over-arching plan for the long term management of cultural resources, and fit within the priorities defined by the agency. For Department of Defense installations, for example, the CRMP will outline

²⁰ David Hurst Thomas, *Archaeology* (Ft. Worth: Holt, Rinehart and Winston, 1989), 132-133; The National Historic Preservation Act (16 USC § 470 et seq.) requires federal agencies to develop a program for inventorying and evaluating historic properties under the 1980 amendments, generally referred to as a Cultural Resources Management Plan, or CRMP. Those requirements are further prioritized under Executive Order 13287, signed by President George Bush in 2003. The requirements are discussed more in depth in the following chapter.

²¹ Thomas F. King, *Cultural Resource Laws and Practices: An Introductory Guide* (Walnut Creek: Alta Mira, 1998), 234-240.

areas of priority for training, future construction, or other purposes. The CRMP is often integrated with a larger agency management plan, and is thus referred to as the Integrated Cultural Resources Management Plan, or ICRMP.

As with any other resource, land managers must know where rock art sites are located on their installation, property, or land. They must also know what is located at each site, and have a policy and plan in place for the protection, evaluation, and interpretation of those sites. While rock art may share similarities with other artifact classes, a land manager must understand how rock art sites differ from other historical properties, archaeological sites, or other material remains.

The management process for any historical property or site is three-fold, including:

- Identification and recordation
- Evaluation, analyzation, and interpretation
- Site management and conservation

IDENTIFICATION AND RECORDATION

The process of site and resource identification is often referred to as a field survey or a research inventory, though the terminology may vary from region to region. In archaeology, a research inventory is an examination of a landscape to locate and determine the distribution of artifacts, structures, or other evidence of human activity. Research inventories can consist of archeological surveys, in which systematic surface or subsurface surveys are conducted over specific areas of land, and all sites located are recorded appropriately. Surveys can also consist of the recordation of sites that have

been detected by other means, such as an informant or historical records. All research inventories should be conducted under an established research design that is consistent with the goals of the inventory.²² Every state and many federal agencies have published detailed guidelines for the process of conducting research inventories. For example, the California State Office of Historic Preservation has published the Guidelines for Archaeological Research Designs. It provides detailed information on who is qualified to produce a research design and how that design should guide research inventories.²³ Research surveys are an important tool in detecting rock art sites, but no more so than any other type of historic property.

While the guidelines used by archaeologists usually thorough, they can be very general and do not necessarily provide information on recording specific resources, such as rock art. Instead, it is incumbent upon the archaeologist, historian, or land manager to educate themselves on the accepted methodology for site records.²⁴ At a minimum the state forms should be completed; many times, however, state forms are inadequate for recording rock art sites at the level of detail that is commonly desired by rock art

²² Thomas, *Archaeology*, 55-56; City of San Diego, *Historic Resource Survey Guidelines*, (City of San Diego, City Planning & Community Investment, Urban Form Division, 2008), 1; Benjamin K. Swartz, Jr., "A Logical Sequence of Archaeological Procedures," in *American Antiquity*, Vol. 32, No. 4 (1967), 487-97; Office of History and Archaeology, "Archaeological Research Designs," Series No. 12, (Alaska Department of Natural Resources, 2003).

²³ California Office of Historic Preservation, *Guidelines for Archaeological Research Designs*, Preservation Planning Bulletin Number 5, Feb. 1991.

²⁴ Benjamin K. Swartz, Jr. and John K. Zancanella, "The Management of Recording Procedures in the Preservation of Petroglyph Resources," in *Rock Art and Posterity*, Occasional AURA Pub. No. 4 (1991), 115-16.

researchers.²⁵ Figure 3 below shows the California Office of Historic Preservation form 523g, which is a supplementary form designed for recording rock art sites.

In addition to recording information about the rock art elements found within the site, many considerations must be taken into account for recording details about the landscape in which the site is situated. Increasingly geographic information systems are making it possible to do detailed landscape studies, and to explore how the rock art is integrated into the surrounding landscape. Dave Whitley points out that the information recorded is always selective, and is dependent upon the recorder's own interest, training, and goals. The condition of the site may also influence what and how much information is collected. Whitley noted that consciously or otherwise decisions are made on what data is important to record, and what can be omitted. The solution, stated Whitley, is to make those choices explicit.²⁶ The important thing for the land manager to remember is that the more thorough a record is made of a rock art site, the more valuable it will be to rock art researchers.

Recognizing that the official forms often lack the detail that may prove important in rock art research, many archaeologists have advocated and developed more detailed forms and recording methods. Such attempts not only try to accommodate current research, but also try to anticipate future research needs. Still, there is a limit to the level of detail that can be recorded due to practical and financial restrictions. In 1981, following the establishment of the American Committee to Advance the Study of

²⁵ Swartz, "A Logical Sequence of Archaeological Procedures," 487-97; Office of Historic Preservation, *Instructions For Recording Historical Resources* (Sacramento, 1995), 1-5.

²⁶ Whitley, *Introduction to Rock Art Research*, 18.

Petroglyphs and Pictographs (ACASPP), Dr. Benjamin K. Swartz, Jr., authored an official institution statement entitled, appropriately enough, “Minimum Recording Standards Proposed by the American Committee to Advance the Study of Petroglyphs and Pictographs.” In it, he established a baseline for recording rock art. Other attempts to standardize rock art recording had been put forth by various individuals, notably Steven Manning, Jesse Warner, Colin Pearson, and B. K. Swartz, Jr.²⁷ As Larry Loendorf pointed out, however, many recording techniques that were acceptable in the past have

²⁷ Steven J. Manning and Jesse E. Warner, “Minimum Standards for Recording Rock Art for UARARA,” in *Utah Rock Art*, 4, 21-32; Colin Pearson and B. K. Swartz, Jr., eds., *Rock Art and Posterity* (Melbourne: Archaeological Publications, 1991) , 113-4.

State of California - The Resources Agency DEPARTMENT OF PARK AND RECREATION	Primary # _____ Trinomial _____
ROCK ART RECORD	

Page _____ of _____ Resource Name or # (Assigned by Recorder) _____

R1. Feature # (Panel #): _____ of _____

R2. Feature/Panel Location (From site datum): _____
Found on: Cliff face Boulder Bedrock Cave/shelter surface Other: _____

R3. Host Rock: _____

R4. Host Background: Patinated Natural Painted Glaciated Smoke blackened Other: _____

R5. Detailed Description of Panel: (Check any that apply) Petroglyphs Pictographs Geoglyph
(Describe feature/panel size, size of host rock, number and types of elements/motifs, method of production, etc.)

R6. a. Feature/Panel Integrity: Good Fair Poor Explain: _____

b. Natural Deterioration (Check any that apply): Water erosion Surface spalling Block fractures
 Lichen growth Wind Erosion Sun exposure Rock fall Plant defacement Animal nesting
 Mineral accretion NONE Other (Explain): _____

c. Cultural Deterioration (Check any that apply): Bullet holes Graffiti Chalk Scratched Altered
 Livestock Logging Visitor use NONE Other (Explain): _____

R7. Style(s) and Suspected Cultural Affiliation: _____

R8. Elements Superimposed? No Yes (Describe)

R9. Feature/Panel Visibility: Visible Semi-visible Hidden

R10. Associated/Nearby Cultural Materials: _____

R11. Conservation Recommendations: _____

R12. Form Prepared by: _____ Date: _____

Affiliation and Address: _____

Figure 3. California Office of Historic Preservation Form 523g, Rock Art Record

proven to be harmful to the petroglyphs themselves, or may prevent future research from being conducted.²⁸

John Clegg argued that the standardization of recording rock art is neither feasible nor desirable for three main reasons:

1. Every individual picture is different and presents its own problems
2. Every recorder or recording situation has different resources of time, materials, equipment, money, and skill.
3. Different tasks or archaeological “problems” have different aims, which need suitable methods.²⁹

Instead, Clegg proposed a “cookbook” approach in which the recorder evaluated all possible techniques and selected the best one for the situation at hand. In contrast to Clegg, Swartz argued that while the restrictions Clegg noted in number two, above, would certainly impact how much detail can be recorded, the recorder should not fall into what Swartz termed the “Rock Art Paradigm.” The rock art paradigm, according to Swartz, started with the idea that all study begins with a research question that informs the data recorded. A theoretical orientation, Swartz argued, should not influence the collection of information on rock art sites. Instead, recorders should follow the minimum guidelines laid out by professional organizations, such as the ACASPP. Further, Swartz suggested an additional system of annotating how thoroughly a site has been recorded, which would allow agencies to determine future priorities, and allow researchers to

²⁸ Larry Loendorf, “Rock Art Recording,” in *Handbook of Rock Art Research*, ed. David Whitley (Walnut Creek, California: Alta Mira Press, 2001), 55.

²⁹ John Clegg, “Cleggnotes on Recording Prehistoric Pictures,” in *Rock Art and Posterity: Conserving, Managing, and Recording Rock Art*, ed. C. Pearson and B.K. Swartz, Jr., (Melbourne, Australia: Archaeological Publications, 1991), 113-114.

quickly identify the level of information available on a particular site.³⁰ Robert Bednarik noted that the lack of consistency in rock art terminology alone, let alone recording techniques, made for a confusing research environment, which invited errors and propagated even more confusion. He warned rock art researchers to be cautious in using terms, particularly those that imply knowledge about the meaning of a symbol.³¹ Steward's application of the term "bird tracks," for example, implied that he knew for certain that those markings that resemble bird tracks were, in fact, bird tracks. It was equally possible that the resemblance was simply that, a resemblance, and the symbols were not intended to portray bird tracks at all.

EVALUATION, ANALYZATION AND INTERPRETATION

Recording rock art is only the beginning. In reality the record made of rock art sites, or any cultural resource, is simply to facilitate the next step: evaluation. For historic properties or archeological sites, evaluation typically involves a determination of eligibility for inclusion on the National Register of Historic Places (NRHP).³² Districts, sites, buildings, structures, and objects that are included on the NRHP are considered very significant to understanding and preserving human cultural heritage. Sites listed on the NRHP are intended to be preserved in perpetuity for the enjoyment and education of future scholars and the public at large. The NRHP was authorized under the National

³⁰ Benjamin K. Swartz, Jr., "The Management of Recording Procedures in the Preservation of Petroglyph Resources," in *Rock Art and Posterity: Conserving, Managing, and Recording Rock Art*, ed. C. Pearson and B.K. Swartz, Jr. (Melbourne, Australia: Archaeological Publications, 1991), 114-115.

³¹ Robert G. Badnarik, "Standardization in Rock Art Terminology," in *Rock Art and Posterity: Conserving, Managing, and Recording Rock Art*, ed. C. Pearson and B.K. Swartz, Jr. (Melbourne, Australia: Archaeological Publications, 1991), 116-118.

³² Thomas, *Archaeology*, 132-133; 16 USC § 470a.

Historic Preservation Act of 1966, and the criteria used to evaluate the significance of historic sites or properties are evaluated was spelled out in that document. In order to be eligible for listing on the NRHP, the site or property must “possess integrity of location, design, setting, materials, workmanship, feeling, and association.”³³ In addition, a property must meet one or more of the following four criteria to be listed:

- A.** That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B.** That are associated with the lives of persons significant in our past; or
- C.** That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D.** That have yielded or may be likely to yield, information important in prehistory or history.³⁴

The most important criteria for rock art sites is generally Criterion C or D, since it is rare to know who executed the artwork and their impact on past cultures is also rarely known. However, since continued development of technology may serve to illuminate historic properties in an entirely different light, the potential for future research is an important consideration. When considering the advent of new perspectives on the historic environment, Criterion D becomes even more important.

³³ King, *Cultural Resource Laws and Practices*, 59; 16 USC § 470h-2(c); 36 CFR § 60.4 and 60.4a-d.

³⁴ 36 CFR § 60.4 and 60.4a-d.

The aesthetic, social, and economic value of rock art and rock art sites should also not be overlooked under criterion C. Kate Clark points out that archeologists in particular “are often very bad at recognizing the aesthetic, spatial and design qualities of the historic environment.” She noted, however, that an appreciation for the familiarity of spaces, along with their ability to inspire, is critical for the public enjoyment of cultural resources. If utilized properly, historic properties can help promote cultural diversity initiatives and help people to identify with their heritage.³⁵

Johannes Loubser argued that rock art sites should be evaluated for significance on six independent but inter-related categories: spiritual, domestic and subsistence, research, tourist, aesthetic, and educational. He makes the point that like any resource, rock art is not inherently valuable, but rather is given value by different, and sometimes conflicting, groups of people. A rock art site will therefore have drastically different significance values for different groups, which is informed by the beliefs, interests, and actions of people from each group. The rock art site can, in turn, influence those beliefs, interests, and actions and may therefore increase those significance values.³⁶

Excavation

For most archeological sites, excavation is often the only way to evaluate a site to determine age, cultural affiliation, and purpose, all of which contribute greatly to a determination of significance. Diagnostic artifacts, radio carbon dating, historical records, and the law of superimposition are some of the tools that archaeologists can use

³⁵ Clark, “Between a Rock and a Hard Decision,” 204-205.

³⁶ Johannes Loubser, “Management Planning for Conservation,” in *Handbook of Rock Art Research*, ed. David Whitley (Walnut Creek, California: Alta Mira Press, 2001), 89.

to tease out details of a site's place in time and space. Archeologists and historic preservationists can sift through the data on a site or structure to make what amounts to a highly educated guess as to who occupied the structure or site. Depending on the complexity of the site, they can sometimes reconstruct an accurate picture of the activities that occurred at that place.³⁷

Rock art sites, on the other hand, are most often exceptions to that rule. Because of the nature of rock art sites, excavation in the area immediately adjacent to the site can pose as many questions as it answers. Rock art sites often lack the deposition of soil and other materials that often help archeologists pin down the age of a site. Artifacts and features excavated near the rock art site may or may not date to the same period as the rock art itself, but it cannot be assumed that they do. While experimentation in a number of dating methods is currently underway, as of yet no reliable method for dating the actual rock art exists. It requires, then, inferential association with the adjacent sites, which can be tricky.³⁸

The best candidates for excavation are those rock art sites that occur in rockshelters or caves, where soil accumulation may occur and artifacts may gather. Johannes Loubser points out that in certain areas, such as the American Southwest, the

³⁷ Thomas F. King, *Thinking About Cultural Resource Management* (Walnut Creek: Alta Mira, 1998), 19-25.

³⁸ Julian H. Steward, *Petroglyphs of California and Adjoining States*. (Berkeley, CA: University of California Press, 1929), 177; Campbell James Grant, James W. Baird, and J. Kenneth Pringle. *Rock Drawings of the Coso Range*, Maturango Museum Publication No. 4, (Ridgecrest, California: Maturango Press, 1968), 43-57; David S. Whitley, *Art of the Shaman: Rock Art in California*, (Salt Lake City: University of Utah Press, 2000), 22; David S. Whitley, "Meaning and Metaphor in the Coso Petroglyphs: Understanding Great Basin Rock Art," in *Coso Rock Art: a New Perspective*, Elva Younkin, ed. (Ridgecrest, California: Maturango Press, 1998), 142-144, 146-154; Keyser and Klassen, *Plains Indian Rock Art*, 17-18.

individuals that inhabited rockshelters were almost certainly the same individuals that created the art. Excavation in those rockshelters may provide important information on the function of the art, while material recovered from subsequent occupations may provide information on how that function changed over time.³⁹

Evaluation

Rock art as a cultural resource typically defies traditional historical evaluation processes, thus placing land managers in a peculiar bind. Historic preservationists and archeologists can take a relatively straight forward approach to the evaluation of a historic building or an archeological site using the NRHP criteria listed above. For the historic preservationists, styles in architecture are well-documented, as are most archeological periods and prehistoric cultural sequences, providing a solid basis for evaluating significance. Diagnostic artifacts, historical records, and carbon dating can provide important data for determining significance based upon the relative paucity or abundance of information for a given period, event, or individual. The determination of significance can therefore almost be determined in a checklist manner, demonstrating through research at the site whether diagnostic attributes are present or absent, or through records searches whether a structure was the site of an important historical event or figured largely in the life of a significant individual. Rock art, however, has none of those advantages. Historians and other researchers cannot be certain who made the

³⁹ Loubser, "Management Planning for Conservation," 93.

images, and no reliable dating method yet exists to accurately determine the age of the images.⁴⁰

Despite the limitations on dating and understanding rock art, however, some effort must be made to place rock art into the narrative on prehistoric human activity in the Great Basin. It is, after all, a part of the archeological record, and played some role in Native American life. Christopher Chippendale identified three methods for interpreting and understanding rock art: informed methods, formal methods, and analogy.⁴¹

Informed Methods

Informed methods refer to those deductions derived from some direct or indirect knowledge of the rock art from those that actually made and used the rock art. The information can come by way of ethnography or the historical record.⁴² Knowledge of rock art through the informed method can also come from, as Chris Chippendale stated, “insight passed on directly or indirectly — through ethnography, through ethnohistory, through the historical record, or through modern understanding known with good cause to perpetuate ancient knowledge.”⁴³ In other words, knowledge from modern sources can inform an understanding of the past if the origins of modern practices can be traced back

⁴⁰ Meighan, “Theory and Practice in the Study of Rock Art,” 22; Whitley, “Meaning and Metaphor in the Coso Petroglyphs,” 142-144, 146-154.

⁴¹ Paul S. C. Taçon and Christopher Chippendale, “An Archaeology of Rock-art Through Informed Methods and Formal Methods,” in *The Archaeology of Rock Art*, ed. Christopher Chippendale and Paul S. C. Taçon (Cambridge: Cambridge University Press, 1998), 1-10.

⁴² Christopher Chippendale and George Nash, eds., “Pictures in Place: Approaches to the Figured Landscapes of Rock-Art,” in *The Figured Landscapes of Rock-Art: Looking at Pictures in Place* (Cambridge: Cambridge University Press, 2004), 17.

⁴³ Taçon and Chippendale, “An Archaeology of Rock-art Through Informed Methods and Formal Methods,” 6.

to older traditions. As an example, Chippendale cites the manner in which he and other rock art researchers traced the origins of the Rainbow Serpent, a hybrid creature with a crocodile's head and a snake's body that originally shaped the Australian landscape in aboriginal traditions. They were able to follow the slowly changing Rainbow Serpent motif found in modern Aborigine paintings backwards through multiple incarnations in rock art sites, until they found the oldest identifiable images. As it turned out, Chippendale and others demonstrated that the rising water following the post-glacial period inundated populated areas, and they determined that the depictions of hybrid Rainbow Serpent resembled a pipefish more so than a land snake.⁴⁴ A pipefish's snout appears much more crocodilian than a land snake's snout, thus supporting their theory. In this case, Chippendale and his teammates derived an understanding of ancient art through a modern informed source, that is, Aboriginal artists that still paint in the traditions of their ancestors.

Care must be taken in the application of such methods, however. Rock art may provide information directly by what is portrayed in the art itself, or the meaning may be obscured through a lack of information on the symbology of the culture from which the artist came.⁴⁵ For example, several of the petroglyphs in the Coso Range of California appear to show hunters in the act of killing a bighorn sheep. The ethnographic record of Shoshonean people that occupied that area historically stated that they had no tradition of rock art, thus the art must have been made by people that preceded the Shoshonean

⁴⁴ Ibid, 6-7.

⁴⁵ Jo McDonald, "Rock Art," in *Archaeology in Practice: A Student Guide to Archaeological Analysis*, ed. Jane Alme and Alistair Paterson (Malden, MA: Blackwell Publishing Ltd., 2006), 70.

migration to that area, or it was a tradition of the Shoshones that had died out and was no longer practiced nor remembered to have been practiced. Whatever the case, historians and archeologists subsequently interpreted the art to literally represent a hunting scene, either as a form of practical magic to assure a good hunt or as a record of a successful hunt. Using cognitive research methods, David Whitley offered an alternative explanation, and interpreted the art as a depiction of Shoshone shamanistic practices. They suggested that since the bighorn sheep were known ethnographically to be the totem animal of rain shamans, the images may actually represent a rain shaman ritualistically killing a bighorn sheep in order to gain access to the spirit world. Once there, the shaman assumed the form of the totem animal, the bighorn sheep, and carried out the rites necessary to call rain. The rock art, then, represented a portion of the shaman's ceremony for entering the spirit realm, and not the actual killing of a bighorn sheep.⁴⁶

Formal Methods

In contrast to informed methods, formal methods of understanding and interpreting rock art are those that depend upon information gleaned from the site itself, using inference or mathematics, or observable relationships.⁴⁷ For example, information about the purpose of rock art may be derived from observations made of the movement of sunlight across a rock art panel at different times of year, when a shadow or slice of

⁴⁶ Whitley, *Introduction to Rock Art Research*, 117-119; David S. Whitley, "By the Hunter, for the gatherer: Art, Social Relations, and Subsistence Change in the Prehistoric Great Basin," in *Reader in Archaeological Theory: Post-processual and Cognitive Approaches*, ed. David S. Whitley (New York: Routledge, 1998), 269-274.

⁴⁷ George L. Cowgill, "Formal Approaches in Archaeology," in *Archaeological Thought in America*, ed. C. C. Lamberg-Karlovsky (New York: Cambridge University Press), 74-75.

sunlight may illuminate a particular point. Such occasions, known as *solar events*, can usually only be determined through a careful and thorough examination of the site at various times during the year.⁴⁸ Other relationships, such as those between a rock art site and the surrounding landscape can be discovered through thorough mapping and recording.

As mentioned above, the geographic information system (GIS) has taken on an increasingly important role in the study of the historic environment.⁴⁹ As Kenneth Kvamme argued, the visualization of patterns in data is a crucial tool in historical research.⁵⁰ In fact, visualization is so important in landscape studies that Duane Marble argued that human spatial behavior has not been explored before because the various research disciplines hitherto lacked “the tools which would permit us to organize and comprehend the data defining the real and extremely complex spatial environment in which human behavior actually takes place.” According to Marble, the myopic view of spatial behavior in the past was due to an inability to visualize the range of human spatial interaction, and therefore researchers could not hope to effectively model that behavior.⁵¹ Ralph Hartley and Anne M. Wolley Vawser used a GIS to study the placement of rock art in relation to resources, habitation sites, and storage caches in southeastern Utah. They

⁴⁸ Travis Hudson, Georgia Lee, & Ken Hedges, “Solstice Observers and Observatories in Native California,” *Journal of California and Great Basin Anthropology* 1, no. 1 (1979): 44-5.

⁴⁹ Gary Lock and Trevor Harris, “Visualizing Spatial Data: The Importance of Geographic Information Systems,” in *Archaeology and the Information Age: A Global Perspective*, ed. Paul Reilly and S. P. Q. Rahtz (New York: Routledge, 1992), 81-82.

⁵⁰ Kenneth L. Kvamme, “An overview of Geographical Information Systems for Archaeological Research and Data Management,” Manuscript on file at the Arizona State Museum, University of Arizona, Tucson (1987).

⁵¹ Duane F. Marble, “Methodological impact of GIS on the social sciences,” in *Interpreting Space: GIS and Archaeology*, ed. Kathleen M. S. Allen, Stanton W. Green, and Ezra B. W. Zubrow (New York: Taylor & Francis, 1990), 9-21.

suggested that executors of the rock art had determined the location, orientation, and visibility of the images to intentionally serve as markers to help orient travelers to the sparsely and intermittently occupied canyons of the Escalante River Basin.⁵²

Analogy

Analogy is simply a tool for making inferences about a topic based upon knowledge of a similar topic. It is the process by which people come to understand the first topic by comparing and contrasting with the second topic; in other words, historians may know very little about topic *a*, but they may know quite a bit about topic *b*, which is very similar. They can therefore infer certain properties of topic *a* by what they know about topic *b*.⁵³ Rock art can be investigated through a number of methods, the most obvious of which is art history, which studies the role of art through time. Art historians study why people make art, and the role it serves in society. Since rock art outwardly resembles the form of expression found in the art world, it might seem logical to assume that it had the same role in prehistoric societies.⁵⁴ To some extent, it may have, but the danger with the use of analogy is that it may not have served any similar purpose whatsoever, and any conclusions drawn about rock art through analogy with art in modern societies may be completely wrong.⁵⁵ The use of analogy would be more

⁵² Ralph Hartley and Anne M. Wolley Vawser, "Spatial Behavior and learning in the Prehistoric Environment of the Colorado River Drainage (Southeastern Utah), Western North America," in *The Archaeology of Rock Art*, ed. Christopher Chippendale and Paul S. C. Taçon (Cambridge: Cambridge University Press, 1998), 185-211.

⁵³ Taçon and Chippendale, "An Archaeology of Rock-art Through Informed Methods and Formal Methods," 8.

⁵⁴ Francis, "Style and Classification," 221

⁵⁵ Reinaldo Morales, Jr., "Considerations on the Art and Aesthetics of Rock Art," in *Aesthetics and Rock Art*, ed. Thomas Heyd and John Clegg (Burlington, VT: Ashgate, 2005), 70.

appropriate when applied to more similar societies, which is what David Lewis-Williams and David Whitley did when they used analogy to compare the rock art of the San people of South Africa, who have an active oral tradition centered around their rock art, and the rock art of the Mojave Desert, about which very little is known.⁵⁶ Drawing on their analogous comparison between the San tradition of shamanistic practices involving rock art, Whitley and Thomas Dowson deduced that the rock art in the Great Basin was more likely used for shamanistic practices than for the hunting magic purposes which had earlier been proposed.⁵⁷ Whitley and Dowson's work has been much debated and criticized, and the debate continues on the function of rock art.⁵⁸ Regardless of the debate, however, analogy can be a useful research tool when applied judiciously.

⁵⁶ Brian Hayden, *Archaeology: The Science of Once and Future Things* (New York: W.H. Freeman and Co., 1993), 127-130.

⁵⁷ Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 150-151; J. David Lewis-Williams and Thomas A. Dowson, "The Sign of All Times: Entopic Phenomena in Upper Paleolithic Art," *Current Anthropology* 29 (1991), 201-245; James L. Pearson, *Shamanism and the Ancient Mind: A Cognitive Approach to Archaeology* (Walnut Creek, California: Altamira Press, 2002), 49-51.

⁵⁸ Alan P. Garfinkel, "Paradigm Shifts, Rock Art Studies, and the 'Coso Sheep Cult' of Eastern California," *North American Archaeologist*, 27, no. 3 (2006), 203 – 244.

ARCHEOLOGICAL LAW AND THE MANAGEMENT OF ROCK ART SITES ON FEDERAL LANDS

To anyone but attorneys the legal world is often a confusing morass of seemingly conflicting laws, an incomprehensible gibberish of legal jargon, and tedious lists of references to the United States Code, court cases, and legal precedents. But to protect cultural resources that have been put into his or her charge effectively, federal land managers must have at least a rudimentary understanding of the laws that dictate the authority to administer those resources, including the responsibility that managers have to the American public. Taken chronologically, the laws are not nearly so incomprehensible as they may seem, and each plays an important role in the management of cultural resources on a federal installation or on federally-administered land. Rock art consists of images cut or pecked into or painted onto a rock surface, most often by aboriginal peoples, both prehistorically and historically. Rock art is a special case in cultural resources because of its often immobile nature and its constant visibility, making it particularly vulnerable to theft, vandalism, and destruction, both through well-meaning but destructive visitors and through natural erosion and weathering. An understanding of the following sixteen laws and executive orders will provide the federal land manager with a solid basis for understanding his or her role in cultural resources protection, and, in particular, how better to manage rock art resources:

1. Antiquities Act of 1906 (16 USC §§ 431-433)
2. Historic Sites Act of 1935 (16 USC §§ 461-467)

3. Federal Records Act of 1950, as amended (Records Management by Federal Agencies, 44 UCS § 3101 et seq.)
4. National Historic Preservation Act of 1966, as amended (16 UCS § 470 et seq.)
5. Executive Order 11593: "Protection and Enhancement of the Cultural Environment"
6. National Environmental Policy Act of 1969 as amended (42 UCS § 4321, and 4331 - 4335)
7. 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property (19 UCS § 2601)
8. Archeological and Historic Preservation Act of 1974 as amended (16 UCS § 469-469c-2)
9. American Indian Religious Freedom Act of 1978 as amended (42 UCS § 1996 and 1996a)
10. Executive Order No. 13007: "Indian Sacred Sites"
11. Religious Freedom Restoration Act (42 USC § 2000bb-1 through 4)
12. Archaeological Resources Protection Act of 1979, as amended (16 UCS § 470aa-mm)
13. Freedom of Information Act of 1982 (5 UCS § 552)
14. Native American Graves Protection and Repatriation Act of 1990, as amended, (25 UCS § 3001 et seq.)
15. Theft of Government Property (18 UCS § 641)
16. Executive Order 13287: "Preserve America"

Equally important to an understanding of archeological law is an understanding of the Code of Federal Regulations for each federal agency, including the departments of Transportation, Interior, and Defense. The Code of Federal Regulations (CFR) is that body of rules by which each agency implements the requirements of any piece of legislation that may have an effect on how that agency operates. In other words, the CFR tells employees of each agency what they must do to comply with the laws passed by Congress and issued by the President.

Each of the three main departments of the federal government, the departments of the Interior, Agriculture, and Defense, as well as the Tennessee Valley Authority (TVA), follow identical sets of implementing regulations found in different sections of the CFR:

- Department of the Interior: 43 CFR §§ 7.1-7.21 (with supplemental information found at 43 CFR §§ 7.31-7.37)
- Department of Agriculture: 36 CFR §§ 296.1-296.21
- Department of Defense: 32 CFR §§ 229.1-229.21
- Tennessee Valley Authority (TVA): 18 CFR §§ 1312.1-1312.21

Federal agencies that are not part of one of these Departments or the TVA, such as the Department of Energy, follow the Department of the Interior version of implementing regulations.

Though each agency may implement the laws slightly differently, the intent and the applicability remain the same. The laws that are most pertinent to the protection and management of rock art sites are presented more or less chronologically, except for those amendments or executive orders that apply to specific laws. In this case, the amendment or executive order is included with the original law it amends or supports.

ANTIQUITIES ACT OF 1906 (16 U.S.C. 431-433)

The Antiquities Act was the first law in the United States Code aimed specifically at protecting cultural resources. The need for legislation to protect antiquities arose out of concern for the preservation of the then rapidly disappearing prehistoric ruins scattered throughout the American Southwest.⁵⁹ Explorers, cowboys, miners, and later scholars,

⁵⁹ Stephen Moore, "Federal Indian Burial Policy: Historical Anachronism or Contemporary Reality?" in *Conflict in the Archaeology of Living Traditions*, ed. Robert Layton (New York: Routledge, 1994), 202.

had noted the ruins and other archeological remains since first entering the region, but it was not until 1879 when the U.S. government formed the Bureau of Ethnology that any concerted, coordinated attempt emerged to investigate and record the ruins at length.⁶⁰ The same year marked the publication of George W. Putnam's illustrated report to the United States Army Corps of Engineers on the archaeology and ethnology of the American Southwest, including a survey of known ruins and abandoned pueblos.⁶¹ Shortly after the establishment of the Bureau of Ethnology, President Benjamin Harrison signed an executive order on June 22, 1892 declaring the ruins at Casa Grande an archeological reservation and allocated money for repair and acquisition of 480 acres around the ruins.⁶²

Four years after President Benjamin Harrison set aside the nation's first archeological reservation at Casa Grande, the Supreme Court recognized the federal government's power to condemn private land or preservation. In 1896, the Supreme Court justices ruled in favor of the federal government in United States vs. Gettysburg Electric Railway Co. The Gettysburg Electric Railway Co. argued that the taking of land for "public purpose" in order to create the Gettysburg Battlefield Memorial was

⁶⁰ Ronald Lee, *The Story of the Antiquities Act*, <http://www.cr.nps.gov/aad/pubs/lee/INDEX.HTM>, chapter 1.

⁶¹ Frederic W. Putnam, *Reports upon Archaeological and Ethnological Collections from Vicinity of Santa Barbara, California, and from Ruined Pueblos of Arizona and New Mexico, and certain Interior Tribes* (Washington, D.C.: Government Printing Office, 1879).

⁶² Lee, *The Story of the Antiquities Act*, Chapter 2

constitutionally illegal; the Supreme Court disagreed, and this created a new national agenda to purchase historical landscapes for preservation and public education.⁶³

A precedent had been set, and on June 8, 1906, President Theodore Roosevelt signed into law the Antiquities Act.⁶⁴ The Antiquities Act had two components, a criminal component and an administrative component. The criminal component made it illegal to “appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity” on public land, and imposed a punishment of not more than \$500 or 90 days in jail or both.⁶⁵ The administrative component granted the President the authority to establish historic landmarks on federal land, and granted the Secretary of the Interior the authority to issue permits to conduct archeological excavations on federally administered lands.⁶⁶

Central to the Antiquities Act was the provision that any “examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity” conducted on federal land must be “undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that the gatherings shall be made for permanent preservation in public museums.” The Act made it clear that any and all archeological investigations conducted on federal land were to ultimately benefit the

⁶³ Carol L. Putnam, “A Survey of State Statutes Protecting Archaeological Resources,” *Preservation Law Reporter* 14, no. 7-8 (July/Aug 1995): 1117-1183.

⁶⁴ Edmund Morris, *Theodore Rex* (New York: Random House, 2001), 447-448.

⁶⁵ 16 USC § 433

⁶⁶ 16 USC §§ 431-432; Sherry Hutt, Caroline M. Blanco, and Ole Varmer, *Heritage Resources Law: Protecting the Archeological and Cultural Environment* (Hoboken, NJ: John Wiley and Sons, 1999), 154-155.

public and that it was the responsibility of the Secretary of the Interior to see that it was so. Therefore, it is through the Antiquity Act— via the authority of the Secretary of the Interior—that land managers have the authority to grant or deny access at their discretion to archeological or historic resources on federal land to those individuals who are associated with *reputable* institutions, and who will make their findings available to the public at large.⁶⁷

Section 431 of the Antiquities Act gave the President authority to establish National Landmarks, but not without limitations. The Act specifically limits National Landmarks to “the smallest area compatible with the proper care and management of the objects to be protected.”⁶⁸ Modern archeological theory now takes into account a much larger consideration of landscape than did the archaeology of the early twentieth century, and land managers who have responsibility for a rock art site must also consider the impact of viewshed intrusions on their site or sites. Viewshed intrusions are those impacts that adversely affect the visual quality of a resource, detracting from the visitor’s enjoyment of the experience. Imagine visiting the Coso petroglyphs in southwestern California to see, not the pristine desert that would have existed when the rock art was etched and painted, but cell phone towers, gas station signs, and power transmission lines. For that reason, land managers with one or more rock art sites that might be considered for National Monument status should consider 1) the area required to preserve the resource itself, and 2) all activities that would negatively impact the experience of a

⁶⁷ 16 USC § 432; Charles R. McGimsey III and Hester A Davis, “United States of America,” in *Approaches to the Archaeological Heritage: A Comparative Study of World Cultural Resource Management Systems*, ed. Henry Cleere (Cambridge: Cambridge University Press, 1984), 118.

⁶⁸ 16 USC § 431

visitor to the site, including viewshed intrusions. Other considerations for land managers that may have a rock art resource significant enough to warrant National Landmark status is the area that may be required to protect the site from other impacts. Other impacts can include noise intrusion, such as being situated too close to a public camping area; renegade foreign matter, such as blowing trash from nearby roads; or simply making the site too accessible, thereby encouraging after-hours visits and people “loving a site to death.”⁶⁹ Land managers should recommend a land parcel that will provide sufficient isolation to allow all visitors to enjoy their visit and to preserve the aesthetics of the site.

HISTORIC SITES ACT OF 1935 (16 USC §§ 461-467)

In 1935 the federal government enacted the Historic Sites Act, which declared that the government’s policy would be to henceforth preserve and protect historic and prehistoric properties of national significance. The act specifically stated that the purpose for preserving such sites is “for the inspiration and benefit of the people of the United States,” once more reinforcing the responsibility of federal land managers to not only protect their sites of national significance, but do so in a manner beneficial to the public at large.⁷⁰ The Historic Sites Act has no law enforcement provision, and was intended simply to establish the policy of stewardship of the nation’s heritage and significant sites. The Secretary of the Interior is charged with the responsibility of inventorying federal properties, researching those properties, and where necessary, “restore, reconstruct, rehabilitate, preserve, and maintain” those sites of historic significance. The real

⁶⁹ Lee, *The Story of the Antiquities Act*, chapter 6.

⁷⁰ 16 USC § 461; Lary M. Dilsaver, *America's National Park System: The Critical Documents* (Lanham, MD: Rowman & Littlefield, 1997), 132-134.

importance of the Historic Sites Act is the recognition that prehistoric and historic sites are important to our national identity, and that the federal government is responsible for preserving that identity.⁷¹ Rock art sites are unique and rare, and may provide important information about the prehistoric cultures that carved them into and painted them on the rocks that cannot be gleaned through any other cultural remains. It is therefore imperative that we take whatever steps necessary to protect rock art so that we may hopefully unravel its mysteries. Rock art, therefore, is clearly significant under the Historic Sites Act.

FEDERAL RECORDS ACT OF 1950, AS AMENDED (RECORDS MANAGEMENT BY FEDERAL AGENCIES, 44 USC § 3101 ET SEQ.)

The Federal Records Act of 1950 simply stated that all federal agencies are required to maintain all those records necessary to “protect the legal and financial rights of the Government and of persons directly affected by the agency’s activities.”⁷² In other words, land managers must maintain all records for work conducted on their lands, including archeological surveys, evaluations, and excavations. Those records then become part of the public domain, and must be preserved either at the agency or at a designated records center.⁷³

⁷¹ 16 USC § 462a, b, and f; Hutt and Blanco, *Cultural Property Law*, 23; Sherry Hutt, Caroline M. Blanco, and Ole Varmer, *Heritage Resources Law: Protecting the Archeological and Cultural Environment* (Hoboken, NJ: John Wiley and Sons, 1999), 135-143.

⁷² 44 USC § 3101; P. Stephen Gidiere, *The Federal Information Manual: How the Government Collects, Manages, and Discloses Information Under FOIA and Other Statutes* (Chicago: American Bar Association, 2006), 46-56.

⁷³ Richard J. Cox, *Closing an Era: Historical Perspectives on Modern Archives and Records Management* (Westport, CT: Greenwood Publishing Group, 2000), 3-4; King, *Cultural Resource Laws and Practices*, 205-207; Gidiere, *The Federal Information Manual*, 46-56.

The National Archives and Records Administration (NARA) oversees implementation of the Federal Records Act (FRA), and holds the responsibility for ensuring compliance among government agencies. The FRA can carry stiff penalties for violation of the implementing regulations, but they are rarely pursued. NARA has an extensive set of regulations for implementation of the FRA, 36 CFR § 1222-1238, which require all agencies to develop file plans that include retention limits and disposal procedures for all record types, including those developed as part of a cultural resources management plan. It is important to remember that the records created by land managers, archeologists, and historians may well become historic documents in their own right, as well as key to the management of the resources under their purview. Cultural resources professionals should be familiar with their own records policies and procedures, and should know their agency's Records Management Officer.⁷⁴

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED (16 USC § 470 ET SEQ.) AND EXECUTIVE ORDER 11593, PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT

The National Historic Preservation Act (NHPA) constituted one of the most significant and far-reaching pieces of legislation ever passed for the protection and conservation of cultural resources. Originally adopted in 1966, the act established a national policy of “cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data.” But more importantly “to secure, for the present and future benefit of the American people, the protection of archaeological

⁷⁴ King, *Cultural Resource Laws and Practices*, 205-207.

resources and sites which are on public lands and Indian lands” (16 USC § 470aa). In simpler terms, the NHPA directed the federal government to share information about archeological and historic resources for the benefit of the public at large, and hence must consider potential impacts upon archeological and historic resources when undertaking any action.⁷⁵ Congress significantly amended the NHPA in 1980 to incorporate important portions of Executive Order 11593, “Protection and enhancement of the cultural environment.” Signed by President Richard Nixon on May 13, 1971, the order set the policy for the federal government to “provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation” in consonance with the Antiquities Act, the Historic Sites Act, and the NHPA (EO 11593, §1). In short, the federal government was to become an active participant in the preservation, restoration, and maintenance of historic properties on federal lands. Notably, the 1980 amendments required federal agencies to develop programs for inventorying and evaluating archeological and historical resources.⁷⁶

Pages can be written about the NHPA act. However, some main points about the NHPA should be known to all land managers. Further study of the interaction of the NHPA and other key legislation—notably the National Environmental Policy Act and the Archeological Resources Protection Act—should be high on the list for continuing education and professional training for all land and cultural resources managers. The

⁷⁵ Sara K. Blumenthal, *Federal Historic Preservation Laws* (US Department of the Interior, National Park Service, 1993), 1; Thomas F. King, “Park Planning, Historic Resources, and the National Historic Preservation Act,” in *Our Common Lands*, ed. David J. Simon (Washington, D.C.: Island Press, 1988), 275-277.

⁷⁶ Hutt, Blanco, and Varmer, *Heritage Resources Law*, 8-10.

main points of the NHPA are the establishment of the National Register of Historic Places, the creation of the Advisory Council on Historic Preservation, and the procedures for Section 106 and Section 110 review. In addition, the NHPA allows federal agencies to charge federal permittees and licensees for doing inventories and evaluations of historic resources.⁷⁷

It is also important to understand what exactly is covered under the heading of “cultural resources.” For the purposes of the federal government, cultural resources are:

- (a) Buildings, structures, sites, districts, and objects that are eligible for listing on the National Register of Historic Places
- (b) Cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA)
- (c) Archeological resources as defined in the Archeological Resources Protection Act (ARPA)
- (d) Archeological artifact collections and associated records as defined in 36 CFR 79, Curation of Federally-Owned and Administered Archaeological Collections
- (e) Sacred sites as defined in Executive Order 13007, “Indian Sacred Sites”

The Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act, and Executive Order 13007 are discussed later in this paper, but because their definitions fall under the umbrella of the NHPA, it is important to list them here. Since rock art sites themselves are not curated, it is beyond the scope of this paper to discuss 36 CFR § 79 (Curation of Federally-Owned and Administered Archaeological Collections); however, it is important for a thorough understanding of the NHPA to recognize that archeological collections are also considered resources. Rock art

⁷⁷ Ibid, 135-143.

is considered a cultural resource under criteria (a) and (c) above, and under some circumstances may also be considered Indian sacred sites under criteria (b) and (d).

Section 101 of the NHPA authorized the Secretary of the Interior to create the National Register of Historic Places (NRHP), which is maintained by the National Park Service.⁷⁸ Eligibility criteria for inclusion in the NRHP is specified in the Code of Federal Regulations, Title 36, Part 60, and are intended to “provide for a wide diversity of resources.”⁷⁹ The criteria for significance of a resource are specifically listed and include those “districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history”⁸⁰

Section 101 delegates responsibility for all aspects of the NRHP, including the establishment at the state level of a State Historic Preservation Officer (SHPO), to coordinate the registry process. Land managers with rock art resources under their

⁷⁸ 16 USC § 470a; Hutt, Blanco, and Varmer, *Heritage Resources Law*, 2-5.

⁷⁹ 36 CFR 60; 36 CFR 60.4

⁸⁰ 36 CFR 60.4 and 60.4a-d; King, *Cultural Resource Laws and Practices*, 87-90.

administration should endeavor to learn the NRHP process early on, as criteria (c) and (d) will almost always apply to any rock art site.

The NHPA requires each agency to designate a Preservation Officer. The Preservation Officer must be a qualified individual, as determined by the Secretary of the Interior's Professional Qualification Standards, and is charged with coordinating that agencies actions under the NHPA.⁸¹ In other words, it is the responsibility of the Preservation Officer to keep the agency in compliance with the NHPA.

Section 106 is of particular importance to land managers administering rock art sites, because it implements a review process that protects archeological resources from destruction or damage before they have been evaluated for eligibility for inclusion on the NRHP. Simply put, the Section 106 review process requires the federal agency to perform two actions with regard to cultural resources that may be affected by undertaking: 1) it requires that the agency consider the impact on a historical property, and 2) allow the Advisory Council on Historic Preservation a "reasonable opportunity to comment."⁸² For the federal government, an undertaking is defined as

...a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including:

- (A) Those carried out by or on behalf of the agency;
- (B) Those carried out with federal financial assistance;
- (C) Those requiring a federal permit, license, or approval; and

⁸¹ 16 U.S.C. § 470h-2(c)

⁸² King, *Cultural Resource Laws and Practices*, 59.

(D) Those subject to State or local regulation administered pursuant to a delegation or approval by a federal agency.⁸³

Section 106 is a deceptively short section, but is at the heart of every evaluation of all archeological resources, including rock art sites, on federal or federally-controlled land or for projects that utilize federal funds. Section 106 stated that before any action is taken on federal or federally-controlled land that may have an adverse impact on archeological resources that are “included in or eligible for inclusion in the National Register,” that effect must be considered before the action is allowed to be taken. Executive Order 11593 stated that all archeological sites (and other historic properties) are considered to be eligible for inclusion in the NRHP until they have been evaluated and determined ineligible; they therefore have the same protection under the NHPA as have properties listed on the NRHP.⁸⁴ In the case of rock art resources, since almost all rock art sites are potentially eligible under criteria (c) and (d) above, no action that may impact rock art sites may take place on federal or federally-controlled land until a Section 106 review has taken place. As stated earlier, under the NHPA it is permitted for the agency responsible for the land or resources to charge other agencies for the inventory or evaluation that must take place before the proposed action can take place to ensure a proper review under Section 106. In other words, if Agency A wants to undertake a project on land managed by Agency B, Agency A is responsible for arranging and paying for surveys or evaluations.

⁸³ 16 USC §470(w)(7); Hutt and Blanco, *Cultural Property Law*, 8-9; King, *Cultural Resource Laws and Practices*, 62.

⁸⁴ King, *Cultural Resource Laws and Practices*, 60.

For the federal land manager, before an undertaking can take place, the land in question must be inventoried for historic resources. If any are present, those resources must be evaluated for eligibility for inclusion on the NRHP. The Section 106 process is codified under Title 36 CFR 800, which lays out responsibilities, time restraints, and so forth, to ensure that not only does the Section 106 review take place, but that everyone involved understands what they have to do and how long they have to do it.⁸⁵ Federal land managers would be well-advised to take one of the courses offered by many of the federal agencies for understanding the Section 106 process.

While Section 106 of the NHPA is intended to be reactive to proposed undertakings, and is used on a project-by-project basis, Section 110 of the NHPA is proactive and is intended to identify and protect cultural resources such as rock art. Section 110 is that section that charges federal land managers with the responsibility for the preservation of identified historic properties under their control.⁸⁶ Additionally, each agency must develop a program that inventories historic properties on federal or federally-controlled land, and must maintain those properties that are eligible for or included in the National Register in accordance with Section 106. Section 110 does not identify a timeline for the inventory, but in conjunction with Section 106 ensures that no action taken on federal or federally-controlled land will inadvertently impact historical

⁸⁵ Hutt and Blanco, *Cultural Property Law*, 8-14, 100.

⁸⁶ King, *Cultural Resource Laws and Practices*, 180; Lynne Sebastian, "Archaeology and the Law," in *Legal Perspectives on Cultural Resources*, ed. Jennifer R. Richman and Marion Forsyth (Walnut Creek, CA: Rowman Altamira, 2003), 6; Hutt and Blanco, *Cultural Property Law*, 232.

properties.⁸⁷ Simply put, Section 110 requires land managers to know what cultural resources are located on their land, and if they do not know, to develop a systematic approach to identifying and recording all cultural resources, so that undertakings will not inadvertently impact them. In accordance with Section 110, land managers must also develop a plan for the systematic evaluation of all cultural resources under the NRHP criteria. It is particularly important to identify, record, and evaluate rock art sites due to the unique nature of each sites, and their exposed, vulnerable nature.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 AS AMENDED (42 USC § 4321, AND §§ 4331 - 4335)

The National Environmental Policy Act is popularly known as the “know before you go” law. President Richard Nixon signed NEPA into law on January 1st, 1970. The purpose of the law was stated to be twofold: lessen the threat to human health, and to prevent long-term, permanent, catastrophic global harm.⁸⁸ As its title implies, NEPA sets federal policy for the treatment of the natural environment in federal undertakings. It is known as the “know before you go” law because it does not set out any regulation concerning what can or can not be done with regard to the environment, but rather charges the federal government with the responsibility to “use all practical means and measures...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present

⁸⁷ 16 U.S.C. § 470h-2(a-b); Hutt and Blanco, *Cultural Property Law*, 14-15; Thomas William Neumann and Robert M. Sanford, *Practicing Archaeology: A Training Manual for Cultural Resources Archaeology* (Walnut Creek, CA: Rowman Altamira, 2001), 29.

⁸⁸ Shipley Group 1992, 7; R.B. Smythe, “The Historical Roots of NEPA,” in *Environmental Policy and NEPA: Past, Present, and Future*, ed. Ray Clark and Larry Canter (Boca Rotan, FL: CRC Press, 1997), 3-14; Nicholas C. Yost, *NEPA Deskbook*, 3rd ed. (Washington, D.C.: Environmental Law Institute, 2003), 5-9.

and future generations of Americans.”⁸⁹ While seeming to have little to do with cultural resources, in fact, in addition to charging the government with maintaining a healthy environment for the benefit of every American, the policy also requires the federal government to “preserve important historic, cultural, and natural aspects of our national heritage.”⁹⁰

The basis of the NEPA is that, like the NHPA, it requires that any government action that may have any impact on the natural and cultural resources of the nation must first be evaluated to determine what those effects might be, and how any adverse effects may be avoided. The process is very specific, and requires one of three documents to provide evidence that the requirements of the NEPA were met. The three documents are the Categorical Exclusion document (known as a CATEX), the Environmental Assessment (EA), and the Environmental Impact Statement (EIS).⁹¹ Categorical Exclusions are situations that do not impact the environment in any significant way, and that are therefore not subject to a NEPA review. Each agency maintains its own list of CATEXs. The exclusions include things like routine maintenance to a building that is less than 45 years old and where no hazardous materials or lead-based paint is involved, or the installation of a new power pole where an easement already exists, and so forth.

Under no circumstances will any project that has any effect on an archeological site be eligible for a CATEX, particularly a rock art site. At a minimum, any project that

⁸⁹ 42 USC § 4331.a; Yost, *NEPA Deskbook*, 311.

⁹⁰ 42 USC § 4331.b.4; Hutt, Blanco, and Varmer, *Heritage Resources Law*, 75-76; Yost, *NEPA Deskbook*, 34; Rebecca Tsosie, “Indigenous Rights and Archaeology,” in *Native Americans and Archaeologists*, ed. Nina Swindler et al. (Walnut Creek, CA: AltaMira Press, 1997), 72-73.

⁹¹ King, *Cultural Resource Laws and Practices*, 58-59; Yost, *NEPA Deskbook*, 10, 79.

may impact an archeological site, whether it has been determined eligible for the National Register of Historic Places or not, will require an EA and may require an EIS. Eligibility must be determined before the action can take place, a determination must be made on whether or no the effects to the site will be adverse, and, if the effects are determined to be adverse, any site determined to be eligible for the NRHP will require mitigation under Section 106. Mitigation of effects requires that both the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) be notified and allowed 30 days to comment before any action takes place. Any site that has been nominated to or is listed on the NRHP is protected under the NHPA and can only be impacted by a project if the agency can show that appropriate steps were taken to consult and document the process, and avoid, minimize, or mitigate the effects upon the site. Mitigation is a relatively complex term that encompasses a wide range of options. In its simplest form, mitigation consists of alternatives that can permit the undertaking to go forward while accommodating an historic resource in some way.⁹² That accommodation can include relocating the project to an alternate location, or modifying the project to avoid the site, or, in extreme cases, may mean the complete excavation of the site, called “data recovery.” The process of mitigation, under NEPA, is intended to produce in the words of K.S. Weiner, “a ‘productive harmony’ between people and nature in the short and long term.”⁹³

⁹² Elizabeth Smythe and Andrea Burk, "Impacts to Historic Architectural and Archaeological Resources," in *Land Development Handbook: Planning, Engineering, and Surveying*, ed. Sidney O. Dewberry and Lisa N. Rauenzahn (New York: McGraw-Hill Professional, 2008), 313-314.

⁹³ K.S. Weiner, “Basic Purposes and Policies of the NEPA Regulations,” in *Environmental Policy and NEPA: Past, Present, and Future*, ed. Ray Clark and Larry Canter (Boca Rotan, FL: CRC Press, 1997), 69.

A land manager will be required to provide input on any EA or EIS and may be asked to review CATEX documents as well. Environmental assessments and environmental impact statements are very often produced through a contract, and the land manager may only review the document upon completion; however, it is the land manager who will ultimately determine the validity of the EA or EIS findings, and who will begin the mitigation process, should it become necessary. When reviewing an EA or an EIS within proximity of a rock art site, an important consideration is viewshed impact. The land manager should always be conscious of what will be visible from the rock art site, both from a purely aesthetic position, and from the perspective of possible consequences arising out of the American Indian Freedom of Religion Act or the Native American Sacred Sites Act, if the rock art site is or may be considered a sacred site for local Native American groups. Plains Indians, for example, regard most rock art sites as sacred, whether or not the rock art was accidentally discovered or whether the makers were known. Offerings were left by visitors, a practice which continued well into the contact when steel knives and guns have been recovered alongside traditional offerings of beads, stone pipes, pottery, and other items.⁹⁴ The Serrano of the Mojave Desert feel the same about rock art sites, and sites are specifically mentioned in their creation stories.⁹⁵ To the Plains Indians and the Serrano—which are but two examples—the rock art sites are

⁹⁴ Linea Sundstrom, *Storied Stone: Indian Rock Art in the Black Hills Country* (Norman: University of Oklahoma Press, 2004), 45-46; Nancy Shoemaker, *American Indians* (Oxford: Blackwell Publishing, 2001), 187-188.

⁹⁵ Ernest Siva, interview with the author at the Morongo Band of Mission Indians, Banning, CA, February 2008.

living, powerful places, not curiosities from the past, and to treat them as anything but sacred sites is insulting and demeaning.

1970 UNESCO CONVENTION ON THE MEANS OF PROHIBITING AND PREVENTING THE ILLICIT IMPORT, EXPORT, AND THE CONVENTION ON CULTURAL PROPERTY (19 USC §§ 2601-2613)

In 1970 the United Nations Educational, Scientific and Cultural Organization (UNESCO) held the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property. Any convention held by the United Nations must be signed by participating member nations to become effective, and only those nations that are signatures of the convention are held to its restrictions. The United States is a signatory of the convention, and the convention has been codified into the United States Code Title 19 Sections 2601-2613, Convention on Cultural Property. Section 2601 defines the cultural properties that are protected under the Convention on Cultural Property: the item or items (or fragments thereof) must be an object of archeological or ethnological interest, of cultural significance, and at least 250 years old. In addition, to be considered of ethnological interest the item or items must have been “produced by a tribal or nonindustrial society” or have some characteristic that is rare or contributes to an understanding of the history or origins of a people.⁹⁶

The purpose of the convention, as is relatively obvious, is to prevent the import or export of items of archeological and cultural significance.⁹⁷ While it is often rumored that the illegal antiquities trade typically ranks in the top four crimes investigated by Interpol, in fact Interpol reports that the statistics are almost impossible to calculate.

⁹⁶ Barbara T. Hoffman, *Art and Cultural Heritage: Law, Policy, and Practice* (Cambridge: Cambridge University Press, 2006), 11-12; Darrell Addison Posey and Graham Dutfield, *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities* (Ottawa: International Development Research Centre, 1996), 115-116.

⁹⁷ Posey and Dutfield, *Beyond Intellectual Property*, 115.

Nonetheless, the illegal antiquities trade is a vexing problem for the international law enforcement community.⁹⁸ Because the purpose of the convention is to prevent the illegal transportation of antiquities across international borders, it is of limited use to a domestic archeologist protecting a rock art site on federal land. The most common use in the United States is to prevent the import of illegal antiquities, and we can only hope that other signatory nations are doing their best to prevent looted United States antiquities from coming into their country, and prosecuting those individuals to the fullest extent possible.⁹⁹ Familiarity with the convention is therefore only useful after a site has been looted, and investigators have tracked the stolen rock art or other artifacts across international boundaries.¹⁰⁰ It is understandably useful, however, to have a detailed and complete inventory of all sites, particularly rock art sites, accomplished before any looting has taken place. In the event of a looting incident, a well prepared land manager will be able to provide extensive notes to investigators.

ARCHEOLOGICAL AND HISTORIC PRESERVATION ACT OF 1974 (16 USC § 469-469C-2)

The Archeological and Historic Preservation Act (AHPA) of 1974, also known as Moss-Bennett Act, was enacted by Congress to further the federal policy established by the Historic Sites Act of 1935.¹⁰¹ It extended the protection of the Historic Sites Act to include archeological and historic data, including artifacts and specimens, that might be destroyed during a federally-funded project, including flooding caused by a federally-

⁹⁸ Interpol, "Stolen Works of Art," <http://www.interpol.int/Public/WorkOfArt/Default.asp>.

⁹⁹ Edward Lawson, José Ayala-Lasso, and Laurie S. Wiseberg, *Encyclopedia of Human Rights* (New York: Taylor & Francis, 1991), 324-325.

¹⁰⁰ Posey and Dutfield, *Beyond Intellectual Property*, 115.

¹⁰¹ Neumann and Sanford, *Practicing Archaeology*, 18; Sebastian, "Archaeology and the Law," 5-6.

constructed dam or any alteration to the terrain caused by a federal undertaking or a federally licensed project. In essence, it requires that any agency that becomes aware, or is notified in writing by any appropriate historical or archeological authority, that any project may result in “irreparable loss or destruction of significant scientific, prehistorical, historical, or archeological data” that agency must inform the secretary of that agency.¹⁰²

The secretary must then make a determination of significance of the data, and if determined to be significant, must “conduct or cause to be conducted a survey and other investigation of the areas which are or may be affected and recover and preserve such data (including analysis and publication).”¹⁰³ In other words, if any federal project may result in the destruction of archeological or historic data, that data must be examined to determine if it is significant, and if so, must be recovered or mitigated prior to the project taking place.

Following the data recovery, the secretary is directed to consult with local interested and qualified parties as to the disposition of the recovered data. Interested parties include “Federal and State agencies, educational and scientific organizations, and private institutions and qualified individuals.”¹⁰⁴ Interestingly, Section 469a-2d requires the federal government to compensate for the delay caused by the data recovery activities, unless the contract specifically stated that the federal government will not

¹⁰² Hutt, Blanco, and Varmer, *Heritage Resources Law*, 145; Frank Friedman, *Practical Guide to Environmental Management* (Washington, D.C.: Environmental Law Institute, 2003), 553-554.

¹⁰³ 16 USC § 469-469c; Hutt, Blanco, and Varmer, *Heritage Resources Law*, 145

¹⁰⁴ 16 USC § 469a-3b; Blumenthal, *Federal Historic Preservation Laws*, 48; Hutt and Blanco, *Cultural Property Law*, 24.

compensate in the event that a data recovery becomes necessary.¹⁰⁵ Therefore, it may be in the federal land manager's best interest to include such a clause in any and all contracts.

For the purposes of rock art management, the AHPA does not provide any protection that is not covered under the National Historic Preservation Act. However, the AHPA does provide options for funding the data recovery through the agency responsible for the construction project. The wording is such that it is an option of the controlling agency, but because the determination of significance is necessary to continue the project, it will not move forward until the investigation is complete.

AMERICAN INDIAN RELIGIOUS FREEDOM ACT OF 1978 AS AMENDED (42 USC § 1996 AND § 1996A) AND EXECUTIVE ORDER NO. 13007 "INDIAN SACRED SITES"

The American Indian Religious Freedom Act established the federal policy of tolerance towards American Indian religious practices, to include American Indian, Eskimo, Aleut, and Native Hawaiians. Specifically, the act directed all federal agencies that administer relevant laws to consult with applicable Native American religious leaders to evaluate all policies and procedures that may impact negatively Native American religious practices. In 1994, Congress amended the act to protect the use of peyote by certain Native American groups.¹⁰⁶ Because the AIRFA was widely considered to be ineffectual, President Bill Clinton attempted to correct some of the problems when he issued Executive Order 13007, "Indian Sacred Sites," in 1996.

¹⁰⁵ 16 USC § 469a-2d

¹⁰⁶ Jack Utter, *American Indians: Answers to Today's Questions* (Norman: University of Oklahoma Press, 2001), 155-158; Vine Deloria, Vine Deloria, Jr., and Clifford M. Lytle, *American Indians, American Justice* (Austin: University of Texas Press, 1983), 237-238.

Executive Order 13007 required federal agencies to use tribal standards when identifying sacred sites. Moreover, it required that federal agencies permit Native American groups to maintain control over information about the sites. In other words, the tribal governments could identify sacred sites but refrain from disclosing specific locations, purposes, and significance. Finally, the order recognized that Native American religious practices were not static, nor were sacred sites all of historic origin. Rather, the practices of Native American groups were evolving and sacred sites could therefore be of recent origin.¹⁰⁷ Rock art sites can therefore be the product of previous groups, the product of an extant group that no longer has a rock art tradition, or the product of an active tradition and still be considered to be a sacred site. Examples include the rock art of the Great Plains, which, though not part of the Lakota traditions are still recognized and honored as sacred sites, the rock art of the Cahuilla Indians of the Coachella Valley in Southern California, which though no longer actively practiced is still recognized as a sacred part of their tradition, and the rock art of the Kumeyaay people of Southern California, who actively make rock art during puberty rituals.¹⁰⁸

¹⁰⁷ Timothy Morgan, "American Indian Religious Freedom Act," in *Historical Dictionary of the 1970s*, ed. James Stuart Olson (Westport, CT: Greenwood Publishing Group, 1999), 34-35; Thomas F. King, *Places that Count: Traditional Cultural Properties in Cultural Resource Management* (Walnut Creek, CA: Rowman Altamira, 2003), 287; Bruce Elliott Johansen, *The Encyclopedia of Native American Legal Tradition* (Westport, CT: Greenwood Publishing Group, 1998), 267-268.

¹⁰⁸ Peter Neal Peregrine and Melvin Ember, *Encyclopedia of Prehistory: North America* (New York: Springer Science & Business, 2001), 303-304; Gary R. Varner, *Menhirs, Dolmen, and Circles of Stone: The Folklore and Magic of Sacred Stone* (New York: Algora Publishing, 2004), 162-164; Sundstrom, *Storied Stone*, 45-46; Shoemaker, *American Indians*, 187-188; Kelley Hays-Gilpin, *Ambiguous Images: Gender and Rock Art* (Walnut Creek, CA: Rowman Altamira, 2003), 91, 121; Sean Milanovich, personal communication to the author during a visit to the Corn Springs Rock Art Site; Gary Backhaus and John Murungi, *Symbolic Landscapes* (New York: Springer, 2008), 49-53.

For the federal land manager, the American Indian Religious Freedom Act is relevant only if Native American sacred sites, as defined by the AIRFA, are located on the federal or federally-controlled land. Land managers with such sites in their jurisdiction will want to consult with interested Native American groups to develop a programmatic agreement on the use of the sacred sites. Consultation for such an agreement should include both the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP).

Executive Order 13007 is a fairly straightforward directive that requires federal agencies to accommodate Native American access to sacred sites located on federally controlled properties for the purposes of conducting religious functions by Native American religious practitioners. The order makes several stipulations, however, that are critical to understanding the intent and the extent of the order. First, the practices performed at the sacred site must be legal and must not conflict with the essential functions of the federal agency. Further, the agency must protect the confidentiality and physical integrity of the site to the greatest extent possible. Sacred sites are those sites that are identified by either a recognized Indian tribe or by a representative of an Indian religion. To qualify as a sacred site, the site must have been previously identified to the agency by the Indian tribe or the authorized representative of the Indian religion.¹⁰⁹

Both the AIRFA and Executive Order 13007 have been repeatedly challenged in court, and in 1993 Congress passed the Religious Freedom Restoration Act of 1993 (42

¹⁰⁹ John Van Willigen, *Applied Anthropology: An Introduction* (Westport, CT: Greenwood Publishing Group, 2002), 214; Ann W. Duncan and Steven L. Jones, *Church-state Issues in America Today* (Westport, CT: Greenwood Publishing Group, 2008), 182.

USC § 2000bb-1 through 4) which was intended to limit government's ability to restrict religious practices, but it said little about religious sites.¹¹⁰ Despite the weakness of the three pieces of legislation, they nonetheless provide sufficient justification for the protection of sites indentified by Native American groups. Since rock art sites often have demonstrable history as sacred sites, it should not be difficult for land managers, historians, and archeologists to build a strong case for the protection of rock art sites as sacred sites.¹¹¹

ARCHAEOLOGICAL RESOURCES PROTECTION ACT OF 1979, AS AMENDED (16 USC § 470AA-MM)

The Archeological Resources Protection Act (ARPA) is probably the single most significant piece of legislation relating to the protection of archeological and historical artifacts, sites, and other heritage resources. The law recognizes that archeological resources are an “irreplaceable part of the Nation’s heritage” and that as commercially attractive commodities they are “increasingly endangered.”¹¹² As such it is the responsibility of each federal agency to protect and preserve the antiquities that are under their control. For the first time since the Antiquities Act of 1906 was enacted, a stiff penalty was imposed for the theft, defacement, or destruction of archeological resources. In addition, the ARPA defines other responsibilities and obligations, as well as authorities.¹¹³

¹¹⁰ Duncan and Jones, *Church-state Issues in America Today*, 279.

¹¹¹ Sundstrom, *Storied Stone*, 45-46; Shoemaker, *American Indians*, 187-188.

¹¹² 16 USC § 470(aa); Tsosie, “Indigenous Rights and Archaeology,” 69.

¹¹³ Hutt, Blanco, and Varmer, *Heritage Resources Law*, 188-190 .

Section 470(ee) is one of the sections with which an archeologist should be intimately familiar, as it defines the prohibited acts and the criminal penalties that can result from the commission of those acts. The ARPA stated that no one may:

- a) Excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands unless a permit has been issued for that activity
- b) Sell, purchase, exchange, transport, receive, or offer to sell, purchase, or exchange any archaeological resource if such resource was excavated or removed from public lands or Indian lands
- c) Sell, purchase, exchange, transport, receive, or offer to sell, purchase, or exchange, in interstate or foreign commerce, any archaeological resources excavated, removed, sold, purchased, exchanged, transported, or received in violation of any provision, rule, regulation, ordinance, or permit in effect under State or local law

In short, no one is allowed to do just about anything with any archeological resources without a permit issued by the controlling agency.¹¹⁴ A common misconception is that the ARPA allows the surface collection of “arrowheads” on public land. Section 470(ee)(g) stated “Nothing in subsection (d) of this section shall be deemed applicable to any person with respect to the removal of arrowheads located on the surface of the ground.”¹¹⁵ This statement has been interpreted to mean that the collection of arrowheads located on the surface of the ground is therefore not a prohibited act. However, subsection (d) covers only penalties for committing any of the prohibited acts; the collection of arrowheads or any other artifact on the surface are still prohibited under Section 470(ee), subsections (a), (b), and (c), which are listed above. Subsection (g),

¹¹⁴ Laurajane Smith, *Archaeological Theory and the Politics of Cultural Heritage* (New York: Routledge, 2004), 135-136.

¹¹⁵ 16 USC § 470(ee)(g); Dave Wilson, *Hiking Ruins Seldom Seen* (Guilford, CT: Globe Pequot, 2000), 4-5; Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 133-136.

therefore, does not exempt surface collection of arrowheads from the list of prohibited acts; it simply exempts the imposition of penalties for committing the act. Subsection (g) does not exempt the forfeiture of any illegally collected artifacts, either, which means that arrowheads collected from the surface on federal lands can be confiscated.¹¹⁶ For rock art sites that fact is significant, because historians and archeologists often cannot date rock art sites with any certainty. As a result, the dates for rock art sites are often dependent upon association with sites in proximity to the rock art.¹¹⁷ Though not entirely reliable as a dating method, even that information is lost when surface collectors remove the most critical artifacts, the diagnostic tools and projectile points, leaving little for historians and archeologists to use to determine when rock art was made, and why.

Penalties under the ARPA are significant and are not ambiguous, and help to serve as a deterrent against looting and vandalism. For violations of the prohibited acts in which the combined value of the items involved is valued at less than \$500, the penalty is up to \$10,000, up to a year in prison, or both. For violations in which the sum of the value of the items is greater than \$500, the penalty is a fine of up to \$20,000, up to two years in prison, or both. For a second violation the penalty is increased to up to \$100,000, up to five years in prison, or both. In addition, convicted violators forfeit any equipment or vehicles that were used to perpetrate the crime, meaning their car or truck,

¹¹⁶ USDA Forest Service - Deschutes & Ochoco National Forests, *Archaeological Resources Protection Act Fact Sheet*, <http://www.fs.fed.us/r6/centraloregon/heritage/arpafacts.shtml>.

¹¹⁷ Meighan, "Theory and Practice in the Study of Rock Art," 6; David S. Whitley, *Art of the Shaman: Rock Art in California*, (Salt Lake City: University of Utah Press, 2000), 22; Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 19-25.

shovels, metal detectors, sifting screens, GPS units, or any other tools or equipment, as well as all artifacts and other materials collected during the violation.¹¹⁸

To assist in the conviction of violations of the ARPA, § 470(gg) authorizes a reward for information about a violation of the ARPA that leads to a conviction. The reward is up to \$500, to be divided between those individuals who provide the information.¹¹⁹ This can be especially helpful for investigators working on theft cases, such as the case of John Ligon and Carroll Mizell, who were charged with stealing boulders containing rock art from the Humboldt-Toiyabe National Forest. A witness reported them when the witness saw the rock art boulders placed in front Ligon's home in Reno, Nevada.¹²⁰

The ARPA also provides land managers with authorization to protect the confidentiality of archeological site information, on the grounds that disclosing the information may "create a risk of harm to such resources or to the site at which such resources are located."¹²¹ Therefore, archeological data is exempt from Freedom of Information Act requests, citing the ARPA.¹²² This can be particularly important where rock art sites are concerned, because unlike many archeological sites, rock art sites are often easily visible and attract visitors, vandals, and thieves. Rock art sites are particularly vulnerable to defacement, but a larger danger is theft, as rock art panels

¹¹⁸ Hutt and Blanco, *Cultural Property Law*, 53; King, *Cultural Resource Laws and Practices*, 272; Sebastian, "Archaeology and the Law," 8.

¹¹⁹ Hutt and Blanco, *Cultural Property Law*, 232.

¹²⁰ Sherry Hutt, Marion Forsyth, and David Tarler, *Presenting Archaeology in Court: Legal Strategies for Protecting Cultural Resources*, (Walnut Creek, CA: Rowman Altamira, 2006), 135-136.

¹²¹ 16 USC § 470(hh); Hutt, Forsyth, and Tarler, *Presenting Archaeology in Court*, 236.

¹²² Hutt and Blanco, *Cultural Property Law*, 99.

wrenched from cliff faces can still fetch a high price on the antiquities market. Thieves are not above using rock saws to remove a particularly good panel, and rock art on boulders—especially boulders that can be lifted by one or two people—are particularly at risk.

The Archeological Resource Protection Act is not only about catching vandals and thieves, however. It is also instrumental in the accountability of archeological resources, and section 470(II) requires land managers to report annually to Congress on their management plans, including the number of ARPA violations that have occurred each year. The ARPA charges those land managers to develop a plan for surveying the land under their control, and developing a schedule for surveying those areas most likely to contain archeological resources. The agencies are also required to develop documentation for reporting ARPA violations by employees of the agencies.¹²³ Land managers should be conscious when developing their survey plan to include areas that are likely to contain rock art. Local models can be developed based upon known locations of rock art sites and incorporated into cultural resource management plans.

FREEDOM OF INFORMATION ACT OF 1982 (5 USC § 552)

The Freedom of Information Act, signed into law in 1982 and amended in 2002, requires that federal agencies to provide copies of records when requested, in writing, by

¹²³ National Park Service, “The Secretary's Report: Background and full list of reports,” <http://www.nps.gov/archeology/src/src.htm>; National Park Service, Federal Archeological Programs and Activities: The Secretary of the Interior's Report to Congress (Washington, D.C.: Archeological Assistance Program, National Park Service, Dept. of the Interior, 1987), 14.

a citizen or public organization.¹²⁴ However, under the Archaeological Resources Protection Act, an agency may protect the confidentiality of information relating to the nature and location of archeological sites.¹²⁵ This provision under the ARPA is codified in the 36 CFR § 800.6, Resolution of Adverse Effects, and § 800.11(c), Confidentiality. Under 36 CFR § 800.11c the agency may elect to preserve the confidentiality of archeological site information when disclosure may cause “a significant invasion of privacy, risk of harm to the historic property, or impede the use of a traditional religious site by practitioners.”¹²⁶

NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT OF 1990, AS AMENDED, (25 USC §§ 3001-3013) AND THE NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION REGULATIONS (43 CFR § 10)

President Clinton signed the Native American Graves and Repatriation Act (NAGPRA) into law in 1990. The purpose of the NAGPRA was to declare formally the rights of Native American groups, people of Native American descent, and Native Hawaiian groups in regards to Native American or Hawaiian human remains, cultural items, associated and unassociated funerary items, and items of cultural patrimony. The rights extend to all of those human remains, cultural items, associated and unassociated funerary items, and items of cultural patrimony that are excavated and unexcavated, but only to those individuals or groups that can reasonably demonstrate a cultural affiliation

¹²⁴ Christopher L. Henry, *Freedom of Information Act*, (New York: Novinka Books, 2003), 3-5; Mark Bridges and Tiffany Villager, *Justice Department Guide to the Freedom of Information Act: With Index and Table of Cases* (Buffalo, NY: Wm. S. Hein Publishing, 1992), 9.

¹²⁵ 16 USC § 470(hh); Hutt and Blanco, *Cultural Property Law*, 99; Hutt, Forsyth, and Tarler, *Presenting Archaeology in Court*, 236.

¹²⁶ 36 CFR § 800.6(c)(1)

with the remains or the items. Among other things, the NAGPRA also establishes criminal penalties for trafficking in human remains or specific sacred cultural items.¹²⁷

Several definitions are key to understanding the NAGPRA and its implications for federal land managers:

- *Cultural affiliation* means “a relationship of shared group identity which can be reasonably traced historically or prehistorically between a present day Indian tribe or Native Hawaiian organization and an identifiable earlier group.”¹²⁸
- The broad category *cultural items* subsumes a number of items, including associated funerary objects, unassociated funerary objects, sacred objects, and items of cultural patrimony.¹²⁹
- *Associated funerary objects* and *unassociated funerary objects* are defined as objects that can be reasonably determined to have been part of a burial ritual or death rite, either at the time of death or thereafter, and that can be associated with a particular burial or cultural group through a preponderance of evidence.¹³⁰
- *Sacred objects* are those items that are “needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present day adherents.”¹³¹
- Items of *cultural patrimony* are objects with historical, traditional, or cultural significance to the Native American group or culture, and cannot therefore be the property of an individual.¹³²

¹²⁷ Hutt and Blanco, *Cultural Property Law*, 25-26; Kathleen Sue Fine-Dare, *Grave Injustice: The American Indian Repatriation Movement and NAGPRA* (Lincoln, NE: University of Nebraska Press, 2002), 117-119.

¹²⁸ 25 USC § 3001; Blumenthal, *Federal Historic Preservation Laws*, 63; Robert H. McLaughlin, “NAGPRA, Dialogue, and the Politics of Historical Authority,” in *Legal Perspectives on Cultural Resources*, ed. Jennifer R. Richman and Marion Forsyth (Walnut Creek, CA: Rowman Altamira, 2003), 185-201.

¹²⁹ 25 USC § 3001.3(a) & (b); Hutt and Blanco, *Cultural Property Law*, 26-27; Gwen Yeaman, “Appraisal Evidence as Proof of Commercial Value,” in *Presenting Archaeology in Court: Legal Strategies for Protecting Cultural Resources*, ed. Sherry Hutt, Marion Forsyth, and David Tarler (Walnut Creek, CA: Rowman Altamira, 2006), 120-121.

¹³⁰ 25 USC § 3001.3(a) & (b); Hutt and Blanco, *Cultural Property Law*, 27; Yeaman, “Appraisal Evidence as Proof of Commercial Value,” in *Presenting Archaeology in Court*, 120-121.

¹³¹ 25 USC § 3001.3(c); Yeaman, “Appraisal Evidence as Proof of Commercial Value,” 120.

¹³² 25 USC § 3001.3(d); Hutt and Blanco, *Cultural Property Law*, 27; Yeaman, “Appraisal Evidence as Proof of Commercial Value,” 120.

Congress enacted the NAGPRA after years of protest by various groups as to the manner in which human remains, in particular, were handled by archeologists and other groups. The material remains of somewhere in the neighborhood of 20,000 Native Americans were stored at the Smithsonian Institution alone in various capacities as a result of donations, remains recovered as part of archeological excavations, and remains used for osteological studies. Many people, including many Native Americans and Native American groups, consider the collection of human remains as akin to grave robbing, even though some archeologists maintain that the collection is maintained for purely scientific and academic inquiry and research.¹³³ While the NAGPRA was intended to relieve the tension between scholars and native groups, in fact it has often inflamed that relationship, as evidenced by the debate of the Kennewick Man.¹³⁴ The debate was centered upon the racial identity of human remains that eroded out of a river bank near Kennewick, Washington in the American Northwest in 1996. Despite the fact that the American Anthropological Association took the position that race could not be defined or determined scientifically, five Native American groups, including the Nez Perce, Umatilla, Yakama, Wannapum, and Colville, claimed cultural patrimony of the remains and sought to rebury them by traditional means. The case went to court, and in February 2004, the United States Court of Appeals for the Ninth Circuit ruled that a cultural link between the tribes and the skeleton was not met, and allowed scientific study of the remains to continue. The debate was over more than the remains, however. The

¹³³ Fine-Dare, *Grave Injustice*, 117-118.

¹³⁴ David Hurst Thomas and Sarah Colley, *Skull Wars: Kennewick Man, Archaeology, and the Battle for Native American Identity* (New York: Basic Books, 2001), xix-xxx; Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 156-160.

Umatilla people claimed that since their creation belief stated that they had been in the region since the beginning of time, to reject their claim of patrimony was, in essence, a rejection of their creation story.¹³⁵

Despite occasional disputes, NAGPRA acknowledges the right of native groups to determine how human remains, cultural items, associated and unassociated funerary items, and objects of cultural patrimony to which they can establish a cultural affiliation are treated and where they are interred or stored.¹³⁶ Since rock art is typically immobile, and has, for the most part, not been directly associated with any burials or identifiable religious practices, it is generally not the subject of a NAGPRA repatriation. In addition, rock art is protected under other, more applicable legislation, and the preservation practices used for rock art are more appropriately implemented under the requirements of the National Historic Preservation Act or the Archaeological Resources Protection Act. For federal land managers overseeing a rock art site, therefore, it is important to understand the NAGPRA from a perspective of what is not included in the definitions of cultural items, and why a rock art site would not fall under the auspices of the NAGPRA except under unique circumstances.¹³⁷

¹³⁵ Thomas and Colley, *Skull Wars*, xix-xxx, 111; Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 165-173.

¹³⁶ Hutt and Blanco, *Cultural Property Law*, 25-34.

¹³⁷ Milan Princ, "Czechoslovakia," in *Approaches to the Archaeological Heritage: A Comparative Study of World Cultural Resource Management Systems*, ed. Henry Cleere (Cambridge: Cambridge University Press, 1984), 16-17.

THEFT OF GOVERNMENT PROPERTY (18 USC § 641) AND PROHIBITIONS UNDER TITLE 36 CFR 261.9

As with the Convention on Cultural Property, the Theft of Government Property is a useful statute only after a site has been looted. Criminals who have plundered a site but that have disposed of the more valuable items can often be charged under theft of government property if an investigator can effectively demonstrate that property in the possession of the alleged looter was taken without permission from federal land. Title 18 United States Code, Section 641, Public money, property or records, prohibits embezzling, stealing, purloining, or converting to the use of the individual or another individual “any record, voucher, money, or thing of value of the United States or of any department or agency thereof,” as well as receiving or transporting any item known to have been stolen, purloined, or converted to private use. In other words, anyone removing federal property, to include any archeological artifacts, without prior approval can be charged under 18 UCS § 641.¹³⁸ Conviction under 18 UCS § 641 carries with it a fine, up to ten years in prison, or both, unless the value of the item is less than \$1,000.00, in which case the maximum sentence is a fine and/or up to one year in prison.¹³⁹

In addition, Title 36 of the Code of Federal Regulations, Section 261.9(h), Property, specifically prohibits “Removing any prehistoric, historic, or archaeological resource, structure, site, artifact, property,” which includes any and all surface collection. Therefore, any individual that removes any cultural resource or artifact can also be

¹³⁸ Hutt, Forsyth, and Tarler, *Presenting Archaeology in Court*, 135.

¹³⁹ Lynne Chaffanch, “The Federal Bureau of Investigation’s Art Theft Program,” in *The Strategic Stewardship of Cultural Resources: To Preserve and Protect*, ed. Andrea T. Merrill (Philadelphia: Haworth Press, 2003), 95-97.

prosecuted for theft under 36 CFR § 261.9. Penalties for a conviction under 36 CFR § 261.9 are a fine of not more than \$500 or imprisonment of not more than 6 months or both.¹⁴⁰

The laws protecting federal property from theft can be useful if a rock art site has been looted, even if the criminal has disposed of the larger pieces of art. Artifacts still in the possession of the looter that can be linked to the looted site can be used to prosecute under 18 UCS § 641, Theft of Government Property, or 36 CFR 261.9, Property. Investigators can obviously easily link looted rock art that has been removed from a rock face. Looted boulders, however, are more difficult. For that reason, land managers *must* have inventoried rock art sites thoroughly, so that should looters steal a boulder adorned with rock art, prosecutors can use the rock art site records as evidence.¹⁴¹ In addition to serving as evidence, good sited records provide a basis for determining market value for looted objects, as well. In the case against John Ligon and Carroll Mizell, the federal government made a case for theft of government property. However, the conviction was overturned when a Ninth District Court judge determined that the Justice Department had not established a value for the rock art.¹⁴²

EXECUTIVE ORDER 13287: “PRESERVE AMERICA”

On March 3, 2003, President George W. Bush signed Executive Order 13287, the *Preserve America* initiative. The intent of the order was to ensure that all federal

¹⁴⁰ Chaffanch, “The Federal Bureau of Investigation’s Art Theft Program,” 95-97.

¹⁴¹ Ibid, 98-100.

¹⁴² Scott Sonner, “Ancient rock art returning to mountainside - Three etched boulders that were illegally moved in Nevada are going home. Officials hope education will protect them this time,” *Los Angeles Times*, September 16, 2007, sec B-7; Hutt, Forsyth, and Tarler, *Presenting Archaeology in Court*, 135-137.

agencies take appropriate steps to accomplish several goals with regard to historic properties, including building partnerships with state and local governments, improve planning and accountability, improving federal stewardship, and promoting preservation through heritage tourism.¹⁴³ For the purposes of the executive order, the definition of historic properties is identical to that defined in the National Historic Preservation Act; that is “any prehistoric or historic district, site, building, structure, and object included on or eligible for inclusion on the National Register of Historic Places.”¹⁴⁴ Although the policy was envisioned as a cooperative effort among the Advisory Council on Historic Preservation, the departments of the Interior, Commerce, Agriculture, and Housing and Urban Development, the Department of Defense, as a federal agency, is also bound by the order. In the text of the order, the President directs all federal agencies to “maximize efforts to integrate the policies, procedures, and practices of the NHPA and this order into their program activities in order to efficiently and effectively advance historic preservation objectives in the pursuit of their missions.”¹⁴⁵ In other words, the President is making it a federal priority to integrate the objectives of the NHPA into the daily activities of every agency. Further, every agency was required to bring their management plans into compliance with the National Historic Preservation Act by September 30, 2004.¹⁴⁶

¹⁴³ King, *Cultural Resource Laws and Practices*, 30-31, 36; Hutt and Blanco, *Cultural Property Law*, 37.

¹⁴⁴ Nicholas A. Robinson, *Environmental Regulation of Real Property* (New York: Law Journal Press, 1982), 6-13.

¹⁴⁵ EO 13287 § 1

¹⁴⁶ EO 13287 § 3; King, *Cultural Resource Laws and Practices*, 30-31.

While rock art resources are generally easily protected under the other statutes, such as the NHPA and the ARPA, the impact of EO 13287 can be felt in other areas. Section 5 provides for funding for public outreach programs, particularly where they are the result of partnerships with state, local, and tribal governments. The cooperative effort is explicitly directed in Section 2 of the order, which requires federal agencies to, wherever possible and practical,

seek partnerships with State and local governments, Indian tribes, and the private sector to promote local economic development and vitality through the use of historic properties in a manner that contributes to the long-term preservation and productive use of those properties.¹⁴⁷

In other words, federal agencies are expected to work with state, local, and tribal governments to actively pursue public outreach programs that are economically self-sufficient and helps to support the preservation of the resource. In addition, federal funding is available through the Preserve America Initiative federal program, through the Cooperative Conservation Initiative, the Economic Development Administration, and the Save America's Treasures Grants administered by the National Park Service.¹⁴⁸ Rock art sites, in general, are excellent candidates for such programs as they fall under a great deal of the legislation discussed above.

CONCLUSION

While all of the laws discussed above are important to a federal land manager, some are more frequently used than others. Of all of the laws discussed, the land manager would be well-advised to focus on the National Historic Preservation Act—in

¹⁴⁷ EO 13287 § 2

¹⁴⁸ *Preserve America*, www.preserveamerica.org/federalsupport.html; King, *Cultural Resource Laws and Practices*, 30-31; Hutt and Blanco, *Cultural Property Law*, 37.

particular Sections 106 and 110—, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act. These three laws currently have the greatest impact on cultural resources management within the federal government. For rock art sites on federal land it is often only the NHPA and the ARPA that come to bear; however, it is not impossible that the NAGPRA may also be applicable.

Federal land managers would also be well-advised to ensure that their legal offices are supplied with a list of applicable laws, and provided with an explanation of the land manager's duties and responsibilities. A legal office that is pre-armed with the necessary legislation and other information will be better able to serve the needs of the land manager, should the need arise. Each agency organizes their legal counsel in different ways, including a general counsel, an enforcement counsel, and others, such as a real estate counsel. Some agencies may have dedicated cultural and natural resources staff lawyers, while others may not. Land managers should make an effort to educate themselves on the organization of his or her legal hierarchy, in order to be better prepared should the need for legal counsel arise.

In addition, law enforcement officers on federal installations may, or may not, have had any training in natural or cultural resources laws and law enforcement. Land managers should make an effort to educate the law enforcement community, as well.

Training is available to federal employees for cultural resources management, through courses offered by the Civil Engineer Corps Officers School (CECOS), the Advisory Council on Historic Preservation (ACHP), and the National Park Service

(NPS), as well as other federal agencies and private companies. Training is not restricted to cultural resources managers; it is intended for any federal employees whose job requires interaction with cultural resource management personnel or with the cultural resources themselves.

Finally, this guide is not intended to provide the land manager with all of the information concerning the laws that are generally applicable to cultural resource management, nor is it intended to replace other existing discussions of cultural resource management law. Instead, it is intended as a general overview of cultural resource law, with a view specifically towards how those laws are applied in the management of rock art sites on federal or federally-controlled land. The author strongly encourages all federal land managers or other federal employees that regularly deal with cultural resources and rock art to fully educate themselves in the applicable laws. While hopefully helpful, this guide should serve only as a starting point.

AN OVERVIEW OF SIGNIFICANT ROCK ART RESEARCH IN THE GREAT BASIN

Rock art has long captured the imagination of the general population. Rock art includes images pecked, inscribed, or painted onto rock surfaces, prehistorically and historically. Rock art is divided into two primary types: petroglyphs and pictographs. This paper is concerned with those forms of rock art that were made by groups native to the Great Basin of North America.

Ironically, the people who could do the most with rock art, archaeologists, often view the study of rock art as something of a fringe study, one that is, at best, the purview of another discipline, such as art history, or, at worst, the domain of crackpots.¹⁴⁹ Many reasons are offered for this neglect, but the most probable is that archaeologists prefer to deal with the concrete, quantifiable data of excavation, rather than the nebulous, uncertain nature of rock art. In addition, rock art in North America is difficult to date. Rock art scholars and researchers in North America do not have the advantage of having the charcoal sticks that the Paleolithic artists in Europe and Africa left lying at the base of the cave wall after completing sketches of bison or rhinoceros. A third reason is that rock art often lacks order and structure, making analysis difficult and uncertain.¹⁵⁰ But as stated by Clement Meighan, an archaeologist and pioneer of rock art studies in the 1950s and 1960s, “Whatever else it may be, rock art is a part of the archaeological record, and

¹⁴⁹ Hays-Gilpin, *Ambiguous Images*, 2-3.

¹⁵⁰ Polly Shaafsma, *Indian Rock Art of the Southwest*, (Santa Fe, New Mexico: School of American Research, 1980), 5.

where it occurs it must be fitted into the archaeology of a given region”¹⁵¹ For that reason alone, archaeologists and historians have a responsibility to record, analyze, and preserve rock art as they would any other historic resource.

In spite of the reputation of rock art among some, other scholars have recognized the value of the cultural heritage left on the rocks by past peoples. While North American rock art does not necessarily have the spectacular visual impact of the Paleolithic cave paintings of Europe, it is nonetheless a valuable record of an aspect of numerous Native American cultures. The study of rock art can offer added insight into the spiritual or cognitive realms as few other artifacts can. Rock art is unique in that it provides a glimpse into aspects of prehistoric life that are otherwise unavailable. Polly Schaafsma notes that rock art can provide insight into cosmologies and mythic systems, and can provide data on cultural relationships, patterns of communication, and evidence of cultural interaction.¹⁵² Furthermore, Kelley Hays-Gilpin, a noted California archeologist and rock art researcher, stated that rock art is “a reminder of our common humanity and creativity and a sign of our cultural differences.”¹⁵³ Rock art is

This chapter provides an overview of research works on rock art in the Great Basin since the mid-nineteenth century. This will provide a guide toward a larger and more complete, not to mention complex, body of literature on the subject of Great Basin rock art. Federal historians, archaeologists, and land managers who have rock art sites on the lands they administer, but who have little or no experience with the topic, will benefit

¹⁵¹ Meighan, “Theory and Practice in the Study of Rock Art,” 6.

¹⁵² Schaafsma, *Indian Rock Art of the Southwest*, 3.

¹⁵³ Hays-Gilpin, *Ambiguous Images*, 209.

most from the discussion. Overviews of rock art studies in the Great Basin have been done more thoroughly by a number of authors, particularly David Whitley, Robert Heizer, and C. W. Clewlow, Jr.¹⁵⁴ With the number of reports about rock art that have been published or otherwise disseminated, it would not be practical, nor possible, to generate a definitive guide to all of the available literature. Therefore the approach taken in this chapter is to provide a summary of the most important, or at least most influential, books or papers that are readily available to rock art researchers.

Because of the overwhelming complexity and sophistication of the number of the arguments about the meaning of rock art, particularly those developed in the last twenty years, it was often necessary to simplify, perhaps *oversimplify*, the arguments, in order to make the subject manageable. In addition, major objections to many of the theories have been minimized or completely omitted, since this paper is not intended to debate, nor to promote a particular viewpoint. The exceptions are those cases where a particular approach or idea has later been shown to be erroneous, or when an author has made significant contributions to rock art studies by refuting a particular theory.

In 1849, Joseph Goldsborough Bruff, a draughtsman for the Bureau of Topographical Affairs, organized and led an expedition to California during the height of the gold rush.¹⁵⁵ Bruff kept an extremely detailed and accurate record of the entire expedition, including one of the first known written accounts of Great Basin petroglyphs.

¹⁵⁴ Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 109-174; David S. Whitley, *Handbook of Rock Art Research* (Walnut Creek, California: AltaMira Press, 2001); Whitley, *Introduction to Rock Art Research*; David S. Whitley, *Art of the Shaman* (Salt Lake City, Utah: University of Utah Press, 2000); Heizer and Clewlow, *Prehistoric Rock Art of California*, 9.

¹⁵⁵ Georgia Willis Read and Ruth Gaines, eds., *Gold Rush: The Journals, Drawings, and Other Papers of J. Goldsborough Bruff* (New York, NY: Columbia University Press, 1949), xv.

In northeastern California, within view of Mount Shasta, Bruff and his companions entered a “very remarkable Defile.”¹⁵⁶ Later identified by Georgia Raines as Upper Smoke Creek Canyon near Susanville in Lassen County, Bruff found the walls of the small canyon covered with “strange and *ancient Hie[r]oglyphical Syymbols!*”¹⁵⁷ Bruff noted that the petroglyphs appeared even then to be very worn and old, and were in some places nearly obliterated, despite having been carved into basalt.

I pictured several of the most distinct groups of symbols, and some look much like the Egyptian; But was compelled to have a friend at my elbow, with ready rifle, to look out for Philistines while I sketched.¹⁵⁸

Bruff noted that in close proximity to some of the petroglyphs was a small structure built of pickets and rushes, which he assumed was a hunting blind. Bruff thought the blind was positioned so that a hunter within could shoot at deer or other animals that came to the creek to drink.¹⁵⁹

¹⁵⁶ Ibid, 423.

¹⁵⁷ Ibid, 424.

¹⁵⁸ Read and Gaines, *Gold Rush*, 424.

¹⁵⁹ Ibid.

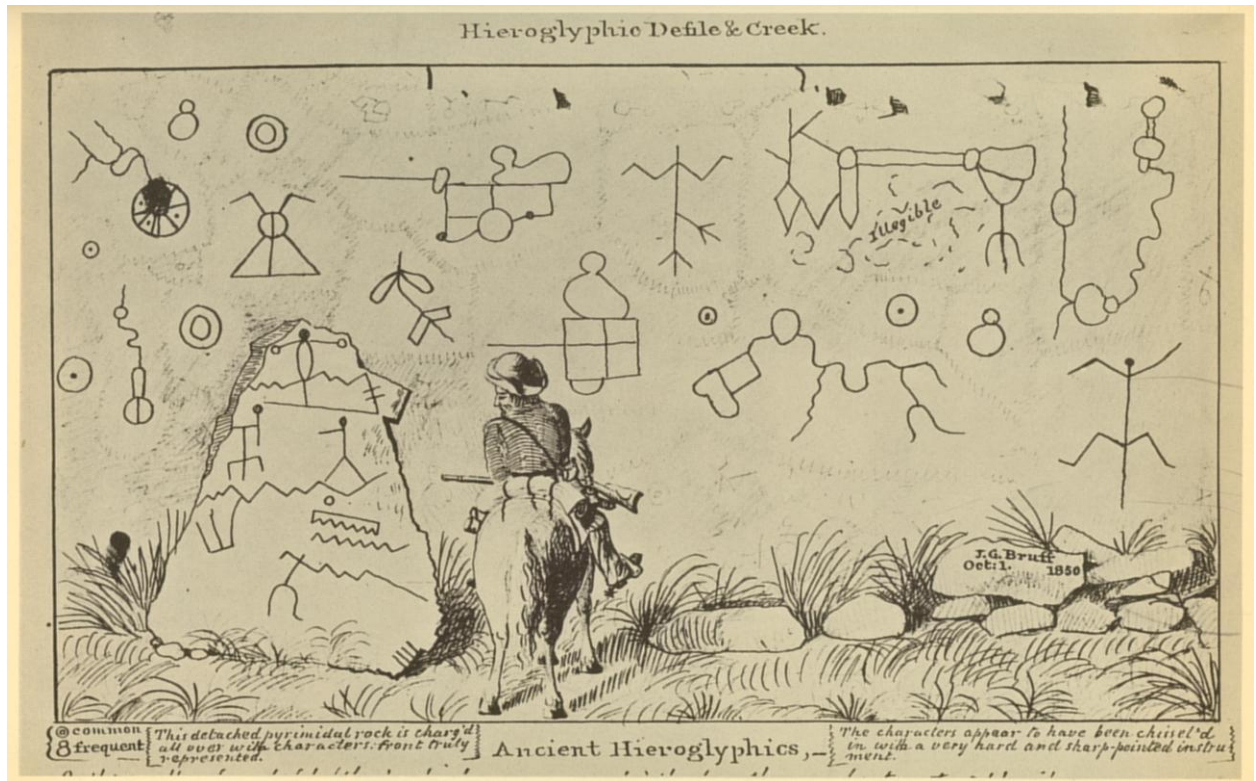


Figure 4. “Hieroglyphic Defile and & Creek” as sketched by J. Goldborough Bruff in October, 1850 (after Read and Gaines 1949).

Bruff’s documentation of the petroglyphs in Upper Smoke Creek Canyon was significant in that he made an attempt to represent accurately the symbols he saw, but he was not an anthropologist or archaeologist, and his attitudes towards Native Americans is evident in his reference to them as “Philistines.” He made no attempt at scholarly inquiry into the petroglyphs. Rather, Bruff thought of the rock art merely a curiosity he had encountered on his trip, perhaps making for a good story, but not for any serious inquiry.

In 1893 retired Army Colonel Garrick Mallery wrote the monumental *Picture Writing of the American Indians*, originally published as a report to the Bureau of Ethnology (renamed the Bureau of American Ethnology in 1897 to emphasize the geographic limit of its interests). Mallery’s work constitutes the first scholarly work on

rock art, and heavily illustrated with almost 1300 figures, represents a monumental work.¹⁶⁰

Mallery, a graduate of Yale and the University of Pennsylvania, served as an Army officer for 18 years. In 1876, Mallery assumed command of Fort Rice in North Dakota, where he became interested in the pictographs and mythology of the Lakotas. In 1877, Mallery assisted Major John Wesley Powell's expeditions to retrace the route Powell had taken on an earlier expedition, and to produce accurate maps of the Rocky Mountains. Mallery's assignment while serving with Powell was to gather ethnographic records.

Two years later in 1879, Congress appointed Powell as the founding Director for the newly formed Bureau of Ethnology. Congress initially formed the Bureau of Ethnology under the Geographical and Geological Survey of the Rocky Mountain Region to transfer records on the Indians of North America from the Interior Department to the Smithsonian Institute. Powell, however, had other plans. He greatly expanded the mission of the organization to sponsor ethnographic, archaeological and linguistic field research, and to produce a set of detailed publications (most notably its Annual Reports and Bulletins). The Bureau also actively promoted the new academic discipline of anthropology. Powell appointed Mallery a field ethnographer, a position for which he was admirably suited.

¹⁶⁰ Garrick Mallery, *Picture-writing of the American Indians: Tenth Annual Report to the Bureau of Ethnology, 1888-1889* (Washington, D.C.: Government Printing Office, 1893; reprint, Denver: Courier Dover Publications, 1972), 5-23 (page citations are to the reprint edition); Edward J. Lenik, *Picture Rocks: American Indian Rock Art in the Northeast Woodlands* (Hanover, NH: University Press of New England, 2002), 2-3.

As an anthropologist, Mallery was heavily influenced by the prominent theorists of his time, including Herbert Spencer and Lewis Henry Morgan. Herbert Spencer is best known for his theory of cultural evolution, closely patterned on Darwin's theory of biological evolution. Spencer coined the term "survival of the fittest," a term he borrowed from Auguste Comte. Charles Darwin, who shared his manuscript of *On the Origin of Species* with Spencer, also borrowed the term. While Darwin applied the term to the genetically inherited traits, Spencer applied it to economic and social factors that allowed one culture to gain ascendancy over another.¹⁶¹ Morgan, whose ideas closely corresponded with Spencer's, is best known for his development of the linear scheme of social evolution, which prescribed three stages of the development of cultures—savagery, barbarism, and civilization—through which he believed all societies passed.¹⁶²

In keeping with the ideas of Spencer and Morgan, Mallery theorized that rock art represented a stage in the development of writing, falling between hand gestures and alphabets. Specifically, Mallery and other anthropologists of the time viewed the development of an alphabet as one of the divisions between barbarism and civilization. Mallery classified rock art as *picture writing*, as the title of his book suggests. Mallery defined picture writing as a system of *ideograms*, symbols that represented ideas, or

¹⁶¹ Roger A. Salerno, *Beyond the Enlightenment: Lives and Thoughts of Social Theorists* (Westport, CT: Praeger, 2004), 37-31.

¹⁶² Meyer Fortes, *Kinship and the Social Order: The Legacy of Lewis Henry Morgan* (London: Routledge, 1970), 4-6; Jerry D. Moore, *Visions of Culture: An Introduction to Anthropological Theories and Theorists* (Walnut Creek, California: AltaMira Press, 2008), 18-32; Bruce G. Trigger, *Sociocultural Evolution: Calculation and Contingency* (Oxford: Blackwell Publishing, 1998), 57-77; Jonathan Haas, *From Leaders to Rulers* (New York: Kluwer Academics/Plenum Publishers, 2001), 4-5; Robert Leonard Carneiro, *Evolutionism in Cultural Anthropology: A Critical History* (Boulder, CO: Westview Press, 2003), 5-9, 27-33.

pictograms, symbols that represent actual objects. Ideograms did not necessarily correlate on a one-to-one basis with a spoken language and were interpreted rather than read. Ideograms could therefore be interpreted in multiple ways and likely only the author could give a definitive interpretation. Though specific ideograms may be shared within groups, the meaning of ideograms could also shift over time, even within the same culture.¹⁶³ Mallery believed that the meaning of the petroglyphs and pictographs he encountered were known only to the author or artist, or possibly to his or her group.¹⁶⁴

He admitted that it

is not probable that much valuable information will ever be obtained from ancient rock carvings or paintings, but they are important as indications of the grades of culture reached by their authors, and of the subjects which interested those authors...¹⁶⁵

Mallery's contribution to the study of rock art is the recognition that it could help provide an understanding of a group's belief system, though for him it also suggested a path by which scientists could better understand the "evolution of the human mind."¹⁶⁶

Mallery advocated an intensive survey to determine the geographic distribution of symbols in order to conduct a synoptic study and comparison, and incorporating that data

¹⁶³ Carl G. Liungman, *Thought Signs: The Semiotics of Symbols: Western Non-pictorial Ideograms* (Fairfax, VA: IOS Press, 1995), 553; Jean Bottéro, Clarisse Herrens Schmidt, and Jean Pierre Vernant, *Ancestor of the West: Writing, Reasoning, and Religion in Mesopotamia, Elam, and Greece*, trans. Teresa Lavender Fagan (Chicago: University of Chicago Press, 2000), 76; Akira Nakanishi, *Writing Systems of the World: Alphabets, Syllabaries, Pictograms* (Rutland, VT: Tuttle Publishing, 1990), 111.

¹⁶⁴ William A. Smith, *The Reading Process* (New York: MacMillan Co., 1922), 29-33.

¹⁶⁵ Mallery. *Picture Writing of the American Indians*, 27-28.

¹⁶⁶ *Ibid*, 28.

into the larger continuum of human behavior.¹⁶⁷ In contrast to the generally dismissive attitudes of other anthropologists of his day, Mallery stated that:

Distrust concerning the actual significance of the American petroglyphs may be dispelled by considering the practical use of similar devices by historic and living Indians for purposes as important to them as those of alphabetic writing, these serving to a surprising extent the same ends.¹⁶⁸

Mallery's report covered a significant portion of North America and Canada, and included examples from around the world, as well. He included extensive ethnographic interviews and reports, but his work remained primarily a survey of extant rock art sites, and a record of the variability of symbols and elements. Mallery made few attempts to map the distributions of individual elements or to make any interpretations. Nonetheless, Mallery's work stands as a seminal study of rock art.¹⁶⁹

In 1929, Julian Steward performed the first truly scholarly analysis of rock art in *Petroglyphs of California and Adjacent States*. Steward is better known for his intensive ethnographic work with the Shoshone, and for his theories of multilineal cultural evolution and cultural ecology. However, his research into the variation and distribution of rock art styles and symbols provided a solid basis for all future rock art research.¹⁷⁰ In his examination of rock art, Steward analyzed patterns in culture, the same rationale he

¹⁶⁷ Pearson, *Shamanism and the Ancient Mind*, 54-57.

¹⁶⁸ *Ibid*, 28.

¹⁶⁹ David S. Whitley, "Rock Art and Rock Art Research in Worldwide Perspective," in *Handbook of Rock Art Research*, ed. David S. Whitley (Walnut Creek, California: AltaMira Press, 2001), 11-13; Lenik, *Picture Rocks*, 2-3.

¹⁷⁰ Julian Haynes Steward, *Theory of Culture Change: The Methodology of Multilineal Evolution* (Urbana: University of Illinois Press, 1972); Moore, *Visions of Culture*, 194-203; Carneiro, *Evolutionism in Cultural Anthropology*, 110-114; Trigger, *Sociocultural Evolution*, 126-129.

applied to his more well-known theories on cultural evolution. Rather than attempting to interpret individual sites or elements, Steward instead cataloged 290 sites and conducted a systematic analysis of the individual elements. His research covered California, Utah, Arizona, and Nevada, plus portions of Colorado and New Mexico. Through his analysis, Steward felt confident enough to divide the area of study into four style areas, labeled A through D (Figure 4). The Great Basin fell into Areas A and B. The rock art found in these two areas consisted almost entirely of petroglyphs, while rock art found in areas C and D consisted primarily of pictographs.¹⁷¹

Steward's analysis consisted of identifying and plotting the distribution of fifty individual rock art elements to attempt to define style areas, though he admitted that any further analysis was beyond the scope of his investigation. In addition, he noted that the selection of fifty elements for the study "by no means exhaust[ed] the design components."¹⁷² As well as identifying what he believed were style areas, Steward defined two particular rock art styles, which he called rectilinear and curvilinear abstract. As the names imply, rectilinear abstract consisted of abstract designs with predominantly rectangular elements, such as grids, crosshatch patterns, angular meanders,

¹⁷¹ Steward, *Petroglyphs of California and Adjoining States*, 177

¹⁷² Steward, *Petroglyphs of California and Adjoining States*, 177; Pearson, *Shamanism and the Ancient Mind*, 54-57.

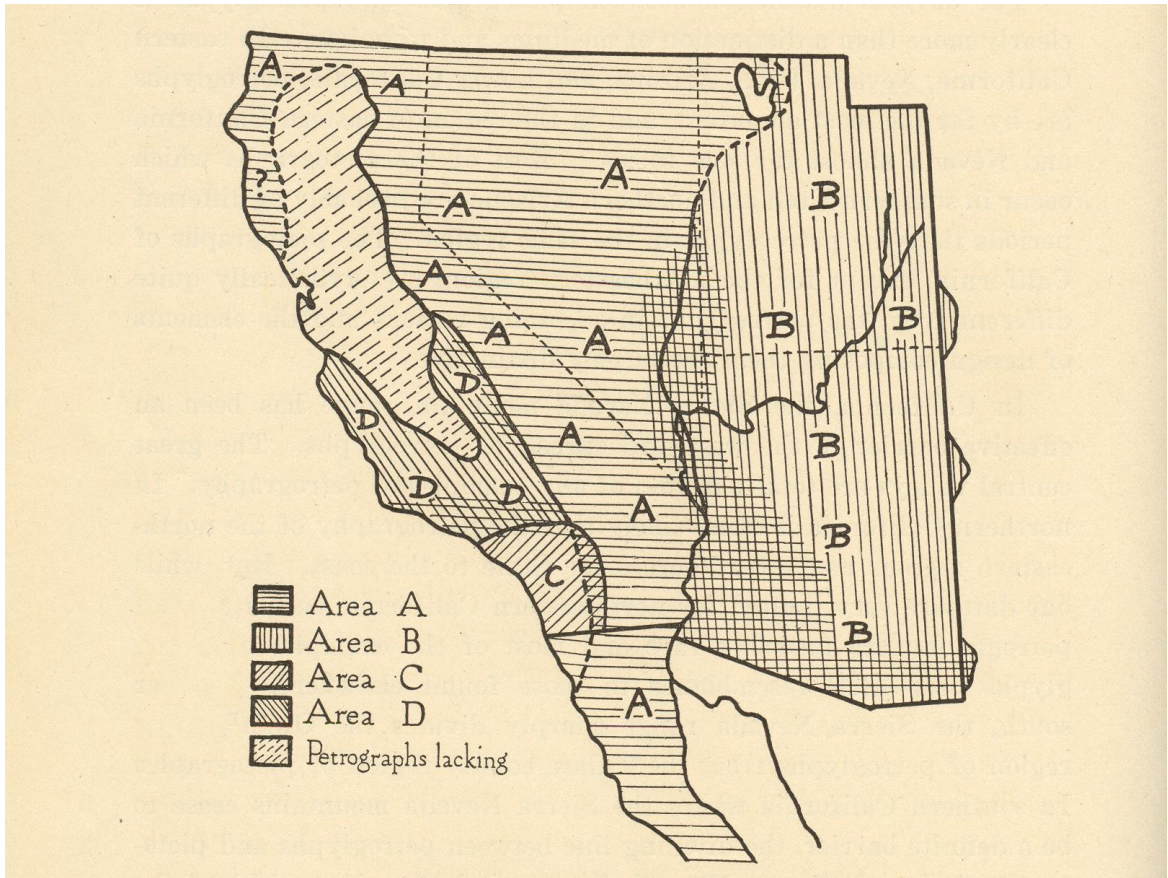


Figure 5. Map of rock art areas as defined by Steward (1929).

concentric diamonds, and other predominantly straight or squared off elements. The curvilinear abstract style consisted of predominantly curving elements, including bisected circles, concentric circles, connected circles, spirals, circle chains, so-called sun disks (consisting of a hollow circle with three or more lines radiating from the outside), curvilinear meanders, and so forth. Due to the superposition of rectilinear elements over curvilinear elements when the two coincide, Steward postulated that the curvilinear style predated the rectilinear style. Steward also identified both anthropomorphic and zoomorphic elements, which he divided into human figures, quadrupeds, mountain sheep,

hands, human or bear tracks, sheep horns, bird tracks, lizards, pelts, many-legged insects, horned toads, men on horseback, horned humans, birds, and Katchina-like figures.¹⁷³

Even after the extensive effort to map the distribution of the various elements and to divide the distribution into the four style areas, Steward concluded that very little else could be concluded at that point. He noted that areas A and B shared many similarities, which might suggest a relationship between the areas culturally. He hazarded a guess at the age of the petroglyphs in areas A and B at 1500-2000 B.C. He based his dating on the association between the rock art sites and other nearby sites or structures that dated to those periods, and to the amount of desert varnish that had formed on the elements. He noted, however, that some of the elements clearly dated to within 400 years due to the depiction of men on horseback present at some sites.¹⁷⁴

The presence of horses clearly illustrated an important tool in dating rock art. Certain elements can help to date the rock art to a point in history, particularly the technology or subjects depicted.¹⁷⁵ For example, the bow and arrow were introduced into the Great Basin around 1500 years ago, at which point they relatively rapidly replaced the use of the *atlatl*, or spear thrower. The presence of *atlatl* symbols (in itself an interpretation) in rock art sites such as the Coso petroglyphs would seem to suggest, therefore, that the Coso petroglyphs predates the introduction of the bow and arrow. It is equally possible, however, that the symbol persisted long after the technology was no

¹⁷³ Steward, *Petroglyphs of California and Adjoining States*, 177; Pearson, *Shamanism and the Ancient Mind*, 54-57.

¹⁷⁴ Steward, *Petroglyphs of California and Adjoining States*, 177; Whitley, "Rock Art and Rock Art Research in Worldwide Perspective," 12-13.

¹⁷⁵ Grace Rajnovich, *Reading Rock Art: Interpreting the Indian Rock Paintings of the Canadian Shield* (Toronto: Dundurn Press Ltd., 1994), 41-56; Keyser and Klassen, *Plains Indian Rock Art*, 17-18.

longer in use. The presence of atlatl symbols, therefore, cannot be treated as a reliable *terminus ante quem* (literally, “a point before which”). Bow and arrow symbols, however, can be used as reliable *terminus post quem* (a point after which), as can other symbols of the post-*entrada* period, such as depictions of men on horseback, men wearing cowboy hats, and so forth. Simply put, the bow and arrow symbols can be related to the discovery of coins. Obviously a coin found with a date of 1966 could not have been deposited before 1966. Therefore the date of 1966 serves as a reliable *terminus post quem*, or a date after which the coin must have been deposited.¹⁷⁶ Similarly, the bow and arrow symbols could not have been made before the introduction of the bow and arrow in a given region. Conversely, the absence of the bow and arrow symbols and the presence of atlatl symbols does *not* necessarily imply that the rock art site was made at a point *before* the introduction of the bow and arrow (and therefore is not a reliable *terminus ante quem*).¹⁷⁷ Since areas C and D consisted primarily of pictographs, which erode and degrade relatively easily, Steward argued that they were of a significantly more recent origin. He did not believe that some of those in area D could be more than one hundred years old, based upon the degree of weathering observed within the five years since the sites had been regularly monitored.¹⁷⁸

One of the most important aspects of Steward’s pioneering research, however, was to note the fact that the repetition of design elements across a large area could not be coincidental. The repeated distribution that Steward recorded dispelled one of the

¹⁷⁶ Peter Drewett, *Field Archaeology: An Introduction* (New York: Routledge, 1999), 122-124.

¹⁷⁷ Pearson, *Shamanism and the Ancient Mind*, 80-82.

¹⁷⁸ Steward, *Petroglyphs of California and Adjoining States*, 229-235.

predominant theories of the time, namely that much of the rock art was simply “meaningless figures made in idle moments by some primitive artist.”¹⁷⁹

While some of the practices advocated by Steward have since been proven to be detrimental to rock art, such as using chalk to better define petroglyphs for the purpose of photography, nonetheless, Steward demonstrated that rock art could be a legitimate field of study. In a break from the conventional thinking of the time, Steward proved that rock art was a valuable archaeological resource. Important information about the cultures of the people who made the art could be derived if scholars knew how to look at the art and what questions to ask.¹⁸⁰

Little more was done with rock art for the next twenty years, until in 1948 the Department of Anthropology at the University of California at Berkeley established the University of California Archaeological Survey. One of the main goals of the newly created Survey, as it was known, was to assess the current state of archaeological knowledge in the State of California. The Survey produced 74 reports between 1948 and 1968. The third report in the series, *Methods of Recording and Present Status of Knowledge Concerning Petroglyphs in California*, by Franklin Fenenga published in 1949, indicated that rock art was becoming accepted as an archaeological resource and an area of legitimate study.¹⁸¹ A number of subsequent reports focused on rock art (six others, in all), but it would be another 10 years before any further concerted attempt was

¹⁷⁹ Steward, *Petroglyphs of California and Adjoining States*, 229-235; Whitley, “Rock Art and Rock Art Research in Worldwide Perspective,” 11-13; Hays-Gilpin, *Ambiguous Images*, 2.

¹⁸⁰ Steward, *Petroglyphs of California and Adjoining States*, 53-54; Hays-Gilpin, *Ambiguous Images*, 112-113.

¹⁸¹ Franklin Fenenga, “Methods of Recording and Present Status of Knowledge Concerning Petroglyphs in California,” *Reports of University of California Archaeological Survey* 3 (1949):1-9.

made to date or interpret the rock art of California and the Great Basin. Though data was continuously collected during the period at the University of California, Berkeley, it was not until 1958 that Baumhoff, Heizer and Elsasser expanded on Steward's work. They attempted to refine the chronology and distribution of the curvilinear and rectilinear styles defined by Steward, but also expanded the styles to include pit-and-groove petroglyphs. Pit-and-groove petroglyphs are a rock art form that is relatively unique to the Great Basin, consisting of deeply ground cup-shaped holes, or pits, and deep incised grooves. The grooves frequently connect the pits in long lines. Steward included illustrations of pit-and-groove petroglyphs, but did not include them as a separate style.¹⁸²

Baumhoff *et al.* conducted an extensive analysis of the Lagomarsino site near Virginia City, Nevada. They carefully mapped the locations of 439 individual symbols, classified into 29 types, and further distinguished by their location either on talus slopes or on cliff faces. Statistical analysis showed a variation in distribution, with a higher occurrence of rectilinear elements on the cliff faces and a higher occurrence of curvilinear elements on the talus slopes. In addition to bearing out Steward's hypothesis that the distribution of the two styles was different, Baumhoff *et al.* were also able to build a strong argument that the symbols were not part of a written language.¹⁸³

Baumhoff *et al.* compared the Grimes Point site near Fallon, Nevada, with the Lagomarsino site and noted an apparent association between the pit-and-groove style petroglyphs and the curvilinear style petroglyphs. The pit-and-groove petroglyphs were

¹⁸² Baumhoff, Heizer, and Elsasser, "The Lagomarsino Petroglyph Group," 7.

¹⁸³ Baumhoff, Heizer, and Elsasser, "Lagomarsino Petroglyph Group," 7; Brian M. Fagan, *Before California: An Archaeologist Looks at Our Earliest Inhabitants* (Walnut Creek, CA: Rowman Altamira, 2004), 201-202; Grant, "Rock Art in California," 238-239.

significantly more patinated than the curvilinear elements. Coupled with Steward's observation that the rectilinear elements were superimposed over the curvilinear elements at Steward's Site 37 in Bishop, California, Baumhoff *et al.* were able to postulate a relative chronology of the three styles. The marked difference in patination between the pit-and-groove and the curvilinear styles led them to conclude that a significant length of time had elapsed between the periods in which the petroglyphs were executed. They suggested that the lapse was the altithermal period between 5,000 and 2,000 years ago (3,000 B.C to 1 A.D.). Thus, they proposed that "the pit-and-groove style was in vogue some time before 7,000 years ago, that Great Basin curvilinear began since the Altithermal, perhaps 3,000 to 4,000 years ago, and that Great Basin rectilinear began only about 1,000 years ago."¹⁸⁴ Thus their study became the first to plot the distribution of elements *within* a site. Notably, they were also the first to develop an, albeit tentative, chronology for the different rock art styles.

A year after their work at the Lagomarsino site, Heizer and Baumhoff teamed up once again to analyze the relationship between rock art and subsistence sites, such as game trails, fishing spots, and pinyon pine nut collection sites. They conducted an extensive statistical analysis of 99 sites in Nevada, and published their conclusions in *Prehistoric Rock Art of Nevada and Eastern California* in 1962. They determined that while no rock art sites were found in proximity to fishing or gathering sites, a majority of sites seemed to be in proximity to game migration routes. The sites were predominantly

¹⁸⁴ Baumhoff, Heizer, and Elsasser, "Lagomarsino Petroglyph Group," 15; Grant, "Rock Art in California," 238-239.

in the saddles of mountain ranges or hills, that is, in valleys at points where hunters could easily ambush animals. In addition, at some sites they noted structures that resembled hunting blinds or rock structures which they interpreted to be stone walls intended to prevent animals from escaping in that direction. Heizer and Baumhoff suggested that the purpose of the rock art was as a form of practical magic, in which hunters were creating images of the animal they wished to kill. Their theory is generally known as the “hunting magic” theory.¹⁸⁵

The hunting magic theory was greeted with some skepticism, since the ethnographic literature collected by Steward and others made no mention of the use of rock art for this purpose. In much of the ethnography, native informants specifically denied any knowledge of the rock art, or attributed its creation to spirits.¹⁸⁶ Heizer and Baumhoff suggest that the lack of support for a hunting magic theory in the body of ethnographic research is the result of an influx of Numic-speaking peoples into the southeastern Great Basin between 1200 to 1800 A.D. The Numic language group includes the Shoshone, Paiute and Ute, who began migrating into the Great Basin from southern California around 1000 A.D.¹⁸⁷

In addition to developing their hunting magic theory, Heizer and Baumhoff expanded on the tentative chronology they had established in their work with Elsasser the

¹⁸⁵ Robert F. Heizer and Martin A. Baumhoff, *Prehistoric Rock Art of Nevada and Eastern California* (Berkeley, CA: University of California Press, 1962), 11; Pearson, *Shamanism and the Ancient Mind*, 56.

¹⁸⁶ Whitley, *Introduction to Rock Art Research*, 14, 85-103; Hays-Gilpin, *Ambiguous Images*, 112-113; Fagan, *Before California*, 201.

¹⁸⁷ Mark Q. Sutton, “A Consideration of the Numic Spread,” (PhD diss., University of California, Riverside, 1987); Grant, *Rock Art of the American Indian*, 13-14; Whitley, “By the Hunter, for the gatherer,” 260-261.

previous year. Though they state that their chronology still remained tentative, they added the Great Basin Representational style and the Great Basin Scratched style, the origins of both of which post-dated the origin of the rectilinear style in their schema. The scratched style they considered to be the newest, since it was found superimposed on rectilinear elements at the Whisky Flat site in Mineral County, Nevada.¹⁸⁸

Tentative though the chronology developed by Baumhoff and Heizer may have been, their research set the groundwork for rock art research for years to come. Following the publication of their findings in 1958 and by Heizer and Baumhoff in 1962, the volume of rock art research began to increase exponentially. Theories began to diverge shortly thereafter, and the study of rock art became as convoluted as anthropology or history in general.¹⁸⁹

¹⁸⁸ Heizer and Baumhoff, *Prehistoric Rock Art of Nevada and Southeastern California*, 22; Pearson, *Shamanism and the Ancient Mind*, 61; Whitley, "Rock Art and Rock Art Research in Worldwide Perspective," 14; Gilreath, "Rock Art in the Golden State," 283.

¹⁸⁹ Whitley, *Introduction to Rock Art Research*, 18-21.

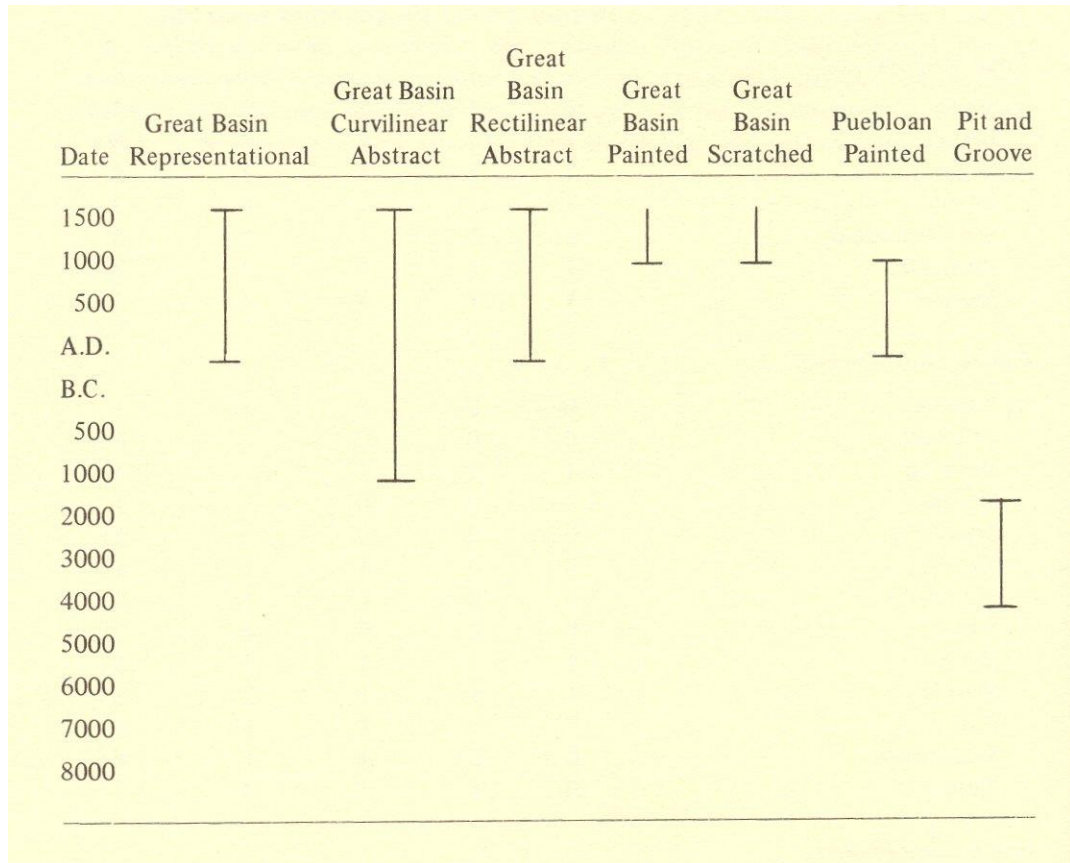


Figure 6. The chronology developed by Heizer and Baumhoff in 1962, which built upon the chronology they had developed with Elsasser the year prior.

In 1965, Jay von Werlhof, who had worked as an aide to Robert Heizer during earlier studies, conducted an intensive survey of the rock art in Owens Valley, which falls across the boundary between Mono and Inyo counties in east central California. He devised a categorization of the rock art elements into 77 individual types, divided into the larger style groups devised by Baumhoff, Heizer, and Elsasser and refined by Heizer and Baumhoff. Von Werlhof conducted intense studies of deer migration routes through the valley, working closely with Douglas Garton of the California Fish and Game Department. Von Werlhof concluded that the makers of the original curvilinear petroglyphs entered into the Owens Valley from the north sometime after 1000 B.C., and

moved southward as they learned the annual migration patterns of the deer. As the human population of the valley increased, von Werlhof postulates the development of the rectilinear style around the beginning of the Common Era (CE), and the representational style a short time later. According to von Werlhof, the representational style was associated with winter grazing areas where animals tended to congregate, or in cul-de-sacs where animals could be cornered, rather than along migration routes, suggesting that the representational style was associated with non-seasonal hunting activities. The scratched style, according to von Werlhof, represented a “feeble resurrection” of the use of rock art that occurred around 1000 CE, but he postulates that it was short-lived and recent.¹⁹⁰ Finally, the pictograph style was introduced into the Owens Valley region, possibly by the Western Mono of neighboring Tulare County following contact around 1300-1400 CE. Von Werlhof believed that the pictograph style was also probably associated with hunting magic. He concedes, however, that the positioning of the Owens Valley pictographs seemed to contradict the theory that the rock art was made for the animal to see.¹⁹¹

Von Werlhof’s work is primarily significant for the methods he used to reach his conclusions. Through careful study of the migration patterns of the deer, and correlating those patterns to the distribution of the rock art styles and individual elements, von Werlhof was able to make a convincing argument in support of his mentor, Robert

¹⁹⁰ Jay C. von Werlhof, *Rock Art of Owens Valley, California*, Reports of the University of California Archaeological Survey ; no. 65 (Berkeley, California: University of California Archaeological Survey, Department of Anthropology, 1965), 2-4; Paul Devereux, *Fairy Paths & Spirit Roads: Exploring Otherworldly Routes in the Old and New Worlds* (New York: Sterling Publishing Company, Inc., 2003), 192.

¹⁹¹ von Werlhof, *Rock Art of Owens Valley, California*, 3-5.

Heizer's theory that rock art was used in hunting rituals.¹⁹² Also notable is von Werlhof's observation that the change in rock art styles probably represents a shift in purpose. He notes "A cultural change manifests itself in a stylistic change through the close ties between a society and its interpreter."¹⁹³ Von Werlhof began an important tradition in the field of rock art: the precise recording of the rock art in relation to the surrounding environment. His theory that the rock art was intended to be seen by the animals may or may not have validity, but the orientation of rock art may very well be key in its interpretation and understanding. Von Werlhof's research marks an important transition in recording rock art at a more precise level of detail. The increased level of detail pioneered by von Werlhof provided researchers with the capacity to compare rock art sites more accurately. Researchers could thus go beyond simply comparing the placement of elements within a site or comparing symbols between sites; instead they could analyze the distribution of elements in relation to the landscape in which they occur, as well.¹⁹⁴

While the predominant theory for the purpose of rock art continued to be the hunting magic theory, in 1965 Campbell Grant proposed an alternative for at least some of the rock art recorded in California. Though the area of study was not the Great Basin, Grant's work provided some impetus for going beyond the prevailing theory of rock art. In 1965 he researched and described Chumash rock art along the south-central coast of

¹⁹² Ibid, 114-118.

¹⁹³ Ibid, 123.

¹⁹⁴ Gilreath, "Rock Art in the Golden State," 288-289.

California.¹⁹⁵ Grant noted a correlation between sedentary and mobile groups, noting that abstract art tended to be predominant in areas where people lived in more settled communities, while roving groups tended to depict representational images. Grant attributed this difference to a shift in the purpose of the rock art. He proposed that the makers of the art initially attempted to depict their subject matter naturalistically; as groups became more settled their rock art became more formalized and stylized through time.¹⁹⁶ Grant did not infer any specific purpose to the rock art in the Chumash tradition. Rather, he provided examples from other cultures worldwide that used pictographs in various ways, and concluded only that “it seems certain that most of the paintings in the Chumash area were the creation of the shamans and were for the ceremonial use of particular regional groups.”¹⁹⁷ The idea that the rock art was the work of shamans was an important concept in the study of rock art because it correlated with ethnographic evidence better than did hunting magic and other theories. Mallery originally introduced the idea that rock art might be associated with shamanistic practices, but he did not elaborate or conduct research into the possibility.¹⁹⁸ Interestingly, Baumhoff, Heizer and Elsasser had proposed the idea of rock art as the product of shamanistic practices in their

¹⁹⁵ Solveig Turpin, “Archaic North America,” in *Handbook of Rock Art Research*, ed. David S. Whitley (Walnut Creek, California: AltaMira Press, 2001), 366.

¹⁹⁶ Campbell Grant, *Rock Paintings of the Chumash* (Berkeley and Los Angeles: University of California Press, 1965), 124.

¹⁹⁷ Grant, *Rock Paintings of the Chumash*, 90.

¹⁹⁸ Pearson, *Shamanism and the Ancient Mind*, 57.

1958 paper. Heizer and Baumhoff, however, did not include the theory in their 1962 work.¹⁹⁹

In 1968 Campbell Grant returned to the study of rock art, this time assisted by James Baird and Kenneth Pringle. They conducted an extensive analysis of the petroglyphs located on the China Lake Naval Air Station in the Mojave Desert in California. The Coso Range petroglyphs were recognized even then as one of the most extensive and important rock art sites in North America. The effort to analyze such a large body of data was an ambitious undertaking, but the resulting book, *Rock Drawing of the Coso Range*, stands as a landmark study for one of the preeminent rock art sites in North America. During the survey, they recorded over 14,000 design elements. While still using much of the terminology and style categories developed initially by Steward and expanded by Baumhoff, Heizer, and Elsasser and by Heizer and Baumhoff, they argued that the styles appear contemporaneously throughout the Coso Range. As a result of their findings, they developed a new schema that provided a chronological sequence, and accounted for the fact that all of the defined styles for Great Basin rock art were contemporary in nearly all cases.²⁰⁰

The Grant *et al.* style classification divided Great Basin rock art elements into four categories: naturalistic, stylized, abstract, and pit-and-groove; and into three periods: early, transitional, and late. Rather than attempt to establish a chronology based on complete changes in styles, they established a chronology of changes *within* the styles.

¹⁹⁹ Whitley, "Rock Art and Rock Art Research in Worldwide Perspective," 14; Pearson, *Shamanism and the Ancient Mind*, 59.

²⁰⁰ Pearson, *Shamanism and the Ancient Mind*, 61;

For example, they hypothesized a sequence of Bighorn sheep petroglyphs that shifted from sheep with horns to the side and often having hooves in the early period, to sheep with the horns to the front and the side during the Transitional Period, to sheep with almost all of the horns to the front in the Late Period. The beginning of the Transitional Period is established as concurrent with the introduction of the bow and arrow into the region around 1500 B.P. Table 1 defines the elements for each classification.²⁰¹

Because of the concentration of naturalistic and representational elements at the Coso Range, particularly the Bighorn sheep, Grant *et al.* studied the stylistic changes to develop their chronologies. They based their age estimates on several factors, including:

- Patina, erosion, and lichen overgrowth
- A shift in depicted technology, namely the change from the atlatl to the bow and arrow
- Superimposition of styles, and
- An association with diagnostic archaeological materials²⁰²

The Coso Range petroglyphs are unique in that the majority of the artwork is naturalistic or representational, and Bighorn sheep petroglyphs are the single most prolific motif. Fully seventy percent of the 14,084 elements in the Coso Range are naturalistic or representational. Of the 10,288 naturalistic or representational elements, 7,191 are Bighorn sheep. The nature of the abstract images that account for the majority of rock art at other sites makes cross comparison extremely difficult. The variability is

Period	Style	Subject Matter
Early	Naturalistic	Sheep: horns to side, hoofs

²⁰¹ Grant, Baird, and Pringle, *Rock Drawings of the Coso Range*, 43-57.

²⁰² Grant, Baird, and Pringle, *Rock Drawings of the Coso Range*, 43-57; Fagan, *Before California*, 201-202; Pearson, *Shamanism and the Ancient Mind*, 60.

Period	Style	Subject Matter
Transitional	Stylized	Atlatls Bighorn sheep heads Solid Body Anthropomorphs
	Abstract	Misc. curvilinear and rectilinear patterns Pit-and-groove
	Naturalistic	Bighorn sheep: horns to side and front Dogs Deer Medicine bags Projectile foreshafts
	Stylized	Atlatls Bighorn sheep heads Solid-body anthropomorphs and stick figures Patterned-body anthropomorphs (simple) Hunters with atlatls Hunters with bow
Late	Abstract	Shield patterns (simple) Misc. curvilinear and rectilinear patterns
	Naturalistic	Bighorn sheep: mainly horns to front Dogs Deer
	Stylized	Solid-body anthropomorphs Processions of stick figures Patterned-body anthropomorphs (elaborate) Hunters with bow Medicine bags Bighorn sheep: horns front only
	Abstract	Shield patterns (elaborate) Misc. curvilinear and rectilinear patterns

Table 1. Classification of Drawings by Subject Matter in Early, Transitional, and Late Periods (after Grant et al. 1968).

simply too high, and similarities are as likely to be perceived as they are to be intentional.²⁰³

One of the ways in which Grant *et al.* determined the relative age of the petroglyphs to develop their schema was through an examination of the desert varnish that had accumulated on the individual elements. The relative accretion of minerals on

²⁰³ Ibid.

the surface of rocks exposed to harsh desert conditions, known as desert varnish, had long been recognized as an indicator of relative age. Those petroglyphs that had developed a patina matching or nearly matching the color of the patina of the parent rock were clearly older than those petroglyphs that had not accumulated appreciable mineral deposits and thus showed a greater degree of contrast in color to the parent rock. However, Grant *et al.* suggested the development of the patina itself could provide a solid departure point for dating *all* rock art in desert regions. They suggested this because anecdotal evidence suggested that the desert varnish would wash off rocks exposed to wetter conditions. Grant *et al.* cited the anecdotal evidence from a man named Donald Hunt, who collected rocks from the China Lake region with a significant amount of desert varnish. He put the rocks in his yard in Santa Rosa, a community along the coast of California that receives frequent rain. Hunt reported that the desert varnish was completely washed off his samples within a two-year period. If Hunt's evidence were correct, then the desert varnish of the Mojave Desert could not have formed until after the end of the Little Pluvial Period (7000 B.C. to 2000 B.C.), which was a much wetter period in eastern California. Following their reasoning, any petroglyph with any degree of contrast between the color of the petroglyph and the color of the parent rock, *must* be less than 4,000 years old.²⁰⁴

In 1984, however, Ronald Dorn and David Whitley thoroughly debunked Grant *et al.*'s argument, demonstrating that it was most likely the acid in leaf litter in more

²⁰⁴ Grant, Baird, and Pringle, *Rock Drawings of the Coso Range*, 43-46; Pearson, *Shamanism and the Ancient Mind*, 82.

temperate areas that had caused the erosion of the varnish, and not the rainfall itself.

During the experiment, Dorn and T. Oberlander subjected varnish-coated desert rocks to running water with a pH of 6.8 to 8.4 for a period of one year without any noticeable change in color, chemistry, or micromorphology. However, varnish-coated rocks placed under leaf litter, such as that found in the Santa Rosa area, produced a significant erosion of the desert varnish within a two-year period.²⁰⁵

During the analysis of the Coso Range sites, Grant et al. also studied the landscape for clues to the purpose of the rock art. They noted that the rock art was concentrated at four types of areas:

1. Entrances to gorges containing piled-rock hunting blinds
2. On rocky points on saddles at the conjunction of watersheds, and in conjunction with piled-rock hunting blinds
3. Isolated rocks in proximity to springs
4. Rocky crags near Silver and Coso Peaks²⁰⁶

In the canyon areas they also noted the presence of small rock structures within the canyon itself, and tall cairns of piled rocks along the canyon rims. The structures along the canyon bottom, they argued, were hunting blinds from which to ambush Bighorn sheep driven towards them by other members of a hunting group. The piled rock cairns were constructed as scarecrows or “dummy hunters,” intended to prevent the sheep

²⁰⁵ Ronald I. Dorn and David S. Whitley, “Chronometric and Relative Age Determination of Petroglyphs in the Western United States,” *Annals of the Association of American Geographers* 74, No. 2 (1984), 308-322; R.I. Dorn and T.M. Oberlander “Rock Varnish Origin, Characteristics and Usage,” *Zeitschrift fur geomorphologie* 25: 420-436; David S. Whitley and Larry L. Loendorf, “Rock Art Analysis,” in *Handbook of Archaeological Methods*, ed. Herbert D. G. Maschner and Christopher Chippindale (Walnut Creek, CA: Rowman Altamira, 2005), 925-926.

²⁰⁶ Grant, Baird, and Pringle, *Rock Drawings of the Coso Range*, 29-30.

from escaping in that direction. Grant *et al.* postulated the development of a “sheep cult” that grew out of the decline in sheep populations, possibly through overhunting following the introduction of the more efficient bow and arrow.²⁰⁷

Perhaps because of the importance of the Coso Range rock art sites, and to the importance of the work done by Grant *et al.*, *Rock Drawings of the Coso Range* seemed to engender more controversy than any other work. Raphael Reichart noted that Grant *et al.*'s styles and substyles were accepted and used in subsequent analyses without ever having been evaluated and objectively criticized or modified.²⁰⁸ Reichart states that the subject matter *can* be broadly broken down into naturalistic depictions and geometric elements, but that any further division of rock art styles is largely arbitrary. Even though a particular depiction may seem to be recognizable, interpretation may simply be a culturally-driven determination that has no bearing on what the Native artist intended. To illustrate, Reichart cited an example of Greek statuary, stating that while they *seem* to portray the ideal human figure, in fact, they depict gods and goddesses in human *form*. To the untrained twenty-first century eye the statue is of a fit, athletic human, and the artist's intentions are missed entirely. In the case of Grant *et al.*'s the classification, Reichart argued that the schema is simply too broad to draw any conclusions.²⁰⁹

Despite criticisms, however, Grant, Baird, and Pringle's work stands as a monument to careful, thoughtful, and thorough rock art inquiry. Whatever the ultimate

²⁰⁷ Grant, Baird, and Pringle, *Rock Drawings of the Coso Range*, 34-41; Pearson, *Shamanism and the Ancient Mind*, 63-64.

²⁰⁸ Ralph X. Reichart, “Rock Art Styles of the Coso Range,” in *Coso Rock Art: A New Perspective*, ed. Elva Younkin (Ridgecrest, California: Maturango Press, 1998), 105.

²⁰⁹ Reichart, “Rock Art Styles of the Coso Range,” 103.

validity of their conclusions, their field methodology is thorough and precise, and their arguments are compelling, if not the last word.

In 1973, Robert Heizer made yet another important contribution to an understanding of rock art, this time assisted by C. W. Clewlow, Jr. Together they produced *Prehistoric Rock Art of California*, a synthesis of rock art in California with a discussion of those areas that overlap, such as the Great Basin. The work obviously applies specifically to the state of California but had wider implications for the field of rock art study. Previous studies had hitherto focused primarily on the naturalistic or representational images, and generally ignored the abstract elements. At many sites the abstract elements constituted the larger percentage—if not the entire assemblage—of the individual elements. A focus on the representational elements was only natural since no interpretation for the abstract elements seemed possible, and the variation made distributional studies nearly impossible. Archaeologists instead focused on those elements that *could* be compared across sites and regions, and naturally the theories—such as Grant *et al.*'s sheep cult hypothesis—grew out of the elements for which an explanation could be devised. Heizer and Clewlow, however, suggested that the images depicted in the rock art of the Great Basin itself were secondary to the act of *making* the rock art. Drawing on the work done by Alfred Kroeber in 1925, they hypothesized that magic and ritual became associated with resource procurement strategies because of the scarcity of resources throughout arid regions.²¹⁰ Rock art, Heizer and Clewlow hypothesized, was a “minimal and wholly practical aspect of compulsive magic.” The

²¹⁰ A. L. Kroeber, *Handbook of the Indians of California*, Bureau of Indian Affairs Bulletin, No. 78 (1925).

simplicity of the designs, they argued, simply reflected the amount of work necessary to accomplish the goal, whatever it may have been, and was never intended to be representational.²¹¹

In an attempt to make the growing corpus of data more manageable, Heizer and Clewlow limited their analysis to five categories: human figures, animal figures, circle and dot, angular, and curvilinear. They noted that they had attempted trial approaches to classifying and comparing data across sites over the course of about 12 years. On four occasions students were encouraged to sift through the data and to develop a schema of their own. Outwardly the schemas appeared very similar, but when counts for individual elements were tallied, they were found to be extremely variable, thus underlining the absence of a precise typology. The student project also underscored the variability in recording techniques, and the difference in the level of detail recorded for sites across California. To compound the difficulties in developing a typology, Heizer and Clewlow noted that Campbell Grant had identified an additional concern, pointing out that while the symbol may remain constant, the meaning may not.²¹²

Heizer and Clewlow continued to record and plot rock art sites, styles, and elemental distribution throughout California in the traditions established by Steward; Baumhoff *et al*; Heizer and Baumhoff; von Werlhof, and Grant *et al*. They concluded, however, that the state of research and survey work in California had reached a point where it was increasingly unlikely that any new or distinctive rock art styles would be

²¹¹ Heizer and Clewlow, *Prehistoric Rock Art of California*, 4-5.

²¹² *Ibid*, 9.

discovered. Specifically, they stated that general characterization of sites would no longer be a productive approach to studying rock art. The correct course of action for the future, they argued, was to prepare increasingly detailed regional and inter-regional studies to elucidate a better understanding of the patterning of rock art styles and their meanings, to refine the chronology of styles, and possibly to determine their function in the prehistoric universe.²¹³

Heizer and Clewlow also provided a service to rock art researches with their excellent overview of the prevailing theories and views on rock art, as well as an extensive review of the literature up to the publishing date in 1973. They discuss scholarly works and list an impressive bibliography; they also mention works that have little or no scholarly value but that persist in the ideas and attitudes of the public nonetheless. In the case of the latter, the “know thy enemy” rule perhaps applies. They

²¹³ Ibid, 64.

including the Great Basin style, even further.²¹⁵ Overall, they provided one of the most comprehensive studies of rock art available at the time.

In 1977 C. W. Clewlow, along with Clement W. Meighan, established the Rock Art Archive at the University of California, Los Angeles. During their work on *Prehistoric Rock Art in California*, Clewlow had become intimately familiar with the problems associated with researching and publishing on rock art, and hoped that the establishment of the Rock Art Archive would help to alleviate some of the problems. In 1981 Meighan, who had been working in the field of archaeology and on rock art studies for over 30 years, published the details and goals of the Rock Art Archive. He succinctly laid out the problems with past research and recording techniques, the present state of research and theory, and how some of the problems could be solved. He noted that records from earlier studies were poor, scattered, and “spotty” in their detail; photos were of poor quality or nonexistent; and notes were inadequate. Clewlow and Meighan were equally frustrated by the fact that the poor records had been compiled not only by amateurs and avocational rock art enthusiasts, but by professional archaeologists, who should be held to a higher standard. As envisioned by Meighan and Clewlow, the purpose of the Rock Art Archive was ultimately to compile and catalog data from rock art sites worldwide, though it began with the rock art of California and neighboring areas.

One of the earliest goals of the Rock Art Archive was to centralize records in order to help in rock art site preservation efforts. Meighan worried that the public

²¹⁵ Heizer and Clewlow, *Prehistoric Rock Art of California*, 48-64; Gilreath, “Rock Art in the Golden State,” 283; Campbell Grant, *The Rock Art of the North American Indians* (Cambridge: Cambridge University Press, 1983), 11.

perception was that “rock art sites are few in number, very well known and studied, and reasonably well protected.”²¹⁶ Meighan and Clewlow knew all too well that those perceptions were not true, and that rock art sites were increasingly vulnerable to a number of threats. The threats included an increase in looting, wherein rock art panels were literally cut from cliff faces with rock saws and small boulders with rock art on them were collected and sold as lawn ornaments; graffiti; acid rain; urban and other land development; and even damage from well-meaning but destructive visitors. To counter those threats, Meighan charged archaeologists with taking a more active role in rock art management, recordation, and research.²¹⁷

The Rock Art Archive also provided a mechanism to promote the standardization of rock art recording techniques. Meighan noted that several manuals were available for field work on rock art sites, but what was truly needed was a system of classification and description, as the difficulties Heizer and Clewlow experienced in their research for *Prehistoric Rock Art of California* demonstrated.

Meighan provided a wealth of data relating to the recording of rock art, establishing the rock art chronology regionally and inter-regionally, and the interpretation of rock art and the pitfalls involved. He listed twelve possible meanings that have been attributed to rock art in past studies. They include:

1. Boundary Markers
2. Clan or personal symbols
3. Supplication
4. Hunting magic

²¹⁶ Meighan, “Theory and Practice in the Study of Rock Art,” 7.

²¹⁷ *Ibid.*, 6.

5. Astronomical significance
6. Initiation rituals
7. Representations of mental experiences, e.g. vision quests, guardian spirits, etc.
8. A record of important historical events
9. Witchcraft
10. Mortuary marks
11. "Doodling"
12. Aesthetics²¹⁸

Other researchers were clearly on the same tack, as evidenced by the formation in 1979 of The American Committee to Advance the Study of Petroglyphs and Pictographs, founded by a group of professional archaeologists and enthusiastic and conscientious amateurs. In an attempt to overcome the same difficulties, Dr. B. K. Swartz, Jr., one of the founding members of the organization and who had been researching and writing about rock art since the 1950s, published "Minimum Recording Standards Proposed by the American Committee to Advance the Study of Petroglyphs and Pictographs" in *Current Anthropology*. Swartz advocated an approach consisting of detailed information, including metric and nonmetric traits, photographs, drawings, maps, and a detailed description of the surrounding landscape.²¹⁹

Other groups were also founded around the same time. The Foundation for Rock Art and Archaeology was founded in 1974, and helped to fund the Rock Art Archive. The American Rock Art Research Association was founded that same year, and continues to promote the study of rock art to professionals and enthusiasts alike.

²¹⁸ Ibid.

²¹⁹ Benjamin K. Swartz, Jr., "Minimum Recording Standards Proposed by the American Committee to Advance the Study of Petroglyphs and Pictographs," *Current Anthropology*, Vol. 22, No. 1 (1981), 94-95.

There are two significant points about the founding of The American Committee to Advance the Study of Petroglyphs and Pictographs and other groups and the establishment of the Rock Art Archive. First, the establishment of professionally-recognized organizations and the archive helped establish legitimacy to the study of rock art. Meighan noted the irony that many archaeologists found rock art interesting but felt that it was not archaeology, and that many art historians felt that rock art was interesting but that it was not art. Second, the establishment of professional organizations and the consistency they brought to the discipline helped to provide a baseline of data and methods, from which rock art studies could grow and improve.²²⁰ Meighan further argued that as with any discipline, the terminology, methodology, and recordation in rock art studies must be consistent in order to develop and test hypotheses.²²¹

Meighan also noted an interesting development in the interpretation of rock art through a study of universals of mental experiences that was just beginning to be noticed in the early 1980s. The approach was initially developed by David Lewis-Williams in his research into San rock art in South Africa. Lewis-Williams analyzed ethnographic data on the rituals, myths, and linguistics of the San people of southern Africa, and compared his records with the imagery recorded by the San in rock art.²²² He concluded that the rock art was a product of San shamans, who painted the images in rock shelters all over the Kalahari.²²³ Lewis-Williams, with the help of his student, Thomas Dowson,

²²⁰ Meighan, "Theory and Practice in the Study of Rock Art," 9.

²²¹ Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 150-151.

²²² Fagan, *Before California*, 194-195.

²²³ The San people are an indigenous of South Africa, people who traditionally occupied most areas encompassing Zimbabwe, Lesotho, Mozambique, Swaziland, Botswana, Namibia, and Angola. They are

developed a neuropsychological model that predicted the kinds of mental imagery that were seen by individuals who were experiencing an altered state of consciousness, whether that state was induced by hallucinogenic or psychotropic drugs, fasting, trauma, or other forms of sensory deprivation. According to Lewis-Williams, an individual in an altered state of consciousness would first see “entopic phenomenon,” also known as phosphenes. The entopic phenomenon consist of seven patterns that are common to all humans, including grids, sets of parallel lines, dots and flecks, zigzags, nested curves, meanders and filigrees, and spirals and concentric circles. The individual would then pass through the second stage, where the symbols were interpreted as culturally meaningful objects, animals, or people. In the third stage, the entopics become completely integrated into the culturally bound image.²²⁴ In other words, an individual undergoing the process would first see one of the seven entopic designs, for example, a wavy line. In the second phase, the individual would interpret the wavy line as something culturally significant, such as a snake. Finally, the individual would stop seeing the wavy line at all, and would instead see a snake. The individual’s mind had completely integrated the wavy line into the snake, and the individual literally saw a snake, not a wavy like that reminded him or her of a snake. The image was no longer being *interpreted* as a snake; it literally *was* a snake to the individual.²²⁵

variously referred to as Bushmen, San, Sho, Basarwa, !Kung or Khwe. They generally refer to themselves collectively as Bushmen, and individually as members of a particular tribe, such as the !Kung, since the term San was applied by their traditional enemies, the Khkoikoi, and means “outsider.” I use the term San only because it is the term used by Lewis-Williams in his work.

²²⁴ Whitley, “Meaning and Metaphor in the Coso Petroglyphs,” 150-151.

²²⁵ Pearson, *Shamanism and the Ancient Mind*, 87-89; Conkey, “Structural and Semiotic Approaches,” 280-283.

Lewis-Williams noticed a strong correlation between the images recorded in the San rock art and the entopic phenomenon, and believed that the San shamans were interpreting the entopic phenomenon as culturally meaningful symbols. They recorded those symbols on the walls of the caves. To test their model, Lewis-Williams and Dowson compared the petroglyphs of the Coso Range and the San, and found a strong correlation between both the Coso petroglyphs and the San art.²²⁶

In the early 1980s David Whitley began to build upon the work of Lewis-Williams in a number of publications relating to shamanism among native Californians and rock art, which he has continued to expand and refine to this day. The word shaman is a Siberian native word, but the concept of shamanism is widespread. Shamanism is a term applied to a set of beliefs and practices that involve the manipulation of the material world through special access to a closely linked but separate plane of existence, commonly known as the supernatural or *spirit world*. Typically only individuals of power, most often men, were able to traverse the gulf between the material world and the spirit world, and were thus persons of great influence within their groups. In the world of native Californians, the terms used for shamans were variously translated as dreamers, doctors, or men of power.²²⁷ Whitley linked the work of Lewis-Williams with ethnographic research of native Californian groups. His theory challenges both the

²²⁶ Lewis-Williams and Dowson, "The Sign of All Times," 201-245; Pearson, *Shamanism and the Ancient Mind*, 49-51; Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 142-144, 146-154.

²²⁷ David S. Whitley, *The Art of the Shaman: Rock Art in California* (Salt Lake City: University of Utah Press, 2000), 22.

dating of the rock art and the function of the rock art within the prevailing models of the 1980s, which was to interpret virtually all rock art as hunting magic.²²⁸

Initially Whitley applied Lewis-Williams' work to explain the huge number of abstract elements that predominate in Great Basin and Southern California rock art. Whitley noted, however, that while Lewis-Williams and Dowson's neuropsychological model can help explain the origin of the symbols, it cannot explain the meaning of the symbols. In contrast to the beliefs of many archaeologists that the rock art was predominantly the work of pre-Numic peoples, Whitley believed that a great deal of the art post-dated the Numic spread, but was all created by shamans. Whitley based his argument on ethnographic evidence from a number of sources, and was able to use the work of Lewis-Williams to correlate some of the abstract symbols and their meanings.²²⁹

Whitley also applied his theory of shamanism to explain the predominance of the Bighorn sheep petroglyphs in the Coso Range. In contrast to the work of Grant, Baird, and Pringle, Whitley hypothesized that the Bighorn sheep petroglyphs were the product of the Numic rain shamans, and the hunting blinds observed by Grant *et al.* were vision quest shelters. Again using ethnographic evidence as a basis for his theory, Whitley postulated that for the rain shamans to pass into the supernatural world, they metaphorically died. They represented that death in the symbolic death of their Bighorn sheep spirit helpers, thus the multiple depictions of men killing Bighorn sheep.²³⁰

²²⁸ Hays-Gilpin, *Ambiguous Images*, 123-124; Pearson, *Shamanism and the Ancient Mind*, 63-64.

²²⁹ Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 142-144, 146-154.

²³⁰ *Ibid.*, 158-159.

As discussed earlier, Whitley postulated that the majority of rock art in the Great Basin dated to no more than 2,000 years ago, and that most of it is even more recent.²³¹ Whitley dated rock art using five methods: (1) native ethnohistory, (2) subject matter, (3) deterioration of the parent rock material, (4) formation of desert varnish, and (5) direct chronometric dating techniques. Whitley used a combination of all five methods for determining dates for rock art in the Great Basin.²³²



Figure 8. David Whitley hypothesized that rock art scenes such as this one from the Little Petroglyph Canyon site in the Coso Range was a representation of a shaman metaphorically killing a Bighorn sheep.

At the same time, Whitley maintains that there is a tradition reaching backing many thousands of years. This is based on carbon samples he collected from a cave in the Mojave National Preserve, known as Tecolote Cave, and dated using carbon 14 dating

²³¹ Whitley, *Art of the Shaman*, 38.

²³² Whitley, *Art of the Shaman*, 40-41; Whitley and Loendorf, "Rock Art Analysis," 925-931.

techniques.²³³ The results were astounding. The date for the rock art came in at 9,300 Radio Carbon Years Before Present (RCYBP), or approximately 7300 B.C. Some archaeologists argue that the date is not possible.²³⁴ They argue that his sample was contaminated, was too small, or was collected improperly. Whitley maintains that both the methodology used to collect the sample, the size of the sample, and the carbon testing were all performed with rigorous care, and that the date is valid.²³⁵ Whitley's belief that the majority of the rock art was made in the last two thousand years is derived from ethnographic evidence, as discussed earlier, and subject matter elements within rock art. Whitley argues that the evidence is strong that the rock art tradition extends back in antiquity, perhaps as far back as 16,500 years. The symbology is similar, though he argues that it is highly unlikely that the meanings of the symbols have not changed. The apparent contradiction between Whitley's statements that the rock art is both of recent and ancient origin is that, quite simply, we do not yet know enough to make a determination. He states that "The dating of California rock art, as well as much of the world, is in its infancy, and unfortunately there is still much to establish."²³⁶

Other research, such as Alan Garfinkel and Kenneth Pringle's investigation of projectile point petroglyphs in the Coso Range petroglyphs would seem to support

²³³ Alice M. Tratebas, "Biodeterioration of Prehistoric Rock Art and Issues in Site Preservation," in *Biodeterioration of Stone Surfaces: Lichens and Biofilms as Weathering Agents of Rocks and Cultural Heritage*, ed. Larry L. St. Clair and M. R. D. Seaward (Norwell, MA: Kluwer Academic Publishers, 2004), 210-211; Jo McDonald, "Archaic Faces to Headdresses: The Changing Role of Rock Art Across the Arid Zone," in *Desert Peoples: Archaeological Perspectives*, ed. Peter Marius Veth (Oxford: Blackwell Publishing, 2005), 121-122.

²³⁴ Fagan, *Before California*, 194-195.

²³⁵ Alan P. Garfinkel and J. Kenneth Pringle, "Dating the Rock Drawings of the Coso Range: Projectile Point Petroglyphs," in *American Indian Rock Art* 30, ed. James T. O'Connor (Tucson: American Rock Art Research Association, 2004); Whitley, *Art of the Shaman*, 43.

²³⁶ Whitley, *Art of the Shaman*, 38.

Whitley's view that the majority of the rock art is less than 2,000 years old. Garfinkel and Pringle examined the morphology of projectile point petroglyphs recovered from archaeological sites in the Coso Range, and compared them to the petroglyph sites in the same area. Their research indicated a probable date within the Saratoga Springs Period between 500 and 1300 A.D.²³⁷

B. K. Swartz, Jr., also proposed a new reading of certain petroglyphs sites, but from a entirely different perspective. In 1994 Swartz published the results of his study of the Mount Irish Petroglyph District in east central Nevada, where he described a theory he called the "unified space model." His approach is novel because it is a multidisciplinary approach, combining theories of landscape archaeology and architectural theory. Swartz applied aspects both theories to the analysis of several sets of petroglyphs that were associated with enclosed spaces formed within the natural landscape. Through the use of petroglyphs the spaces were transformed into cultural places. Using detailed mapping, it became apparent that several

²³⁷ Garfinkel and Pringle, "Dating the Rock Drawings of the Coso Range," 1-14.

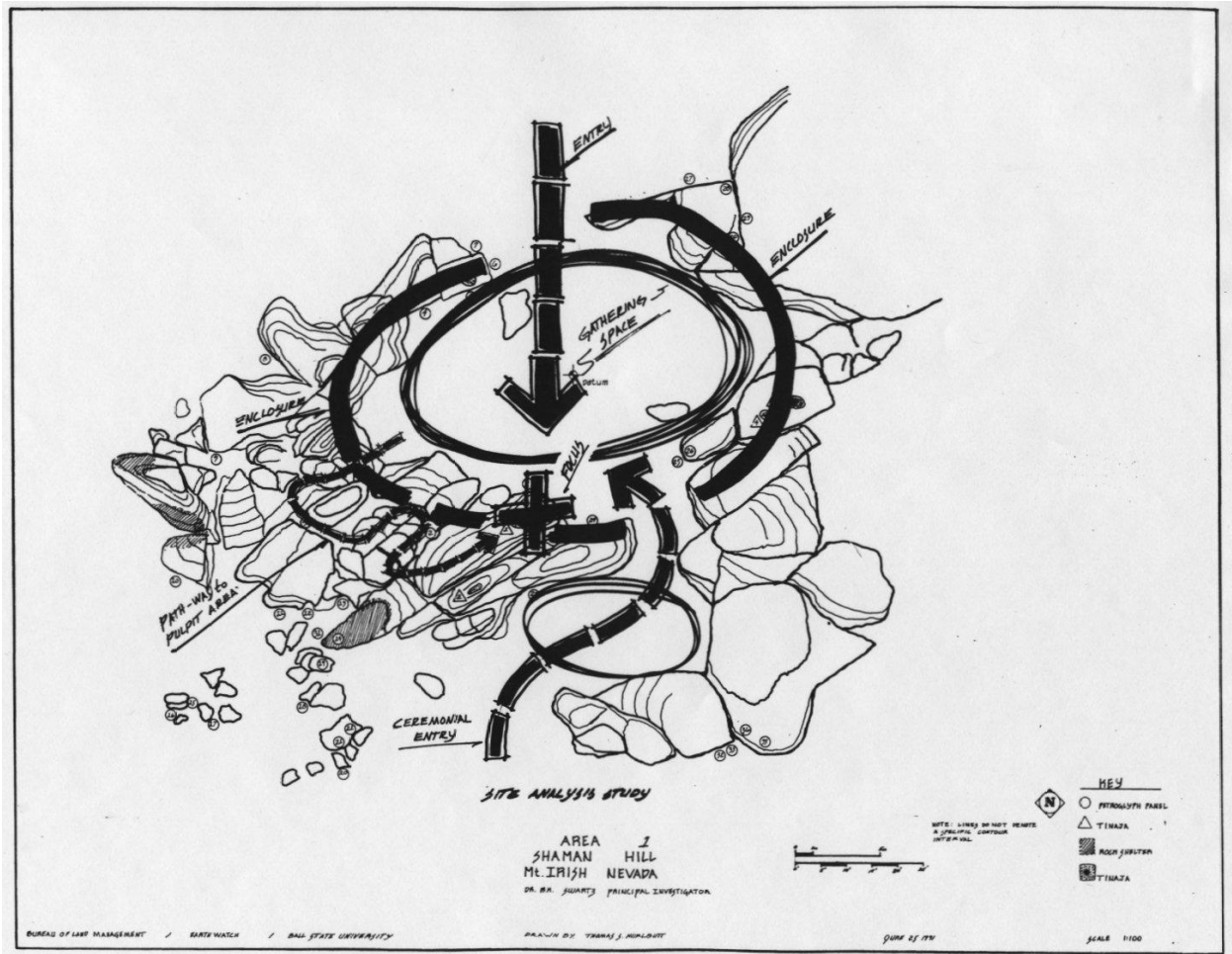


Figure 9. Diagram of Swartz's interpretation of the Shaman Hill Petroglyph site, Mt. Irish, Nevada (1994).

distinct features were common to the enclosed areas, including an entryway, an enclosure, and a focus. The petroglyphs on the outside of the enclosed areas differed from those on the inside of the enclosed areas, and both featured a prominent anthropomorphic figure in a commanding position. Swartz argued that the spatial

arrangement and presentation of the petroglyphs was key to understanding their function.²³⁸

Swartz proposed a functional approach to rock art, suggesting that “most petroglyphs were produced for pragmatic purposes, to convey information—markers, maps, counters, labels, etc.” Using the Mount Irish Petroglyph enclosures as one example, Swartz postulates that the enclosed space was used as a small amphitheater of sorts. The enclosure had a main entrance leading to a large enclosed area, and featured a second, winding entrance that led to a platform that overlooked the central enclosure. Swartz interpreted the space as a ceremonial arena, which would allow a speaker to address a crowd.²³⁹

Swartz supported his position by examining alternative interpretations of a number of elements, in each case suggesting a more functional use of rock art. He revisited the hunting theory proposed by Grant *et al.* but proposed that instead of hunting magic, many of the symbols are markers and are associated with game counting and management and other purposes related to hunting, but that they were not intended to influence the outcome of the hunt through magic. Other alternative explanations proposed by Swartz included labels or signatures indicating ownership or identification, maps or markings to indicate direction of a resource, boundary markers, and signal

²³⁸ Swartz and Hurlbutt, “Space, Place, and Territory in Rock Art Interpretation,” 13-22; Stephen L. Black and Kevin Jolly, *Archaeology by Design, Archeologist’s Toolkit*, ed. Larry J. Zimmerman and others (Walnut Creek, CA: Rowman Altamira, 2002), 72-73.

²³⁹ B. K. Swartz, Jr., “How Prehistoric People of the North American Great Basin Used Petroglyphs to Read Their Landscape,” in *Signifying Place and Space: World Perspectives of Rock Art and Landscape*, ed. George Nash, British Archaeological Reports International Series 902, (Oxford: Archaeopress, 2000), 149-162.

markers.²⁴⁰ Other researchers, such as Amy Gilreath and William Hildebrandt, also saw a correlation between increasing rock art production and the decline of the bighorn sheep from hunting pressure, and the use of rock art symbols as functional markers.²⁴¹

Although some rock art researchers, such as Swartz and Whitley, have been concerned with alternative theories of the meaning and purpose of rock art, other researchers were less concerned with theory and more concerned with methodology. In 1982 Ken Hedges published a critique of the Great Basin rock art styles that had been in more or less constant use since first devised by Steward in 1929. Hedges noted that while the concept of style was properly applied, the defining details as delineated by Baumhoff, Heizer, and Elsasser in 1958, and Heizer and Baumhoff in 1962, were inadequate to differentiate stylistic traditions between regions. As an example, Hedges noted that, using the characteristics provided by Heizer and Baumhoff, the Three Rivers, New Mexico, petroglyphs are indistinguishable stylistically from the Coso Range petroglyphs. He noted that both styles have Bighorn sheep, quadrupeds, hands, feet, horned humans, and figures that would fit into the category of “katchinas.” Nonetheless, the styles are distinct and are the products of entirely different cultural groups.²⁴²

Hedges’ work is significant in that he illustrates how ideas and theories can become

²⁴⁰ Swartz, “How Prehistoric People of the North American Great Basin Used Petroglyphs to Read Their Landscape,” 149-162.

²⁴¹ Fagan, *Before California*, 202; Amy J. Gilreath and William R. Hildebrandt, *Coso Rock Art Within Its Archaeological Context*, paper presented at the Annual Meeting of the Society of American Archaeology, New Orleans (2001).

²⁴² Ken Hedges, “Great Basin Rock Art Styles: A Revisionist View,” *American Indian Rock Art* 7-8 (1983): 205-211.

reified over time. Researchers must continue to re-evaluate what they think they know, and must maintain a constant vigil to avoid complacency.

CONCLUSION

Ultimately the subject of rock art is entirely too broad to cover comprehensively. By the time such a work could be accomplished, the field will have moved on to an entirely new set of theories and perspectives. As Paul Bahn wrote in the introduction to *Coso Rock Art: A New Perspective*, “Specialists will go on debating the meanings and functions of these images forever, or until a time machine is invented.”²⁴³

The works covered here barely scratch the surface of rock art research that has been done and is still ongoing. The few authors listed herein are not only some of the great thinkers in the field of rock art, they are also guides to help the novice navigate the bewildering panoply of literature, theories, and ideas that revolve around those enigmatic etchings on the scattered rocks, boulders, and cave and canyon walls all over the Great Basin, and, ultimately, all over the world.

²⁴³ Paul Bahn, “Introduction,” in *Coso Rock Art: a New Perspective*, ed. Elva Younkin (Ridgecrest, California: Maturango Press, 1998), ix.

THEORETICAL CONSIDERATIONS FOR THE USE OF ETHNOGRAPHY IN THE INTERPRETATION OF ROCK ART

Societies all over North America and the world created rock art. In North America the greatest concentrations occur in the Great Basin and the Southwest. Many rock art sites astound visitors with their sheer size and the number of images covering the rock faces, such as at the Coso Range petroglyphs site located at the China Lake Naval Air Weapons Station in the northern Mojave Desert. Even rock art researchers are often taken aback at the number of images pecked into the rock surfaces. For all their visual impact, however, rock art has often been neglected in the study of the prehistoric in North America.

Ironically, the people who could do the most with rock art, archaeologists, often view the study of rock art as something of a fringe study, one that is, at best, the purview of another discipline, such as art history, or, at worst, the domain of crackpots. Many reasons are offered for this neglect, but the most probable is that archaeologists prefer to deal with the concrete, quantifiable data of excavation, rather than the nebulous, uncertain nature of rock art. In addition, rock art in North America is difficult to date; we do not have the advantage of having the charcoal sticks that the Paleolithic artists in Europe and Africa left lying at the base of the cave wall after completing sketches of bison or rhinoceros. A third reason is that rock art often lacks order and structure,

making analysis difficult and uncertain.²⁴⁴ But as stated by Clement Meighan, an archaeologist and pioneer of rock art studies in the 1950s and 1960s, “[w]hatever else it may be, rock art is a part of the archaeological record, and where it occurs it must be fitted into the archaeology of a given region”²⁴⁵ For that reason alone, archaeologists and historians have a responsibility to record, analyze, and preserve rock art as they would any other historic resource.

In spite of the reputation of rock art amongst some archaeologists and historians, other scholars have recognized the value of the cultural heritage left on the rocks by past peoples. While North American rock art does not necessarily have the spectacular visual impact of the Paleolithic cave paintings of Europe, it is nonetheless a valuable record of an aspect of numerous Native American cultures. The study of rock art can offer added insight into the spiritual or cognitive realms as few other artifacts can. Rock art is unique in that it provides a glimpse into aspects of prehistoric life that are otherwise unavailable. Polly Schaafsma notes that rock art can provide insight into cosmologies and mythic systems, and can provide data on cultural relationships, patterns of communication, and evidence of cultural interaction.²⁴⁶

One of the longest running debates within the rock art world are questions over who created the rock art, and when. In some cases the argument closely resembles the question of who built the mounds and mound complexes in the eastern United States. Prior to the twentieth century, the enormous and widespread prehistoric earthen mounds

²⁴⁴ Schaafsma, *Indian Rock Art of the Southwest*, 5.

²⁴⁵ Meighan, “Theory and Practice in the Study of Rock Art,” 6.

²⁴⁶ Schaafsma, *Indian Rock Art of the Southwest*, 3.

were widely presumed to be the work of a mythical group, known as the Mound Builders, because scholars could not believe that the indigenous Indian cultures were not capable of the social organization necessary to build the complex structures. Though Thomas Jefferson noted the continuity in burial practices between a mound he excavated on his property and the practices of contemporary Indian groups, it was not until Cyrus Thomas published *The Problem of the Ohio Mounds* in 1894 that the debate was firmly laid to rest. In the case of rock art, the debate revolves around the ethnographic record of the Great Basin groups compiled largely since the late nineteenth century through the twentieth century. The essence of the debate is whether or not the Indian groups interviewed have explicitly denied having made the rock art, or have obliquely acknowledged making the rock art.²⁴⁷

In keeping with archaeological traditions, scholarly rock art research has been conducted largely using the tools, methods, and theories used for other archaeological inquiry. Archaeologists are known for compiling extensive and, hopefully, meticulous records on locations, counts, dimensions, distances, and other metric data. From the late nineteenth century through the middle of the twentieth century, rock art research consisted primarily of recording the variation and distribution of symbols across the landscape. According to Paul Taçon and Chris Chippendale, these formal approaches—which they also note are *etic*, or external perspectives—can provide important information on the age of the rock art, insight into the methods used to create the

²⁴⁷ Ian Hodder, *Reading the Past*, (Cambridge: Cambridge University Press, 1986), 1-18, 167-168; Bruce Trigger, *A History of Archaeological Thought*, Cambridge: Cambridge University Press, 1989), 104-108; Cyrus Thomas, *The Problem of the Ohio Mounds*, (Washington: United States Government Printing Office, 1889).

individual elements, and other hard data, but they do not provide information on the social function of the rock art, an interpretation of the meaning of the symbols depicted therein, or how that meaning changed or remained constant through time.²⁴⁸ This was especially true through the 1960s and early 1970s with the development of the New Archaeology, or Processual Archaeology. The Processualists depended upon a normative model of behavior that could be read directly from the material record, which ultimately reflected an adaptation to the physical and social environment. Rock art interpretation from this period centered primarily on the “hunting magic” theory, in which the rock art was a form of practical magic intended to ensure success in a hunt. Rock art then became simply an adaptation to the waning game populations as the Great Basin became increasingly arid.

As Ian Hodder has pointed out, however, certain behaviors simply cannot be reduced to an adaptation to the environment, such as burial practices. He has argued that a less positivistic approach to social phenomenon—such as rock art—can be a more productive course of inquiry.²⁴⁹ One of the greatest drawbacks to the formal approaches is that they do not take into account the native perspective. Symbolic and Structural analysis and Critical Theory approaches, however, are intended to do just that. Mark Leone and Parker Potter, Jr. note that the three approaches require that the researcher acknowledge his or her place within his or her own culture. In other words, the researcher must be continually aware that their own cultural bias threatens to skew the

²⁴⁸ Taçon and Chippendale, “An Archaeology of Rock Art Through Informed Methods and Formal Methods,” 7-8.

²⁴⁹ Hodder, *Reading the Past*, 1-18, 182-184.

deductions made about the subject of inquiry.²⁵⁰ In the case of rock art, the strictly functional interpretation of the depictions of bighorn sheep as a part of hunting magic using a processual approach ignores the others roles that a bighorn sheep could play in Indian society, such as a totem animal.

Human beings are essentially creatures of habit. We seek the comfortable and the familiar, and we frequently seek to recreate those situations and circumstances under which we are the most comfortable. Nevertheless, day to day activities move inexorably towards change in every individual's life. Each individual, therefore, seeks to mitigate that change in his or her own terms, and does so through the use of ritual. Mary Douglas, in her essay *External Boundaries*, states that ritual is "an attempt to create and maintain a particular culture, a particular set of assumptions by which experience is controlled."²⁵¹ It is through a complex understanding of symbols that those rituals are enacted and interpreted, and the effects upon each individual are mediated by their understanding of and reaction to the ritual being conducted. All social interaction is predicated upon a series of mutually understood signals and symbols. A symbol, according to Victor Turner, is "the smallest unit of ritual, which still retains the specific properties of ritual behavior."²⁵² It is critical, therefore, to recognize the symbols of a society in order to recognize and interpret aspects of social interaction; rock art, obviously, is particularly dependent upon symbolism. Symbols play a crucial role in social situations, allowing

²⁵⁰ Mark Leone and Parker B. Potter, Jr., *The Recovery of Meaning* (Washington, D.C.: Smithsonian Institution Press, 1988), 2-11.

²⁵¹ Victor Turner, "Symbols in Ndembu Ritual," in *Anthropological Theory: An Introductory History*, ed. R. Jon McGee and Richard L. Warms (Mountain View, CA: Mayfield Publishing Co., 1996), 440.

²⁵² Turner, "Symbols in Ndembu Ritual," 441.

individuals to determine another individual's *authenticity*, that is, that individual's sense of commitment to an ideal within the culture or subculture. It allows members of a community to judge an individual status within the community almost at a glance, through a process Malcolm Gladwell has labeled "thin slicing."²⁵³

The study of symbology and its relationship to theory are often problematic. In the realm of theoretical inquiry the prevailing models deal with normative or aberrant behavior, that is, either rational or irrational modes of thought and actions. When dealing with normative behavior, prediction—an essential part of the theoretical process—is relatively straightforward; when dealing with irrational behavior, prediction is also possible, though considerably more difficult. No one has yet developed a theoretical model, however, that deals with non-rational behavior. Non-rational behavior is not to be confused in any way with irrational behavior; non-rational behavior simply refers to all those aspects of behavior that are not, strictly speaking, necessarily in the best interest of the individual, but rather are enacted through some other sense of purpose or aesthetics. Into the category of non-rational behavior are all those choices we make daily on questions of style, tastes, and impulses. It is exactly that fact that makes the interpretation of something so socially loaded as a rock art symbol problematic, at best. Victor Turner states that, "Here we come to the confines of our present...competence, for we are now dealing with the structure and properties of psyches, a scientific field

²⁵³ Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking*. (New York: Little, Brown, and Co., 2005), 23

traditionally studied by other disciplines than ours.”²⁵⁴ It is not a one-way street, however; Bruce Trigger notes that, “[b]ecause only archaeology and documentary history provide the evidence required to delineate cultural development in the past, they are essential for understanding the historical background of the data which all of the other social sciences analyze.” For Trigger, this movement represents a revolutionary relationship between archaeology, history, and ethnology, which places them at the heart of the social sciences.²⁵⁵

It is through this complex social concept of ritual and the accompanying symbols that rock art must be evaluated. David Whitley argues that the symbols used in Indian rock art can be interpreted through the use of symbolic and ethnographic analysis, both of which are informed approaches as defined by Taçon and Chippendale. He argues that the shared styles and repeated symbols found throughout Great Basin rock art demonstrates conclusively that they are part of a shared system, and therefore had a shared meaning. If the symbols were not recognized and shared within the community, each rock art site would consist of unique elements.²⁵⁶

Whitley argues that the interpretation of the symbols begins with an understanding that the symbols, as part of a shared system, must be consistent, coherent, and logical in order to fulfill their social functions. He argues that the model for most traditional peoples was a natural one, that is, “natural phenomena, like animal behavior, . . . served to structure the logic underlying aspects of religious symbolism and

²⁵⁴ Turner, “Symbols in Ndembu Ritual,” 458.

²⁵⁵ Trigger, *History of Archaeological Thought*, 338.

²⁵⁶ Whitley, *Introduction to Rock Art Research*, 80.

ritual, usually by some form of analogical reasoning.”²⁵⁷ Further, symbols have more than one meaning, and can take on a different meaning in a particular context. Whitley uses the example of the difference in meaning between an animal as a moiety symbol, representing a group of people, and the same animal as a spirit guide for a shaman. The same animal takes on vastly different meanings in different social contexts.²⁵⁸ Decoding those symbols through an understanding of that cultural model is what allows scholars to move up Hodder’s “Ladder of Inference,” leading beyond a mere understanding of material culture towards an understanding of the ideational, or cognitive, realm, thought by many to be unattainable through archaeology.²⁵⁹

Whitley notes that though cultural symbols in traditional societies are consistent, coherent, and logical, that does not mean that they are “straight-forward, literal, or simple-minded.”²⁶⁰ He notes that concepts can be every bit as complicated as modern societies, including seeming contradictions, as when a shaman enters the spirit world, seen as existing above the earth, through a cave. He points out that in the Indian worldview, the sky is seen as masculine and the earth as feminine. Therefore, to enter into the spirit world, a male shaman must pass through the feminine to reach the masculine. He points out that such traditions are common in Western society as well, such as on Halloween when children roam the streets while adults stay at home.²⁶¹

Another example is the Roman tradition on Saturnalia of reversing all of the social roles

²⁵⁷ Ibid, 81.

²⁵⁸ Ibid, 83.

²⁵⁹ Hodder, *Reading the Past*, 163.

²⁶⁰ Ibid, 82.

²⁶¹ Ibid, 83-84.

and slaves served their masters and occupied government offices for the day. The tradition continued in Christianity into the Middle Ages, when a “Lord of Misrule,” generally the poorest man in a congregation, was appointed to preside over the Feast of Fools during Christmas celebrations. As in the above example, analogy is a useful tool for bridging the gap between the known in the archaeological and historical record, and the unknown in the ideational and cognitive realms. Strictly speaking, analogy is an inference from one particular to another; in other words, analogy is a special case of induction.²⁶² According to Taçon and Chippendale, analogy is a process in which we can make inferences about x from an observation of y that are reasonable and plausible due to the similarities between x and y .²⁶³ According to Hodder, analogy with the present is “important in broadening and exciting the historical imagination.” He states that the use of analogy does not necessarily limit the researcher to the present day; it is possible to achieve insight into a past or a different cultural context through an imaginative, yet coherent and plausible, comparison to the present.²⁶⁴

Lastly, Whitley notes that an understanding of metaphor, a subset of analogy, in interpreting symbols is necessary to the interpretation of rock art. Since rock art may be a depiction of something other than a material object, i.e., and event or a state of mind, the artists may use metaphor to describe their subject. For example, Whitley argues that a shaman that has entered an altered state of consciousness may experience

²⁶² Cameron Shelley, *Multiple Analogies in Science and Philosophy*, (Philadelphia: John Benjamins Publishing Company, 2003), 4-6.

²⁶³ Taçon and Chippendale, “An Archaeology of Rock Art Through Informed Methods and Formal Methods,” 8.

²⁶⁴ Hodder, *Reading the Past*, 99.

weightlessness or a sensation of flying. In the rock art, that supernatural experience may be depicted as the shaman flying or the shaman transformed into a bird. Thus the depiction of a bird is not a bird at all.²⁶⁵

Regarding the argument over whether or not the rock art was created by the immediate ancestors of the living Indian populations, therefore, whether they did or did not does not necessarily preclude the use of ethnography for the interpretation of the symbols contained therein. The cultural continuity between hunter gatherer groups that preceded the Numic groups that occupied the Great Basin at the arrival of the Europeans provides an excellent analogy for those groups that came before.

²⁶⁵ Whitley, *Introduction to Rock Art Research*, 84-85.

ETHICS AND PROFESSIONAL PRACTICES IN THE FEDERAL GOVERNMENT

The goal of cultural resources work within the United States government revolves around the concept of proper stewardship of the land and the resources contained therein. Stewardship, simply put, means to take proper management for the good of the items entrusted. Practically, however, stewardship is a set of cultural resource management practices that seeks to manage the cultural resources that fall within the bounds of federally managed lands, consistent with the perceived needs and desires of the public at large.²⁶⁶ Those policies are intended to properly identify, evaluate, document, register, preserve, and interpret those cultural resources in order to preserve and make available as full a range of evidence as possible of the history of the United States and the peoples that inhabited these lands prior to the founding of the nation for the benefit of present and future generations.²⁶⁷ Put more simply, one of the roles of the federal land manager is to preserve the historic places, objects, and documents that help us to understand past human experiences and cultural identities.²⁶⁸ While the concept is relatively straightforward, it is not without its debates, confusions, and other difficulties.

²⁶⁶ Nancy M. Cline, "Stewardship: The Janus Factor," in *The Strategic Stewardship of Cultural Resources: To Preserve and Protect*, ed. Andrea T. Merrill (Philadelphia: Haworth Press, 2003), 9.

²⁶⁷ John H. Jameson, Jr., "Public Archaeology in the United States," in *Public Archaeology*, ed. Nick Merriman (New York: Routledge, 2004), 30-32; Robert L. Kelly and David Hurst Thomas, *Archaeology* (Belmont, CA: Wadsworth, 2006), 374-5.

²⁶⁸ Smith, *Archeological Theory and the Politics of Cultural Heritage*, 82-83.

One of the debates that frequently embroils federal historians, archaeologists, and land managers are the idea of ownership, and how that term is applied to federal lands. By law, everything falling within the bounds of a federally-managed land is the property of the United States government, from the rocks, trees, and bushes, to the cultural resources found there, regardless of what cultural affiliation they may hold, or how distantly they predate the acquisition by the government.²⁶⁹ That has not always been a popular position, but nonetheless, current law supports the government's claim to those resources, and federal land managers and cultural resources professionals are obligated by virtue of their position to uphold that position. For that reason, federal land managers and federal employees may find themselves in conflict with indigenous groups, private citizens, or legal firms over the ownership of certain properties; the right of the federal government to restrict access to sites, structures, and other properties; or the right to perform actions on properties, such as excavations, stabilization, or repair activities.²⁷⁰

Private citizens may respond to federal actions on cultural resources in a number of ways, including open debate, activism, or legal action. A good example is the debate surrounding the destruction of the Neutra's Cyclorama Building at the Gettysburg National Battlefield. In 1998 the National Park Service announced its intentions to restore the battlefield to the way it would have appeared in 1863, when the battle occurred. The plan included the demolition of the Visitor Center and Cyclorama, designed and built by architect Richard Neutra in 1961. Debates over the eligibility of

²⁶⁹ Theft of Government Property (18 USC § 641) and Prohibitions under Title 36 CFR 261.9; Lynne Chaffanch, "The Federal Bureau of Investigation's Art Theft Program," 95-97; Neumann and Sanford, *Cultural Resources Archaeology*, 6-9.

²⁷⁰ Cline, "Stewardship," 9.

the Cyclorama for the National Register of Historic Places (NRHP) raged, with conflicting opinions of eligibility issued by the Keeper of the NRHP and the State Historic Preservation Officer (SHPO) of Pennsylvania. Private groups have organized petitions, letter writing campaigns, and other activities in an attempt to save the building. The Park Service has thus far refused to reverse its determination, however, and the building remains on a short list for demolition.²⁷¹ As a private citizen, a federal employee may find themselves to be in sympathy with the views, opinions, and actions of other citizens, and thus find themselves in a moral and ethical quagmire. This is one of the many reasons that it is absolutely imperative that federal employees have a clear understanding of the professional practices set out for historical and archaeological professionals.

The debate over ownership does not stop with the question of the ownership of the physical artifacts, sites, and properties. In fact, the argument over possession is really simply a manifestation of a larger question, who owns the past?²⁷² Ownership of the past subsumes all of debates over the physical artifacts and properties, but it also includes the interpretation, including the presentation, of the past. In other words, a common perception is that ownership of the article implies the right to interpret that article,

²⁷¹ Richard W. Longstreth, ed., "Introduction," in *Cultural Landscapes: Balancing Nature and Heritage in Preservation Practice* (Minneapolis: University of Minneapolis, 2008), 13-6; Nathan Jefferson Riddle, "Landscape Preservation and Interpretation: Issues of Use, Historical Experience, and Myth at Gettysburg National Military Park," Master's Thesis, Historic Preservation Graduate School of Architecture, Planning, and Preservation, Columbia University (1999), <<http://www.neutra.org/MythAtGettysburg.html>>, accessed June 2, 2006.

²⁷² James O. Young, "Cultures and the ownership of archaeological finds," in *The Ethics of Archaeology: Philosophical Perspectives on Archaeological Practice*, ed. Geoffrey Scarre (Cambridge: Cambridge University Press, 2006), 15-31; Smith, *Archeological Theory and the Politics of Cultural Heritage*, 82.

embodied in the axiom that the victor writes the history.²⁷³ Karen J. Warren argues that the notion of ownership pervades Western thinking and results in an “oppressive conceptual framework” that has been used to marginalize the claims (which she defines as beliefs, values, attitudes, and assumptions) of women and indigenous peoples.²⁷⁴ Historians, archaeologists, and federal land managers should be aware of the debate within the field and should make a concerted effort to honestly represent all potential viewpoints in any historical monograph, report, museum display or signage, or other official documents to which he or she contributes.²⁷⁵

A conflict may arise between a land manager, historian, or cultural resources specialist and the agency for which he or she works when the needs of the agency are seemingly at odds with the professional standards of the fields of history and anthropology.²⁷⁶ Those working for the federal government must recognize that federal agencies may have valid reasons for protecting some information, the obvious case being that information covered by the Freedom of Information Act. The Freedom of Information Act, signed into law in 1982 and amended in 2002, requires that federal agencies to provide copies of records when requested, in writing, by a citizen or public organization.²⁷⁷ It provides for exemptions, however, when dealing with certain types of

²⁷³ Smith, *Archeological Theory and the Politics of Cultural Heritage*, 84-5.

²⁷⁴ Karen J. Warren, “Introduction: A Philosophical Perspective on the Ethics and Resolution of Cultural Properties Issues,” in *The Ethics of Collecting Cultural Property*, 2nd Edition, ed. P. M. Messenger (Albuquerque: University of New Mexico Press, 1999), 12.

²⁷⁵ Rosemary A. Joyce, “Solid Histories for Fragile Nations: Archaeology as Cultural Patrimony,” in *Embedding Ethics*, ed. Lynn Meskell and Peter Pels (New York: Berg, 2005), 254-6.

²⁷⁶ Smith, *Archeological Theory and the Politics of Cultural Heritage*, 137-8.

²⁷⁷ Freedom of Information Act of 1982 (5 USC § 552); Christopher L. Henry, ed., *Freedom of Information Act* (New York: Novinka Books, 2003), 1-2.

information; specifically information that is specifically exempted by other statutes. The Archaeological Resources Protection Act (ARPA), for example, specifically exempts locational data for archaeological sites from disclosure.²⁷⁸ Other areas of conflict may include a question of simply shedding a positive or negative light on the agency. The historian or archaeologist should maintain as objective a stance as possible to maintain professional credibility. Ultimately the historian, cultural resources specialist or land manager must recognize that while he or she is answerable to the agency for which they work, that agency is answerable to the public. It is ultimately to the public that the history professional owes his or her allegiance.

To aid historians, archaeologists, and other professionals and bureaucrats working with historical data, artifacts, or properties, many professional organizations have developed codes of ethics or professional standards.²⁷⁹ Several have been included at the end of this paper as examples, but each field has multiple organizations representing them, each of which may have a slightly different set of professional parameters. For example, federal historians are represented by the Society for History in the Federal Government, the National Council on Public History, the American Historical Association, and the American Association for State and Local History, just to name a few. Archaeologists are represented by the Society for American Archaeology, the American Institute of Archaeology, and the Register of Professional Archaeologists, and

²⁷⁸ 16 USC § 470(hh); Hutt and Blanco, *Cultural Property Law*, 99; Hutt, Forsyth, and Tarler, *Presenting Archaeology in Court*, 236.

²⁷⁹ Hester A. Davis, "Creating and Implementing a Code of Standards," in *Ethical Issues in Archaeology*, ed. Larry J. Zimmerman, Karen D. Vitelli, Julie Hollowell-Zimmer (Walnut Creek, California: Alta Mira Press, 2003), 251-60.

a number of others. Historic preservationists are represented by the Advisory Council on Historic Preservation, the National Trust for Historic Preservation, and the National Architectural Trust, and others. Each organization has a code of conduct, professional practices, or ethics, or endorses a set. The Society for History in the Federal Government, in particular, has designed their standards for federal employees that are acting as historians but are not necessarily trained as such.

The subject of ethics is a convoluted and often confusing issue. The need for statements of ethics, principles, and standards has been long debated, but ultimately it is the individual's own responsibility to adhere to the ideals that support the stewardship of lands administered by the government.

CONSULTATION AND ROCK ART SITES

In 1986 and again in 1992, Congress amended the National Historic Preservation Act (NHPA). Those amendments, among other things, set forth a formal requirement for all federal agencies to consult with the State Historic Preservation Officer, the Tribal Historic Preservation Officer, and any interested parties—to include Indian tribes and traditional leaders—on any project that has the potential to impact historic properties on federal lands.²⁸⁰ Congress intended to encourage Native American and Native Hawaiian participation in the consultation process.²⁸¹ Despite the revisions and the intention of both the original legislation and the revisions to make the consultation a productive discussion between all parties, in many cases consultation has become a stilted, overly formalized process that is seen as an obstacle to progress, rather than a facilitator.²⁸² This chapter analyzes the consultation process, and explores the ways in which it can be improved to serve as a valuable tool in rock art site management.

²⁸⁰ An *historic property*, as defined in Section 106 of the National Historic Preservation Act, is any “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places.” As such, rock art sites fall under the definition of an historic property, and can also be considered an historic district under certain circumstances.

²⁸¹ Nina Swidler and Janet Cohen, “Issues in Intertribal Consultation,” in *Native Americans and Archaeologists*, ed. Nina Swidler et al. (Walnut Creek, CA; AltaMira Press, 1997), 198-199; Rose Kluth and Kathy Munnell, “Integration of Tradition and Scientific Knowledge on the Leech Lake Reservation,” in *Native Americans and Archaeologists*, ed. Nina Swidler et al. (Walnut Creek, CA; AltaMira Press, 1997), 113, 118; Darby C. Stapp and Michael S. Burney, *Tribal Cultural Resource Management: The Full Circle to Stewardship* (Walnut Creek, California: Rowman Altamira, 2002), 53.

²⁸² Nina M. Versaggi, “Tradition, Sovereignty, Recognition: NAGPRA Consultations with the Iroquois Confederacy of Sovereign Nations of New York,” in *Cross-cultural Collaboration: Native Peoples and Archaeology in the Northeastern United States*, ed. Jordan E. Kerber and Joe Watkins (Lincoln: University of Nebraska Press, 2006), 18-19.

Defining Consultation

Section 106 of the NHPA requires that all federal agencies “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register,” and further requires that each agency “shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking.”²⁸³ In order to integrate the Native American community into the Section 106 review process, Congress amended the NHPA in 1992, making consultation mandatory with “any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by an undertaking.”²⁸⁴ In its entirety, Section 101(d)(6)(B) reads:

Section 101(d)(6)(B) of the [National Historic Preservation A]ct requires the agency official to consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking. This requirement applies regardless of the location of the historic property. Such Indian tribe or Native Hawaiian organization shall be a consulting party.²⁸⁵

The Secretary of the Interior Standards and Guidelines defines consultation as “the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106

²⁸³ 16 USC § 470w.

²⁸⁴ Advisory Council on Historic Preservation. “Consulting with Indian Tribes in the Section 106 Review Process,” <http://www.achp.gov/regs-tribes.html>, updated Aug 22, 2005.

²⁸⁵ 36 Code of Federal Regulations PART 800(36 CFR 800), Protection of Historic Properties.

process.”²⁸⁶ More simply, according to Richard Stoffle, consultation is a process by which “American Indian peoples with aboriginal or historic ties to public lands are identified and brought into discussions about cultural resources in those lands.”²⁸⁷

Each federal agency maintains a policy regarding how consultation is handled. Although minor differences exist in the policies based upon the primary mission of the agency, in essence they all establish when, how, and why the agency’s land managers, historians, and archeologists will conduct the consultation process in accordance with the NHPA. The policies are further informed by other legislation, including the National Environmental Protection Act (NEPA), the American Indian Religious Freedom Act (AIRFA), the Native American Graves Protection and Repatriation Act (NAGPRA), Executive Order (EO) 13007, “Indian Sacred Sites,” among others that may dictate agency policy. The policies laid out acknowledge the Presidential Memorandum issued by President Clinton in 1994 that sets the policy for federal agencies to conduct all relations with federally-recognized tribes on a government-to-government level. The intent of the policy was to build “a more effective day-to-day working relationship reflecting respect for the rights of self-government due the sovereign tribal governments.”²⁸⁸

²⁸⁶ The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, 1983 (48 FR 44716).

²⁸⁷ Richard W. Stoffle, “Anthropology and Consultation: A Model for the Nevada Test Site,” in *American Indians and the Nevada Test Site*, ed. Richard W. Stoffle, María Nieves Zedeño, and Davis B. Halmo, (Washington, D.C.: US Government Printing Office, 2001), 22.

²⁸⁸ William Jefferson Clinton, Memorandum of April 29, 1994, “Government-to-Government Relations With Native American Tribal Governments,” Federal Register Vol. 59, No. 85, Wednesday, May 4, 1994.

The need for consultation goes far beyond a simple requirement under the NHPA. The requirement to consult is driven by the “trust relationship” of the federal government toward Native nations, those nations’ assets, their rights under treaties, and as common law trustees.²⁸⁹ This trust relationship is part of the complex relationship between the federal government and Native nations that came about when those Native nations ceded lands and resources with the understanding under the treaties, executive orders, and other agreements that the government would safeguard the interests of the Native nations.²⁹⁰ The federal government has not always followed through in the trust relationship, but through periodic legislation and executive orders Congress and the President have sought to repair that relationship and restore that trust. The intent of all consultation policies implemented by federal agencies is intended to foster an open dialogue between each agency and the Native American community and to ensure that the Native voice is not merely heard, but has the opportunity to influence federal land management strategies and policies.²⁹¹ As stated in the Department of Defense American Indian and Alaskan Native Policy, the policy is dedicated to the principles that “recognize the importance of increasing understanding and addressing tribal concerns, past, present, and future,” and that these “concerns should be addressed prior to reaching decisions on matters that may

²⁸⁹ R. Anyon, T.J. Ferguson, and J.R. Welch, " Heritage Management by American Indian Tribes in the Southwestern United States," in *Cultural Resource Management in Contemporary Society: Perspectives on Managing and Presenting the Past*, ed. Francis P. McManamon, Alf Hatton (New York: Routledge, 2000), 121-122.

²⁹⁰ National Association of Tribal Historic Preservation Officers (NATHPO). *Tribal Consultation: Best Practices in Historic Preservation*, (Washington, D.C.: National Association of Tribal Historic Preservation Officers, 2005); Justin B. Richland and Sarah Deer, *Introduction to Tribal Legal Studies* (Walnut Creek, California: Rowman Altamira, 2004), 44-45.

²⁹¹ Randall H. McGuire, *Archaeology as Political Action* (Berkeley: University of California Press, 2008), 145-146.

have the potential to significantly affect tribal resources, tribal rights, or Indian lands.”²⁹²

The Secretary of the Interior Standards for Archeology and Historic Preservation are very specific, and require that a consulting agency should:

1. Make its interests and constraints clear at the beginning;
2. Make clear any rules, processes, or schedules applicable to the consultation;
3. Acknowledge others’ interests and seek to understand them;
4. Develop and consider a full range of options; and,
5. Try to identify solutions that will leave all parties satisfied.²⁹³

The consultation process is, by definition, a dialogue among equals, or should be.²⁹⁴ The presidential memorandum is an attempt to ensure that the dialogue is one of respect, conducted between equals. The key to making the consultation process effective, according to anthropologist and historic preservation law expert Thomas King, is to make it a negotiation that ultimately results in a decision that all parties can reasonably agree has been reached fairly.²⁹⁵ By requiring consultation, the federal government acknowledges that it must share decision-making with the Native American community, both by virtue of the trust relationship, and simply because it is the right thing to do. According to archeologist Richard Stoffle, the federal government specifically seeks Native groups input on:

²⁹² Department of Defense, *American Indians and Alaska Native Policy*, Oct 20, 1998.

²⁹³ The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, 1983 (48 FR 44716).

²⁹⁴ Versaggi, "Tradition, Sovereignty, Recognition," 18.

²⁹⁵ King. *Thinking About Cultural Resource Management*, 135; King, *Cultural Resource Laws and Practices*, 21-23.

1. Identifying historical resources that may require protection from adverse effects
2. Determining an appropriate priority for protection of resources managed by the agency
3. Selecting appropriate management strategies for resources
4. The development of long-term planning for resource management²⁹⁶

In 2000, President Clinton signed Executive Order 13175, which directs all federal agencies to seek meaningful and timely input from tribal governments on the development of agency regulatory policies, to include the consultation policy, that have “tribal implications.” The order, therefore, requires that even the policy for conducting consultation should have meaningful input from the tribes. Moreover, the order requires that the consultation process used by the agencies to develop policy must be fully accountable.²⁹⁷ It is the accountability that is particularly noteworthy, since it essentially calls for an atmosphere of full disclosure on the part of the federal agencies.

Who Should be Involved in Consultation

When dealing with issues involving historic and prehistoric sites and properties, artifacts, and objects of cultural patrimony, the parties that *can* be involved in the consultation process are endless, and federal representatives can use their discretion by deciding who they will invite to the consultation table. However, the NHPA is specific about who *must* be included in the consultation process. Those parties include:

1. The State Historic Preservation Office (or Tribal Historic Preservation Officer (THPO) on Tribal lands, if the tribe has a THPO)

²⁹⁶ Stoffle, “Anthropology and Consultation,” 22.

²⁹⁷ Clinton, “Consultation and Coordination with Indian Tribal Governments.”

2. Indian tribes and Native Hawaiian organizations
3. Representatives of local governments that have jurisdiction on the land in question
4. Applicants for federal assistance, permits, licenses and other approvals
5. Individuals and organizations with a demonstrated interest in the undertaking
6. The public²⁹⁸

For federally-administered lands, the SHPO will always be a part of the consultation process. For federal projects involving two or more federal agencies, project managers will determine which agency will be the lead. Consultation will then proceed under the lead agency's protocols and policies.

If the undertaking involves tribal lands, the THPO can become involved in lieu of the SHPO, if the tribe or organization has a THPO. If not, the SHPO and a tribal representative will both be involved for projects on tribal lands. The THPO for any tribe or organization may also be involved in the consultation as a representative of Indian or Hawaiian groups under number 2, above.

The Formal Consultation Process

The typical consultation under the NHPA can seem like a very complicated process, and it can be.²⁹⁹ In its simplest form, there are four main steps to the Section 106 review:

1. The 106 process is initiated when an agency identifies an undertaking that *may* affect historic properties.

²⁹⁸ 36 CFR § 800.2 (c)(2-5)

²⁹⁹ Terry H. Klein, *Managing Archaeological Investigations: A Synthesis of Highway Practice*, National Cooperative Highway Research Program, Synthesis 347 (Washington, D.C.: Transportation Research Board, 2005), 12-16.

2. The historic properties in the project area (The Area of Potential Effect, or APE) are identified.
3. Potential adverse effects to the historic properties identified in the APE as a result of the proposed undertaking are assessed.
4. Through consultation, the adverse effects are resolved to the satisfaction of all parties.³⁰⁰

It is within this seemingly simple framework, however, that problems can result.

Rock art, in particular, can be difficult to negotiate due to the nature of the resource.

While it is highly unlikely that any agency would seek to destroy or remove rock art resources, the nature of rock art is extremely enigmatic. Since the function of many rock art sites is unknown, most are considered significant under Criterion D for their potential to yield information important to prehistory or history. Archeology is, above all, “the study of past societies in their entirety, from the analysis of their cultural and environmental remains, and through the inferences which may legitimately deduced from such remains.”³⁰¹ Since archaeology focuses on past societies and on cultural/environmental remains, it therefore follows that the vast majority of archaeological data is temporally and spatially referenced.³⁰² Rock art’s place in the landscape is almost certainly one of its defining attributes, one that is particularly significant to Native groups who have a stake in the preservation of rock art as a

³⁰⁰ Advisory Council on Historic Preservation. “Section 106 Regulations Flow Chart Explanatory Material, <http://www.achp.gov/flowexplain.html>, updated February 12, 2001.

³⁰¹ V. Gaffney and M. van Leusen, “Postscript—GIS, environmental determinism and archaeology: a parallel text,” in *Archaeology and Geographical Information Systems*, ed. G. Lock and Zoran Stančić (London: Taylor and Francis, 1995), 367-382.

³⁰² David Wheatley and Mark Gillings, *Spatial Technology and Archaeology: The Archaeological Applications of GIS* (Boca Rotan, Florida: CRC Press, 2002), 3-8; Matthew Johnson, *Ideas of Landscape: An Introduction* (Oxford: Blackwell Publishing, 2006), 4; Gavin Lucas, *Critical Approaches to Fieldwork: Contemporary and Historical Archaeological Practice* (New York: Routledge, 2001), 6.

resource. Rock art cannot be treated as a discrete resource. Rather, it must be treated an integral part of a larger landscape, which much be considered in the consultation process.³⁰³ An archeologist with the Agua Caliente Band of Cahuilla Indians, Patricia Tuck, notes that the criteria for significance under the National Register was created independently by archeologists and historic preservationists, not necessarily by Indians or Native peoples. According to Tuck, American Indians may consider a region or a resource significant for reasons that an archeologist might not recognize. She explains that the criteria was “created by a group other than the tribal community, and their criteria for significance—to them as Native people—is completely different.”³⁰⁴ The consultation process must therefore take into account the impact on much more than the rock art itself, but its place within contemporary Native American cultures.³⁰⁵

Building a Relationship

Building an open, friendly relationship between the staff of a federal agency and the consulting parties is the key to a successful and productive consultation. Above all, however, that relationship must be built upon trust.³⁰⁶ In addition, in order to be effective, Stoffle notes that the relationship must be a *partnership*.³⁰⁷ A partnership, in contrast to a manipulative relationship, is one of shared power, and necessarily involves

³⁰³ Wheatley and Gillings, *Spatial Technology and Archaeology*, 202-203; William D. Hyder, “Locational Analysis in Rock Art Studies,” in *The Figured Landscapes of Rock-Art: Looking at Pictures in Place*, ed. Christopher Chippendale and George Nash (Cambridge: Cambridge University Press, 2004), 85-87.

³⁰⁴ Patricia Tuck, interview with the author, Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

³⁰⁵ Larry J. Zimmerman, “Consulting Stakeholders,” in *Archaeology in Practice: A Student Guide to Archaeological Analyses*, ed. Jane Balme and Alistair Paterson (Oxford: Blackwell Publishing, 2006), 46-49.

³⁰⁶ Versaggi, “Tradition, Sovereignty, Recognition,” 21.

³⁰⁷ Stoffle, “Anthropology and Consultation,” 23.

close cooperation and disclosure. The greater the degree of cooperation and disclosure, the greater the amount of trust that will subsequently develop.³⁰⁸

Trust is a particular relationship in which each party feels that they can depend upon the other party to achieve a common purpose. Trust is the basis of every productive relationship, and one that must be established between Land Managers, their staff, and Native American communities.³⁰⁹ According to Rosseau, “trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another.”³¹⁰ Trust is based upon an individual or group’s perception of another individual or group’s ability, integrity, and benevolence. An individual or group’s *ability* is the perception that that individual or group has the prerequisite knowledge, skill, and competency to meet expectations. *Integrity* is the degree to which that individual or group adheres to an established code of behavior or values. Finally, *benevolence* is the belief that an individual or group will act in a manner that is beneficial to the other individual or group, or, at a minimum, not act against that individual or group. The more positive the perception that an individual or group is capable, behaviorally consistent within established norms, and willing to act in the best interests of the other group, then the greater the level of trust that will be instilled in that group. Conversely, any perception that an individual is not capable, does not display an

³⁰⁸ Donald C. Menzel, *Ethics Management for Public Administrators: Building Organizations of Integrity* (Armonk, New York: M.E. Sharpe, 2007), 17-18.

³⁰⁹ Stapp and Burney, *Tribal Cultural Resource Management*, 119-120.

³¹⁰ D. M. Rousseau, S. B. Sitkin, R. S. Burt, and C. Camerer, "Not so Different After All: A Cross-Discipline View of Trust," in *Academy of Management Review* 23 (1998): 393-404.

acceptable level of integrity, or is seen as acting counter to the other individual or group's best interests will degrade the level of trust.³¹¹

A land manager, historian, or archeologist's ability, as defined above, to perform their job function is a complex combination of education and experience that is typically demonstrated through the individual's curriculum vitae or resume, and his or her authority, which is derived from federal regulations and agency policies.³¹² An educated and experienced land manager, historian, or archeologist will first have to demonstrate his or her credibility to the Native American groups, and thus his or her ability to accomplish what is being proposed. That means more than the degree on the wall, however. Native groups, tribal people, and sovereign tribes need to be reassured that the land managers, historians, or archeologists understand the federal system and the legislation well enough to both represent the government to Native groups and the Native groups to the government. The Indian representatives would quickly lose faith in a federal employee that does not have a solid understanding of the entire consultation process, the participants, and the proposed project and its potential impacts. The land manager, historian, or archeologist must also demonstrate the authority within the agency to ensure compliance with the laws and protocols in place.

Similarly, the Native groups would lose faith in a land manager, historian, or archeologist that they perceive to have a lack of integrity. In other words, tribal members will not trust someone who does not follow through with their promises, does not seem to

³¹¹ Roy J. Lewicki and Edward C. Tomlinson, "Trust and Trust Building," http://www.beyondintractability.org/essay/trust_building/, accessed April 5, 2008.

³¹² Smith, *Archeological Theory and the Politics of Cultural Heritage*, 65.

be open and willing to share information, or is seen to be obsequious. Closely related is the perception that the land manager, historian, or archeologist does not have the best interests of the Indians in mind when entering into consultation. The view that the needs of the government are uppermost in the mind of the bureaucrat and not those of the tribe is common enough, and the relationship between the agency and the consultants can be easily impacted by a haughty or disdainful civil servant.

The process itself can also be detrimental to a productive relationship. Many agencies have ritualized their process, and excluded Native Americans for years. Ritualized behavior, as an anthropological term, is marked by, among other things, its rigidity and repetition. In some cases, the act of consultation has been codified by federal employees and other non-Indians to the point that it no longer serves its intended purpose. Anthropologists Pascal Boyer and Pierre Liénard note that in ritualized behavior, actions are often divorced from their intended goals, which is precisely the complaint that many Native Americans have about the consultation process.³¹³ The consultation, which is intended to foster communication and arrive at a compromise instead becomes a process whereby federal agencies simply inform the Native groups what the project entails.³¹⁴

The purpose of consultation is to develop a dialog and reach a consensus on how to manage cultural resources. Instead, consultation too often tends to divide the groups into camps, each group believing that they are at cross-purposes. Second, rituals are

³¹³ Pascal Boyer and Pierre Liénard, "Why ritualized behavior? Precaution Systems and action parsing in developmental, pathological and cultural rituals," *Behavioral and Brain Sciences* 29 (2006): 1–56.

³¹⁴ Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 29.

often considered to be compulsory, and often the sequence of behavior is disconnected from the intended goal.³¹⁵ An archeologist and Tribal Historic Preservation Officer for the Agua Caliente Band of Cahuilla Indians, Richard Begay notes that if consultation occurs, it is often after the fact; the final reports are delivered to the tribes, and comment is sought. When that happens, Begay says, “It’s already a done deal. What’s the point of commenting?”³¹⁶ The ritualization, or rote performance, of the consultation means that it is done not to actively seek input, but rather to satisfy the requirements of Section 106.³¹⁷ Finally, and most noteworthy, Boyer and Liénard note that “people create an orderly environment that is quite different from the one of everyday interaction.”³¹⁸ The guidelines are followed to the letter, with little room for deviation. The letter requesting consultation is sent, often excruciatingly formal and peppered with legal terms. The tribes receive the letter, recognize it for what it is—a formality—and file it away with the rest of the consultation letters they’ve received. Ritualized behavior is further marked by a restricted range of themes.³¹⁹ Contrary to the spirit of consultation, in which two or more groups meet to discuss alternatives, when the consultation process becomes ritualized participants are presented a limited number of options from which to choose. Under those circumstances creativity in addressing the issues of the consultation is neither encouraged nor valued. Land managers, historians, and archeologists involved in the consultation process should be cognizant of the tendency toward ritualized behavior

³¹⁵ Boyer and Liénard, “Why ritualized behavior?” 3.

³¹⁶ Richard Begay, Director of Tribal Historic Preservation, interview with the author at the Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

³¹⁷ Versaggi, “Tradition, Sovereignty, Recognition,” 18-19.

³¹⁸ Boyer and Liénard, “Why ritualized behavior?” 3.

³¹⁹ Boyer and Liénard, “Why ritualized behavior?” 4.

and strive to break that pattern. Instead, the participants on both sides must discard the more restrictive models and engage with each other, thereby molding the consultation into an open, productive dialogue.

Improving the Consultation Process

It is not enough for land managers to simply notify groups and interested parties of upcoming projects and request comment within 30 days. The Chemehuevi Indian Tribe, for example, does not have a dedicated cultural resources professional. Instead, Cara McCoy, the Director of the Chemehuevi Cultural Center and a member of the Chemehuevi Tribal Council handles consultation issues. McCoy complains that she regularly receives requests for consultation that lack maps and other detailed information that allow her to accurately and easily locate the Area of Potential Effect (APE) for the project. McCoy's lack of sufficient detail on the proposed projects prevents her from realistically evaluating the threat to cultural resources. Responding to requests for consultation are one of her many duties, and she feels that she cannot give the project the attention it should get within the 30 day period allowed by law. A situation such as McCoy's could be easily avoided if the agency's land managers, historians, or archeologists understood McCoy's responsibilities and duties. Instead of feeling as though she were a part of the team, McCoy feels that the agencies lack of understanding and assistance alienate and exclude her from the process and only frustrate her.³²⁰ The federal agencies with which McCoy consults could easily alleviate McCoy's complaints through regular communication and sensitivity to McCoy's need for better detail. She

³²⁰ Cara McCoy, personal communication to author, April 5, 2008.

could accorded a longer lead time, better mapping, and more communication with the agency. Federal employees must understand that not all tribes will have GIS software, experienced cultural resources personnel, or a thorough understanding of the jargon, acronyms, or internal processes of the federal agencies. Land managers, historians, and archeologists should be sufficiently familiar with their consultants' capabilities to tailor the consultation package to facilitate the subsequent discussion.

Begay's comment, quoted earlier, has relevance here, as well. The consultation process *should* be initiated when the project is initiated, that is, in the planning or scoping stage. Begay's complaint that the consultation consists only of a request for comments when final reports are delivered only reinforces the belief that the consultation process is merely a checkbox on the agency's to-do list. No meaningful dialogue will occur when it is obvious to the tribal groups that the consultation was merely a formality. That frustration is echoed by Britt Wilson, the former cultural resources manager for the Morongo Band of Mission Indians. Like Begay, Wilson notes that when contractors are used to perform fieldwork, often no requirement for consultation is written into the scope of work or the contract.³²¹ The contractors will avoid contacting tribal groups of their own volition, because consultation would add man-hours to a project, increasing costs and cutting profits.³²² Instead, they will place the burden of consultation on the agency officials, who may or may not understand the obligation to consult under Section 110 of the NHPA. The solution is that the agency representatives must explicitly build the

³²¹ Britt Wilson, personal communication to author, June 21, 2007.

³²² David G. Rice, "The Seeds of Common Ground: Experimentations in Indian Consultation," in *Native Americans and Archaeologists*, ed. by Nina Swidler et al., (Walnut Creek, CA; AltaMira Press, 1997), 217-26.

requirement for consultation into the scope of work, placing the contractor or the agency in the responsible role. The final report should include the conclusions and recommendations of the contractor, as well as those of the consulting parties.

Communication is a two-way street, of course, and federal employees often express frustration that they get no response from tribes to their requests for comments. Federal employees must realize, however, that they are dealing with individuals of varying abilities, knowledge, and familiarity with the government culture. It is easy for federal employees to forget that while he or she has been hired specifically for their education, experience, and knowledge, often the Native American groups are dependent on who is available within their group to handle the needs of the tribe. Those tribes that can afford to employ a Tribal Historic Preservation Officer or dedicated cultural resources manager most often will; however, many groups cannot afford to hire from without, may lack experienced individuals within, or may simply be dependent upon volunteers that may or may not have the necessary expertise. The Tribal representative may not be a trained bureaucrat, a historian, an archeologist, or even an experienced land manager, but he or she may be the most experienced person available, or simply the person that has the *time* to be able to respond. Those unfamiliar with the process may also feel intimidated or put off by the officious language of a consultation letter.³²³ While the federal employee feels frustration at the lack of a response, the Indians may also feel frustration at a seemingly faceless bureaucracy making further demands but not

³²³ Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 30-1.

producing any results.³²⁴ In such a case, it is the federal employee's lack of understanding of the tribe's circumstances that is at fault, and not simply a lack of interest on the part of the tribal government. Instead of criticizing the tribe's inability to respond to the request, the land manager, historian, or archeologist should take the time to determine *why* the request went unanswered, and take steps to help the tribe rectify the situation.

To help facilitate the consultation, federal land managers, historians, and archeologists have access to a wide range of resources that could benefit the Tribal government. The federal employee could recommend reference material or training courses that are available, or simply offer to educate willing members of the community directly. In addition to providing a service to the tribal community, by teaching a course in consultation the federal employee stands to gain a better understanding of the process, as well. Both parties stand to learn as much about each other as about the formal consultation process, which could serve as an excellent opportunity to enhance the relationship between the tribal government and the federal agency.

In addition to building a relationship directly with the groups with which they will consult, land managers and their staff, particularly historians and archeologists, must become an integral part of the community, and build a relationship there. They must keep themselves educated on the feelings within the Native American community, the current concerns within the community at large on land management issues, and, above all, to both come to know prominent members of the community as well as to *become*

³²⁴ Loubser, "Management Planning for Conservation," 83-84.

well known outside the government bureaucracy.³²⁵ The old adage states that, “it’s not what you know, but who you know.” Equally important is who knows *you*. All people—and Native Americans are no exception—prefer to work with people they know, and with whom they have developed a personal relationship.

Matt Leivas, a member of the Chemehuevi Indian Tribe, and cultural resources consultant for the Twentynine Palms Band of Mission Indians, spoke at a community meeting concerned with off-road vehicle use and the abuses of the landscape. He spoke of Giant Rock, a prominent and well-known landmark in Landers, California. The Chemehuevi Salt Songs are traditional songs that describe many aspects of Chemehuevi life, and mention specific landmarks in Chemehuevi traditions. Giant Rock is among those landmarks described in the Salt Songs, and according to Leivas, Giant Rock was a special place at which only privileged members of the tribal community could camp; others had to maintain a respectful distance. Leivas spoke of a recent visit to Giant Rock, and noted the damage that had been done to the landscape surrounding Giant Rock by off-road vehicles (ORVs), camping, and other activities on the land administered by the Bureau of Land Management (BLM). The damage and the disrespect displayed by the people visiting the area greatly disturbed Leivas, and he noted that the BLM is apparently unaware that the Giant Rock is a Chemehuevi sacred site.³²⁶ The Chemehuevi Salt Songs are well-known within the Chemehuevi tradition, and have been documented through the

³²⁵ McGuire, *Archaeology as Political Action*, 81.

³²⁶ Matthew Leivas, *Desert Protection Summit Conference and Public Forum*, Joshua Tree Community Center, April 5, 2008.

Cultural Conservancy and the Native American Land Conservancy.³²⁷ During discussions with representatives from the Chemehuevi Indian Tribe, tribal representatives would almost certainly have expressed concern for the locations mentioned in the Salt Songs, which BLM officials could then easily include in land management policies for the areas.

Some of the current trends in rock art study, outlined in Chapter 4, often involve complex combinations of cognitive and social theories, such as the work conducted by David Whitley. However, much more relevant information can be gained by simple interaction with the local indigenous groups. The Serrano Indian Tribe, a desert group who occupied a large part of the Mojave Desert, has oral traditions that speak specifically of rock art sites in the Mojave Desert. According to Ernest Siva, the Serrano traditions state that some of the rock art was made specifically to guide the Serrano on their arrival to this world. For that reason they could be seen from the sky, and were meant to prepare the way for the coming Serrano clans. Siva notes that some of the rock art was made by *Wahi' Mitaat*, or Tall Coyote, who put rock art on high cliffs where others could not reach. Though the oral traditions were part of Serrano songs, much like the Chemehuevi Salt Songs, the actual songs have been forgotten.³²⁸ Other rock art was made at different times, for different reasons, which some attribute to moiety and clan activity.³²⁹

³²⁷ Ibid.

³²⁸ Ernest Siva, interview with the author at the Morongo Band of Mission Indians, Banning, CA, February 2008.

³²⁹ Douglas Deur, *Traditional Use Study: The Rock Art of Joshua Tree National Park*, report prepared for the National Park Service, December 2006, 42.

Familiarity with the oral traditions and creation stories of the indigenous groups is essential to developing a proper understanding of rock art in a traditional context.

Cognitive and social theory may help to fill in some aspects of the human need to make rock art, but in the context of consultation the question is moot. What is important is what the rock art means to the Indians that traditionally occupied that area. In order to improve the consultation process, the federal land manager, historian, or archeologist must first learn to listen to what the tribes have to say about rock art, and not try to read into the explanations from a western perspective.

Maintaining a Relationship

For the reasons discussed in the previous section, land managers, historians, and archeologists should pre-plan for consultation by planning regular meetings; hosting events, meetings, or luncheons; attending local events, especially those concerned with resource or land management issues; and regularly visiting the Native American groups. Richard Begay suggests that, at a minimum, agency employees and Tribal representatives should meet, discuss upcoming projects, and discuss Indian concerns of management policy, implementation, and recommendations.³³⁰

Opportunities to increase understanding of Native perspectives typically abound. Federal employees can attend tribal functions, such as pow wows, museum and gallery openings, or other cultural events. One such example is the annual agave harvest and roast held at the Malki Museum on the Morongo Reservation in Banning, California. The

³³⁰ Richard Begay, Director of Tribal Historic Preservation, interview with the author at the Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

agave was a staple food for the Serrano, Cahuilla, and other desert groups, and as such the harvest was an important social event. Attendance at such events can familiarize the land manager, historian, or archeologist with the subsistence practices, social organization, and division of labor amongst the groups, providing a better understanding of resource management to accommodate traditional practices on federal land. Insight into cultural practices may also illuminate trade routes, resource areas, and clues to deciphering activity at sites, aiding in predictive modeling and resource identification. Thus, a better understanding of the cultural practices may provide clues to travel routes and other activities and provide a better understanding of the location and possible purpose of rock art sites.

In addition to interacting with Native Americans and their communities, Richard Begay suggests two other ways in which federal employees can work better with Native Americans. First, acknowledge the legitimacy of the Native American perspective, and second, make history and archeology something that benefits the Indian community.³³¹ As stated by George Trevelyan, "...if historians neglect to educate the public, if they fail to interest it intelligently in the past, then all their historical learning is valueless except in so far as it educates themselves." Federal land managers, historians, and archeologists have a legal obligation to protect and manage cultural resources on federal land; however, with that legal obligation comes a moral obligation to preserve and interpret the past to help to develop an informed and knowledgeable public.

³³¹ Richard M. Begay, "The Role of Archaeology on Indian Lands," in *Native Americans and Archaeologists*, ed. Nina Swidler et al. (Walnut Creek, CA; AltaMira Press, 1997), 165.

The Consultation Process and Rock Art

Rock art resources cannot be moved, and the viewshed may be particularly important. The location chosen for the placement of rock art was certainly not coincidental. Throughout the world, flat rock surfaces that seem ideal for rock art may be completely bare, while rock art may be found immediately adjacent on hard to reach, small areas. Rock art is almost certainly tied to the landscape in some way; however, that relationship may never be determined if the surrounding terrain is subjected to ground disturbance, development, or other viewshed impacts, particularly if theories about the rock art serving as navigational or story telling aids have any validity.

The ties to the landscape can go far beyond simple geographic references, however, and reflects the cultural ties to the environment. As Richard Begay notes, “when we talk about cultural resources we’re not just talking about archeological sites; we’re talking about plants, rock art, animals, and so on, so cultural resources really runs the whole gamut. We need to get away from the mentality that when we are talking about cultural resources we’re just talking about archeological sites.”³³²

Barry Lopez, in writing about the connection between people and the land they inhabit, has noted that modern people are disassociated from their landscapes. While traveling in remote areas, Lopez began to recapture the sense of connection to the landscape, and began to understand the Yupik, Inupiat, and Inuit perspective on the tundra, where many people see nothingness. The Indians of the Arctic, by contrast, see

³³² Richard Begay, Director of Tribal Historic Preservation, interview with the author at the Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

civilization as lonely. Lopez believes that the “cure for loneliness...is not more socializing. It’s achieving and maintaining close friendships.”³³³ The disassociation modern societies feel can account for the disposition of land managers, historians, and archeologists to see discrete, bounded resources rather than a palimpsest that extends in all four dimensions.

The Chemehuevi Salt Song Trail provides an excellent example. Because the Salt Songs describe a journey that encompasses large portions of Arizona, Nevada and California, they cannot be separated from that landscape. To the Chemehuevi, the songs are more than a mere description, however. The songs help to maintain their connection to the land, and thereby to their heritage. For that reason, a discussion with the Chemehuevi about land management strategies must take into account those songs and those stories that tell of the Chemehuevi way.

While the Salt Songs do not specifically mention rock art, they mention a number of locations that contain rock art, and that are significant points on the Salt Song trail. One such site is in the Old Woman Mountains, and has been purchased and set aside as a preserve by the Native American Land Conservancy. The rock art may or may not have been created by ancestral Chemehuevi or Southern Paiute, but to Richard Begay the question is moot. “Whether or not current tribal groups, as we define them, created that rock art, doesn’t mean that it’s not significant to them,” he said.³³⁴ In a similar way, St. Patrick’s Cathedral may be significant to anyone living in New York City, whether they

³³³ Barry Lopez, “Cold Scapes,” *National Geographic*, December 2007, 137-154.

³³⁴ Richard Begay, Director of Tribal Historic Preservation, interview with the author at the Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

are Catholic or not, or whether or not their ancestors helped to build the structure; nonetheless, for Catholics and non-Catholics alike, St. Patrick's Cathedral has come to signify a facet of the New York City landscape. The rock art under federal administration in the Johnson Valley area adjacent to Giant Rock, discussed earlier, may or may not have been created by Chemehuevi, but nevertheless, it is a part of their historic landscape as recorded in the Salt Songs, and their opinion should be incorporated into its management.

Not only does the Salt Song Trail illustrate why agencies must maintain a relationship with the community, but it also illustrates how cultural resources can be related over long distances or large areas. No one would suggest that the entire Salt Song Trail must be preserved, but access to the sites mentioned in the songs, as well as a consideration of how those sites relate to the surrounding landscape should be integrated into the management plan for the resources, particularly those resources that are immovable features within it, such as rock art sites.

It is also important to remember that the rock art in a given location may or may not be within the cultural traditions of the indigenous groups. For any given area, there are four possible relationships between the indigenous group and the rock art within their traditional territory:

1. The rock art was made by a previous population, and the current population has no knowledge of the rock art's meaning or purpose.
2. The creation and use of rock art was within the traditions of the current population at one time, but was discontinued at some point in the past. Knowledge of the meaning and purpose may still remain in the traditions or memories of the members, even though it is not currently practiced.

3. The creation and use of rock art is an active tradition within the community, but it is knowledge that is not shared outside of the group, or that is shared only with a minority within the group.
4. The creation and use of rock art is an active tradition within the community, and information about the practice is shared both within and without the community.

As with many cultural groups, the subject of religion or cultural practices may be sensitive. Direct questioning may be uncomfortable, and many Native Americans may prefer not to answer questions about certain practices. To avoid answering, people may engage in a number of strategies, from denying any knowledge of the practice to direct refusal to answer. Rock art may be a sensitive topic, and land managers, historians, and archeologists must understand that they may not get accurate answers regarding its role in traditional practices. It is enough that the consultants express an interest in its management, and they should not be prodded for the “why.”

As the relationship between the federal employee and their consulting parties improves, they may be privy to more information. Sensitive information must at all times be considered sacrosanct unless specifically told that it can be shared or published.

Conclusions

The relationship between the federal agencies and Native American groups ultimately hinges upon the success of the land manager, historian, or archeologist’s relationship with that group. Each federal employee has a specific role to play, and it is incumbent upon those employees dealing with cultural resources to ensure that the relationship is a solid one, based on open communication and trust.

Since all interpersonal relationships are different, the land manager, historian, or archeologist must take the time to understand his or her weaknesses in knowledge or ability with regard to consultation. As a steward of public lands, he or she must actively take steps to ensure that the federal agency is meeting its legal obligations for consultation under federal law, but also meeting its moral obligations to the public, and particularly Native groups. Many models for successful consultation exist, but the key element in all of them is open and honest communication. The following points offer specific guidance in improving the consultation process for rock art sites, and ensuring that the both the federal agency and consulting parties come away from the consultation satisfied.

- 1. Establish a relationship, and provide information on future plans and goals of the agency program up front.** Build a solid working relationship with consulting parties, and ensure that the consulting groups are familiar with everything that the agency plans to do that may impact rock art sites or the landscape around them. The better the relationship at the time of consultation, the more productive the consultation will be.
- 2. Maintain regular contact, in the form of formal meetings, social events, and casual meetings, such as luncheons.** Formal meetings should be scheduled at regular intervals, with a planned agenda to ensure that details are not forgotten. Federal employees involved in consultation should also take it upon themselves to attend events held by Tribal governments, and should ensure that their supervisors recognize the value of attendance at these events. Finally, land managers,

historians, and archeologists should try to meet informally with their consultants, to maintain a friendly, open relationship, as well as keep abreast of changes within the Tribal government, learn about cultural projects or work being conducted by the tribes that may influence our understanding of Native practices, and to meet new members of the Tribal staff.

- 3. Help the tribal staff educate themselves.** For those groups that do not have dedicated cultural resource management personnel, offer advice on how tribal members can educate themselves on the consultation process, including recommending reading materials, instructional videos, online courses, or classroom instruction. Alternatively, offer to teach classes to tribal members and interested parties.
- 4. Identify those areas of the agency controlled lands that more likely to contain sensitive resources, such as rock art.** Section 110 of the National Historic Preservation Act requires that federal agencies develop a strategy for inventorying and managing historic properties on land under their control, and emphasizes a collaborative approach with the State Historic Preservation Officer. As part of their Section 110 compliance, the federal land manager, historian, or archeologist should schedule time to meet with the tribes to identify areas of concern within the agency's area of responsibility, and to develop a map or GIS layer that will serve to remind both groups where particular attention should be paid when new projects come up. For instance, in Southern California prehistoric groups tended to place rock art on basalt outcrops. It would be a simple matter to define those

areas within agency lands that are known to be basaltic, and to take precautionary measures to ensure that the areas are surveyed appropriately.

- 5. Begin the consultation process early, in the scoping stage and provide as much lead time as possible, particularly for those groups that have no dedicated CRM staff.** Provide the maximum lead time available, to allow the tribal staff time to meet with each other, review their own literature, records, and consult their own knowledgeable people, as well as confer with other tribes that may be involved in the consultation. The greater the time allowed for review, the more successful the consultation will be.
- 6. Provide detailed, specific information from the beginning, based upon the tribe's capabilities.** Establishing a good working relationship with the tribal staff will help federal land managers, historians, and archeologists become familiar with the tribal staff's capabilities. For example, those tribes that have a CRM staff will be very familiar with site records, literature searches, and may have GIS, as well. Other offices may be more simply equipped, and will depend upon the agency to provide large-scale maps for review, and for more detailed explanations that do not depend upon insider jargon, terminology, and acronyms. For example, do not send large electronic versions of maps that require a large format printer if the tribe's offices are limited to standard paper.
- 7. Write requirements for consultation into contracts, requiring both management recommendations and other comments from the consulting groups.** It is entirely within the purview of the federal agency to write the scopes

of work detailing exactly how a contract will be executed. Contractors may not be aware that the scopes of work have changed from job to job, since many scopes consist of large sections of boilerplate. Advise contractors that the scopes have been modified, and be prepared to provide contact information for tribal governments. Changing the scopes of work does not require a policy change, and is a step that federal employees can implement immediately, but which will have a long term effect on the success of the consultation program.

8. **Consider appointing a coordinator for Native American affairs.**³³⁵ For agencies that conduct a significant amount of consultation, the agency should consider appointing an individual whose responsibilities include contacting the tribes and maintaining a detailed log of all communication. That individual should serve as the primary liaison through whom all correspondence is routed, to ensure that a complete and accurate record of the process is maintained. All personnel on the land manager's staff, however, should not be familiar with the consultation process, and all should strive to make the consultation as productive as possible.

The most important thing an archeologist, historian or federal land manager can do with regard to the consultation process is to reject the overly formalized model that is so commonly used, and which is focused only the short-term. Instead the cultural resources professional should concentrate on the spirit of the consultation process, and

³³⁵ Donald Mitchell and David Rubenson, *Native American Affairs and the Department of Defense*, (Santa Monica: RAND National Defense Research Institute, 1996), 51.

recognize that consultation should be, above, all, a collaboration between the federal agency and the community, especially Native groups. Collaboration is a process that implies a long-term commitment both to the resources and to the community, one that reaches beyond a single project and focuses on a rewarding and successful relationship.³³⁶ It is the concept of collaboration that makes the consultation process both fruitful and mutually fulfilling.

³³⁶ McGuire, *Archaeology as Political Action*, 80.

THE MANAGEMENT OF ROCK ART SITES FOR PUBLIC VISITATION

Management policies for rock art sites should, in general, vary little from those policies in place for other historical properties. They are afforded the same protection under the federal guidelines, and should be apportioned an equivalent amount of the available funding spent in activities related to the preservation of the site as that spent for other sites. In some ways, however, rock art sites are very different from other historical properties, and must be managed in ways that are tailored to their unique position in the landscape and in the hearts and minds of Native people. Though the data potential for rock art sites may be considered low, due to their enigmatic nature, their vulnerable and immovable context, coupled with the public's fascination with rock art particularly, places them at higher risk than other site types.³³⁷ Therefore, a strong argument can be made that rock art sites should be afforded a larger portion of the site protection budget.

Rock art sites on federal lands present a particular challenge because of the often conflicting needs of federal agencies with regard to land management. Federal regulations do not distinguish between agencies, and each has an equal responsibility for the conservation of cultural resources that fall within agency-managed lands. The Department of Defense (DoD) has a vastly different mission than the National Park Service (NPS), yet both are stewards of the lands they administer, and have a

³³⁷ Keyser and Klassen, *Plains Indian Rock Art*, 304.

responsibility to the public to ensure that resources, both natural and cultural, are not wantonly or inadvertently destroyed or endangered.

In November, 2008, the Society for American Archaeology (SAA) published a special report that examined the results of the 2002-2008 National Survey on Recreation and the Environment (*NSRE*) compiled by the Outdoor Recreation Resources Review Commission (ORRRC). The study, conducted on a semi-regular basis since 1960, assessed the outdoor recreation participation in the United States through interviews of over 120,000 participants aged 16 years or older. The SAA report evaluated those parts of the report that dealt specifically with participants that visited an archeological or prehistoric site. The results showed that approximately 20 percent of the respondents had visited an archeological or prehistoric site within the previous year, and a staggering 44 percent visited an historic site.³³⁸ The U.S. Census Bureau reported the labor force population (16 years of age and older) for 2006-2008 at 153,989,802.³³⁹ If one in five Americans visits an archeological or prehistoric site each year, at current population estimates 30,797,960 people in the United States have visited archeological or prehistoric sites during 2008, and 67,755,513 have visited historic sites during the same period.

The NSRE study demonstrates that people *will* visit rock art sites, often with or without permission. An excellent example of the persistence of people is the Knapp Indian Caves site. J. Horace McFarland and S. Horne documented the visitation to the

³³⁸ Gary T. Green, Julie Sharp, H. Ken Cordell, and Carter J. Betz, *Special Report for the Society for American Archaeology*, <http://www.saa.org/Portals/0/SAA/new/NSRESurvey%20data%20final%20report.pdf> , Society for American Archaeology 2008.

³³⁹ U.S. Census Bureau, *Fact Sheet 2006-2008*, http://factfinder.census.gov/servlet/ACSSAFFacts?_submenuId=factsheet_1&_sse=on

site and recorded that approximately 900 people annually visit the Knapp Indian Caves pictograph site, each of whom risks being shot as they traverse a shooting range adjacent to the site. McFarland and Horne noted that it is not a question of *allowing* visitation as much as it is about *controlling* it.³⁴⁰ Agencies will experience the same issues, since rangers and land managers cannot be at every site at all times.

ROCK ART SITE MANAGEMENT PRINCIPLES

In his 1997 paper, “The Roles of Those Who Serve Rock Art,” Dr. B. K. Swartz lists five responsibilities of those who have some vested interest in rock art. Federal employees who serve in agencies that administer land containing rock art clearly fall within that category. The five responsibilities Swartz lists are practical, sociopolitical, intellectual, educational, and informational, and all five of the responsibilities together are the basis for a comprehensive site management plan.³⁴¹

IDENTIFICATION AND RECORDATION

The identification and recording of rock art sites, which falls into Swartz’s responsibility category of *practical*, is probably the single most important management practice. Properly recording a site ensures that a level of detail is preserved, providing information about the site even if the site suffers vandalism, destruction, or other impacts in the future.³⁴²

³⁴⁰ J. Horace McFarland and S. Horne, *The Beaten Path: Visitors and Visitation at Rock Art Sites in Los Padres National Forest, Santa Barbara, California*, paper presented at the American Rock Art Research Association Meeting, La Junta, Colorado, 1997.

³⁴¹ B. K. Swartz, Jr., “The Roles of Those Who Serve Rock Art.” *Occasional SARARA Publication 4* (1997), 25-27.

³⁴² Swartz, “Roles of those Who Serve Rock Art,” 25.

The process of site and resource identification is often referred to as a field survey or a research inventory, though the terminology may vary from region to region. In archaeology, a research inventory is an examination of a landscape to locate and determine the distribution of artifacts, structures, or other evidence of human activity.³⁴³ Research inventories can consist of archeological surveys, in which systematic surface or subsurface surveys (e.g., ground-penetrating radar, shovel test units, etc.) are conducted over specific areas of land, and all sites located are recorded appropriately. Surveys can also consist of the recordation of sites that have been detected by other means, such as an informant or historical records. All inventories should be conducted under an established research design that is consistent with the goals of the agency policy.³⁴⁴ Every state and many federal agencies have published detailed guidelines for the process of conducting research inventories, which are required under Section 110 of the National Historic Preservation Act.³⁴⁵ For example, the California State Office of Historic Preservation has published the Guidelines for Archaeological Research Designs, which provides detailed information on who is qualified to produce a research design and how that design should guide research inventories.³⁴⁶

³⁴³ Brian Leigh Molyneaux, "Archaeological Survey," in *Handbook of Archaeological Methods*, ed. Herbert D. G. Machner and Christopher Chippendale (Walnut Creek: Alta Mira, 2005), 106-10; Kelly and Thomas, *Archaeology*, 50-9.

³⁴⁴ Clive Orton, *Sampling in Archaeology*, (Cambridge: Cambridge University Press, 2000), 9-11.

³⁴⁵ Sebastian, "Archaeology and the Law," 6; for a more detailed discussion of the requirements for inventory under Section 110, refer to the chapter entitled An Introduction to Archeological Law in the Management of Rock Art on Federal Lands in this work.

³⁴⁶ California Office of Historic Preservation, *Guidelines for Archaeological Research Designs*, Preservation Planning Bulletin Number 5, Feb. 1991.

The BLM Manual, Section 8110, to cite another example, deals specifically with conducting cultural resources inventories on BLM-administered land. The objectives of the inventory process are laid out in section 8110.02:

Objectives. The objectives of the identification component of the cultural resource management program are to ensure that BLM Field Office managers accomplish the following:

A. Locate and record cultural resources on lands they administer and in areas affected by undertakings they authorize.

B. Establish the resources' National Register significance and their scientific, cultural, public, traditional, and conservation values as the basis for managing the resources and the surrounding land area over the long term.

C. Prepare to enter into land use planning with sound qualitative, quantitative, and geographical information about known and anticipated cultural resources, and with definite goals for their short- and long-term management.

D. Maintain permanent, up-to-date records through cooperation with the State Historic Preservation Officer, and encourage their use for appropriate educational, research, and other learning purposes.

The BLM Manual is written to maintain compliance with all federal laws and regulations regarding cultural resources. In particular, the inventory process conforms to the guidelines dictated by the National Historic Preservation Act (NHPA).³⁴⁷ All agencies have a similar documentation that outlines the requirements for agency officials with regard to cultural resources.

While the guidelines used by archaeologists for inventories are often thorough, they are often general and do not provide information on recording specific resources, such as rock art. Instead, it is incumbent upon the historian, archaeologist, or cultural

³⁴⁷ See Chapter 3 of this work for an extended discussion of the Section 106 process, and its applicability to rock art sites, specifically.

resource professional to educate themselves on the accepted methodology for performing inventories and documenting any sites identified.³⁴⁸ At a minimum the state forms should be completed; many times, however, state forms are inadequate for recording rock art sites at the level of detail that is commonly desired by rock art researchers. Figure 1 below shows the California Office of Historic Preservation form 523g, which is a supplementary form designed for recording rock art sites.

³⁴⁸ Linda Ellis, ed., "Rock Art Sites, Recording and Analysis," in *Archaeological Methods and Theory: An Encyclopedia* (New York: Garland, 2000), 528-30.

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION	Primary # _____ Trinomial _____
ROCK ART RECORD	
Page _____ of _____ Resource Name or # (Assigned by Recorder) _____	
R1.	Feature # (Panel #): _____ of _____
R2.	Feature/Panel Location (From site datum): _____ Found on: <input type="checkbox"/> Cliff face <input type="checkbox"/> Boulder <input type="checkbox"/> Bedrock <input type="checkbox"/> Cave/shelter surface <input type="checkbox"/> Other: _____
R3.	Host Rock: _____
R4.	Host Background: <input type="checkbox"/> Patinated <input type="checkbox"/> Natural <input type="checkbox"/> Painted <input type="checkbox"/> Glaciated <input type="checkbox"/> Smoke blackened <input type="checkbox"/> Other: _____
R5.	Detailed Description of Panel: (Check any that apply) <input type="checkbox"/> Petroglyphs <input type="checkbox"/> Pictographs <input type="checkbox"/> Geoglyph <small>(Describe feature/panel size, size of host rock, number and types of elements/motifs, method of production, etc.)</small>
R6.	
a.	Feature/Panel Integrity: <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> Explain: _____
b.	Natural Deterioration (Check any that apply): <input type="checkbox"/> Water erosion <input type="checkbox"/> Surface spalling <input type="checkbox"/> Block fractures <input type="checkbox"/> Lichen growth <input type="checkbox"/> Wind Erosion <input type="checkbox"/> Sun exposure <input type="checkbox"/> Rock fall <input type="checkbox"/> Plant defacement <input type="checkbox"/> Animal nesting <input type="checkbox"/> Mineral accretion <input type="checkbox"/> NONE <input type="checkbox"/> Other (Explain): _____
c.	Cultural Deterioration (Check any that apply): <input type="checkbox"/> Bullet holes <input type="checkbox"/> Graffiti <input type="checkbox"/> Chalk <input type="checkbox"/> Scratched <input type="checkbox"/> Altered <input type="checkbox"/> Livestock <input type="checkbox"/> Logging <input type="checkbox"/> Visitor use <input type="checkbox"/> NONE <input type="checkbox"/> Other (Explain): _____
R7.	Style(s) and Suspected Cultural Affiliation: _____
R8.	
Elements Superimposed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (Describe)
R9. Feature/Panel Visibility: <input type="checkbox"/> Visible <input type="checkbox"/> Semi-visible <input type="checkbox"/> Hidden	
R10. Associated/Nearby Cultural Materials: _____	
R11. Conservation Recommendations: _____	
R12. Form Prepared by: _____ Date: _____	
Affiliation and Address: _____	

DPR 523G (1/95)	Note: Attach sketch of rock art panel/feature.

Figure 10. The California Department of Parks and Recreation Form 523g, Rock Art Record.

In addition to recording information about the rock art elements found within the site, consideration must be taken into account for recording details about the landscape in which the site is situated.³⁴⁹ Increasingly, GISs are making it possible to do detailed landscape studies, and to explore how the rock art is integrated into the surrounding landscape.³⁵⁰ Dave Whitley points out that the information recorded is always selective, and is dependent upon the recorder's own interest, training, and goals. The condition of the site may also influence what and how much information is collected. Whitley notes that, consciously or otherwise, decisions are made on what data is important to record, and what can be omitted. The solution, states Whitley, is to make those choices explicit.³⁵¹ The important thing for the historian or archeologist to remember is that the more thorough a record is made of a rock art site, the more valuable it will be to rock art researchers.

Recognizing that the official forms often lack the detail that may prove important in rock art research, many archaeologists have advocated and developed more detailed forms and recording methods. Such attempts not only try to accommodate current research, but also try to anticipate future research needs. Still, there is a limit to the level of detail that can be recorded due to practical and financial restrictions. In 1981, following the establishment of the American Committee to Advance the Study of Petroglyphs and Pictographs (ACASPP), Dr. Benjamin K. Swartz, Jr., authored an official institution statement entitled, appropriately enough, "Minimum Recording

³⁴⁹ Chippendale and Nash "Pictures in Place," 11-2.

³⁵⁰ Hyder, "Locational Analysis in Rock Art Studies," 91-94.

³⁵¹ Whitley, *Introduction to Rock Art Research*, 18.

Standards Proposed by the American Committee to Advance the Study of Petroglyphs and Pictographs” in order to establish a baseline for recording rock art. Other attempts to standardize rock art recording have been put forth by various individuals, notably Steven Manning, Jesse Warner, and Colin Pearson.³⁵² As Larry Loendorf points out, however, many recording techniques that were acceptable in the past have proven to be harmful to the petroglyphs themselves, or may prevent future research from being conducted.³⁵³

John Clegg argues that the standardization of recording rock art is neither feasible nor desirable for three main reasons:

1. Every individual picture is different and presents its own problems.
2. Every recorder or recording situation has different resources of time, materials, equipment, money, and skill.
3. Different tasks or archaeological “problems” have different aims, which need suitable methods.³⁵⁴

Instead, Clegg proposes a “cookbook” approach in which the recorder selects from the possible techniques and selects the best one for the situation at hand. In contrast to Clegg, Swartz argues that while the restrictions Clegg noted in number two, above, will certainly impact how much detail can be recorded, the recorder should not fall into the “rock art paradigm.” The rock art paradigm, according to Swartz, starts with the idea that all study begins with a research question that informs the data recorded. A theoretical orientation, Swartz argues, should not influence the collection of information

³⁵² Manning and Warner, “Minimum Standards for Recording Rock Art for UARARA,” 21-32; Pearson and Swartz, *Rock Art and Posterity*, 113-4.

³⁵³ Larry Loendorf, “Rock Art Recording,” 55.

³⁵⁴ Clegg, “Cleggnotes on Recording Prehistoric Pictures,” 113-4.

on rock art sites. Instead, recorders should follow the minimum guidelines laid out by professional organizations, such as the ACASPP. Further, Swartz suggests that an additional system of annotating how thoroughly a site has been recorded, which would allow agencies to determine future priorities, and allow researchers to quickly identify the level of information available on a particular site.³⁵⁵ Robert Bednarik notes that the lack of consistency in rock art terminology alone, let alone recording techniques, makes for a confusing research environment, inviting errors and propagating even more confusion. He warns rock art researchers to be cautious in using terms, particularly those that imply knowledge about the meaning of a symbol.³⁵⁶ The application of the term “bird tracks” by Julian Steward in his seminal 1929 work, for example, implies that those markings that resemble bird tracks were, in fact, bird tracks.³⁵⁷ It is equally possible that the resemblance was simply that, a resemblance, and the symbols were not intended to portray bird tracks at all.

EVALUATION, ANALYZATION, AND INTERPRETATION

Recording rock art is only the beginning. In reality the record made of rock art sites, or any cultural resource, is simply to facilitate the next step: evaluation. Evaluation

³⁵⁵ Benjamin K. Swartz, Jr., “The Management of Recording Procedures in the Preservation of Petroglyph Resources,” in *Rock Art and Posterity: Conserving, Managing, and Recording Rock Art*, ed. C. Pearson and B.K. Swartz, Jr. (Melbourne, Australia: Archaeological Publications, 1991), 114-115.

³⁵⁶ Badnarik, “Standardization in Rock Art Terminology,” 116-118.

³⁵⁷ See Chapter 4 of this work for a review of Steward’s pioneering work on rock art, and the classification system he initially developed. “Bird track” was a term applied by Steward to describe a petroglyph that resembles the track or tracks of a bird. Steward did not state that he believed that the tracks were intended to represent the tracks of a bird; rather, he was apparently simply applying the term in a strictly descriptive manner.

is a part of Swarz’s responsibility category *intellectual*, which includes “researching of recorded rock art data selected to explain problems or test hypotheses.”³⁵⁸

For historic properties or archeological sites, evaluation typically involves a determination of eligibility for inclusion on the National Register of Historic Places (NRHP). Districts, sites, buildings, structures, and objects that are included on the NRHP are considered significant to understanding and preserving human cultural heritage. Sites listed on the NRHP are intended to be preserved in perpetuity for the enjoyment and education of future scholars and the public at large.³⁵⁹ The NRHP was authorized under the National Historic Preservation Act of 1966, and the criteria used to evaluate the significance of historic sites or properties are evaluated were spelled out in that document.³⁶⁰ In order to be eligible for listing on the NRHP, the site or property must “possess integrity of location, design, setting, materials, workmanship, feeling, and association.” In addition, a property must meet one or more of the following four criteria to be listed:

- A.** That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B.** That are associated with the lives of persons significant in our past; or
- C.** That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D.** That have yielded or may be likely to yield, information important in prehistory or history.

³⁵⁸ Swartz, “Roles of those Who Serve Rock Art,” 25.

³⁵⁹ 36 CFR 60.4 and 60.4a-d; King, *Cultural Resource Laws and Practices*, 87-90.

³⁶⁰ Hutt, Blanco, and Varmer, *Heritage Resources Law*, 2-5.

The most important criteria for rock art sites is generally Criterion C or D, since it is rare to know who executed the artwork and their impact on past cultures is also rarely known. However, since we cannot anticipate the development of technology that may serve to illuminate historic properties in an entirely different light, the potential for future research is an important consideration. When considering the advent of new perspectives on the historic environment, Criterion D becomes even more important.

The aesthetic, social, and economic value of rock art and rock art sites should also not be overlooked under criterion C. Kate Clark, among others, points out that archeologists in particular “are often very bad at recognizing the aesthetic, spatial and design qualities of the historic environment.” She notes that an appreciation for the familiarity of spaces, along with their ability to inspire, is critical for the public enjoyment of cultural resources. If utilized properly, historic properties can help promote cultural diversity initiatives and help people to identify with their heritage.³⁶¹ The BLM 8100 series manual charges cultural resources professionals to “Recognize the potential public and scientific uses of, and the values attributed to, cultural resources on the public lands, and manage the lands and cultural resources so that these uses and values are appropriately protected.”³⁶² In other words, historians and archeologists must look beyond simply the ability of a site to provide information on dates of occupation and the activities that occurred there. Sites must be evaluated based upon their potential value to

³⁶¹ Clark, “Between a Rock and a Hard Decision,” 204-205; Thomas Heyd and John Clegg, eds., *Aesthetics and Rock Art* (Burlington, VT: Ashgate, 2005), 1-2.

³⁶² Department of the Interior, *BLM Manual* (Washington, D.C.: Bureau of Land Management, 2004), Section 8100.02B.

a wide range of groups, and take appropriate action to protect the site on that basis. For example, radio antennas will visually impact a site and detract from the aesthetic value. If a site is a recognized Native American sacred site, that impact could have a deleterious effect on native groups who wish to perform activities at that site. Before radio towers can be installed, that impact must be accounted for and mitigated.

Johannes Loubser argues that rock art sites should be evaluated for significance on six independent but inter-related categories: spiritual, domestic and subsistence, research, tourist, aesthetic, and educational. He makes the point that like any resource, rock art is not inherently valuable, but rather is given value by different, and sometimes conflicting, groups of people. A rock art site will therefore have drastically different significance values for different groups, which is informed by the beliefs, interests, and actions of people from each group. The rock art site can, in turn, influence those beliefs, interests, and actions and may therefore increase those significance values.³⁶³

Moreover, the potential for rock art research transcends even an understanding of the culture that produced it. Rather, it may provide insight into the cognitive patterns of all humans, and the mode of perception of the culture that produced the rock art. The true value of rock art may, in fact, be to provide a greater understanding of how we all think and perceive our environment.³⁶⁴

³⁶³ Loubser, "Management Planning for Conservation," 89.

³⁶⁴ Kaylan Kumar Chakravarty, Robert G. Bednarik, and Indirā Gāndhī Rāshṭrīya Mānava Saṅgrahālaya, *Indian Rock Art and its Global Context* (New Delhi: Narendra Prakash Jain), 191-3.

Excavation

For most archeological sites, excavation is often the only way to evaluate a site to determine age, cultural affiliation, and purpose, all of which contribute greatly to a determination of significance. Diagnostic artifacts, radio carbon dating, historical records, and the law of superimposition are some of the tools that archaeologists can use to tease out details of a site's place in time and space.³⁶⁵ Archeologists and historic preservationists can sift through the data on a site or structure to make what amounts to a highly educated guess as to who occupied the structure or site. Depending on the complexity of the site, they can sometimes reconstruct an accurate picture of the activities that occurred at that place.

Rock art sites, on the other hand, are most often exceptions to that rule. Because of the nature of rock art sites, excavation in the area immediately adjacent to the site can pose as many questions as it answers. Rock art sites often lack the deposition of soil and other materials that often help archeologists determine the age of a site. Artifacts and features excavated near the rock art site may or may not date to the same period as the rock art itself, but it cannot be assumed that they do. While experimentation in a number of dating methods is currently underway, as of yet no reliable method for dating the actual rock art exists. It requires, then, inferential association with the adjacent sites, which can be problematic.

The best candidates for excavation are those rock art sites that occur in rockshelters or caves, where soil accumulation may occur and artifacts may gather.

³⁶⁵ Barbara A. Purdy, *How to Do Archaeology the Right Way* (Gainesville, FL: University of Florida), 138.

Johannes Loubser points out that in certain areas, such as the American Southwest, the rockshelters containing rock art were almost certainly inhabited by the individuals that created the art. Excavation in those rockshelters may provide important information on the function of the art, while material recovered from subsequent occupations may provide information on how that function changed over time.³⁶⁶

Evaluation

Rock art as a cultural resource typically defies the traditional evaluation process, thus placing the historian or archeologist in a peculiar bind. Historic preservationists and archeologists can take a relatively straight forward approach to the evaluation of a historic building or an archeological site using the NRHP criteria listed above. For the historic preservationists, styles in architecture are well-documented, as are most archeological periods and prehistoric cultural sequences, providing a solid basis for evaluating significance. Diagnostic artifacts, historical records, and carbon dating can provide important data for determining significance based upon the relative paucity or abundance of information for a given period, event, or individual. The determination of significance can, therefore, almost be determined in a checklist manner, demonstrating through research at the site whether diagnostic attributes are present or absent, or through records searches whether a structure was the site of an important historical event or figured largely in the life of a significant individual. Rock art, however, has none of those advantages. In very few cases is the individual who made the images known, and no reliable dating method yet exists to accurately determine the age of the images.

³⁶⁶ Loubser, "Management Planning for Conservation," 93.

Despite the limitations on dating and understanding rock art, some effort must be made to place rock art into the narrative on prehistoric human activity. It is, after all, a part of the archeological record, and played some role in Native American life.

Christopher Chippendale identified three methods for interpreting and understanding rock art: informed methods, formal methods, and analogy.³⁶⁷

Informed Methods

Informed methods refer to those deductions derived from some direct or indirect knowledge of the rock art from those that actually made and used the rock art. The information can come by way of ethnography or the historical record. Knowledge of rock art through the informed method can also come, as Chris Chippendale states, “through modern understanding known with good cause to perpetuate ancient knowledge.”³⁶⁸ In other words, knowledge from modern sources can inform an understanding of the past if the origins of modern practices can be traced back to older traditions. As an example, Chippendale cites the manner in which he and other rock art researchers were able to trace the origins of the Rainbow Serpent, a hybrid creature with a crocodile’s head and a snake’s body that originally shaped the Australian landscape in aboriginal traditions. They were able to trace the slowly changing Rainbow Serpent motif found in modern Aborigine paintings backwards through multiple incarnations in rock art sites, until the oldest identifiable images were found. As it turned out, Chippendale and others were able to show that the rising water following the post-glacial

³⁶⁷ Taçon and Chippendale, “An Archaeology of Rock-art Through Informed Methods and Formal Methods,” 1-10.

³⁶⁸ Ibid, 6.

period inundated populated areas. The hybrid Rainbow Serpent was actually determined to have begun as a pipefish rather than a land snake.³⁶⁹ A pipefish's snout looks much more crocodilian than a land snake's snout, thus supporting their theory. In this case, Chippendale and his teammates were able to derive an understanding of ancient art through a modern informed source, that is, Aboriginal artists that still paint in the traditions of their ancestors.

Care must be taken in the application of such methods, however. Rock art may provide information directly by what is portrayed in the art itself, or the meaning may be obscured through a lack of information on the symbology of the culture from which the artist came. For example, several of the petroglyphs in the Coso Range of California appear to show hunters in the act of killing a bighorn sheep. The ethnographic record of the Shoshonean people that occupied that area historically stated that they had no tradition of rock art, thus the art must have been made by people that preceded the Shoshonean migration to that area, or it was a tradition of the Shoshones that had died out and was no longer practiced nor remembered. On that basis, the art was subsequently interpreted to literally represent a hunting scene, either as a form of practical magic to assure a good hunt or as a record of a successful hunt. Later interpretations of Shoshone shamanistic practices suggested that since the bighorn sheep was known ethnographically to be the totem animal of rain shamans, the images may actually represent a rain shaman ritualistically killing a bighorn sheep in order to gain access to the spirit world. Once there, the shaman assumed the form of the totem animal, the bighorn sheep, and carried

³⁶⁹ Ibid, 6-7.

out the rites necessary to call rain. The rock art, then, may represent a portion of the shaman's ceremony for entering the spirit realm, and not the actual killing of a bighorn sheep.

Formal Methods

In contrast to informed methods, formal methods are those that depend upon information gleaned from the site itself, using inference or mathematics, or observable relationships. For example, information about the purpose of rock art may be derived from observations made of the movement of sunlight across a rock art panel at different times of year, when a shadow or slice of sunlight may illuminate a particular point. Such occasions, known as *solar events*, can usually only be determined through a careful and thorough examination of the site at various times during the year. Other relationships, such as those between a rock art site and the surrounding landscape can be discovered through thorough mapping and recording.³⁷⁰

As mentioned above, the geographic information system, or GIS, has taken on an increasingly important role in the study of the historic environment.³⁷¹ As Kenneth Kvamme argues, the visualization of patterns in data is a crucial tool in archeological research.³⁷² In fact, visualization is so important in landscape archeology that Duane Marble argues that human spatial behavior has not been explored before because we

³⁷⁰ Tilman Lenssen-Erz, "The Landscape Setting of Rock-Painting Sites in the Beandberg (Namibia): Infrastructure, *Gestaltung*, Use and Meaning," in *The Figured Landscapes of Rock-Art: Looking at Pictures in Place*, ed. Christopher Chippendale and George Nash (Cambridge: Cambridge University Press, 2004), 131.

³⁷¹ Whitley and Loendorf, "Rock Art Analysis," 949.

³⁷² Kvamme, "An overview of Geographical Information Systems for Archaeological Research and Data Management."

hitherto lacked “the tools which would permit us to organize and comprehend the data defining the real and extremely complex spatial environment in which human behavior actually takes place.” According to Marble, the myopic view of spatial behavior in the past was due to our inability to visualize the range of human spatial interaction, and therefore we could not hope to effectively model that behavior.³⁷³ Ralph Hartley and Anne M. Wolley Vawser used a GIS to study the placement of rock art in relation to resources, habitation sites, and storage caches in southeastern Utah. They suggested that the location, orientation, and visibility of the rock art was to intentionally serve as markers to help orient travelers to the sparsely and intermittently occupied canyons of the Escalante River Basin.³⁷⁴

Analogy

Analogy is simply a tool for making inferences about a topic based upon knowledge of a similar topic. It is the process by which people come to understand the first topic by comparing and contrasting with the second topic; in other words, we know very little about topic *a*, but we know quite a bit about topic *b*, which is very similar. We can therefore infer certain properties of topic *a* by what we know about topic *b*. Rock art can be investigated through a number of methods, the most obvious of which is art history, which studies the role of art through time. Art historians study why people make art, and the role it serves in society. Since rock art outwardly resembles the form of expression found in the art world, it might seem logical to assume that it had the same

³⁷³ Marble, “Methodological impact of GIS on the social sciences,” 9-21.

³⁷⁴ Hartley and Vawser, “Spatial Behavior and Learning in the Prehistoric Environment of the Colorado River Drainage (Southeastern Utah), Western North America,” 185-211.

role in prehistoric societies. To some extent, it may have, but the danger with the use of analogy is that it may not have served any similar purpose whatsoever, and any conclusions drawn about rock art through analogy with art in modern societies may be completely wrong. The use of analogy would be more appropriate when applied to more similar societies, which is what David Lewis-Williams and David Whitley did when they used analogy to compare the rock art of the San people of South Africa, who have an active oral tradition centered around their rock art, and the rock art of the Mojave Desert, about which very little is known.³⁷⁵ Simply put, analogy can be a useful research tool when applied judiciously.

SITE MANAGEMENT AND CONSERVATION

The evaluation of site significance is not a mere formality. The values determined during the evaluation stage should ultimately inform a site management plan, the third and final step in the site management process. For traditional archeological sites or historical properties, the evaluation process determines the eventual fate of the property. If found eligible for listing on the NRHP, federal law dictates that plans must be made for the protection of the site.³⁷⁶ Since rock art sites are rarely found to be ineligible, a management plan must be put on file within the agency that manages the land, or an annotation made in the installation's CRMP.³⁷⁷

³⁷⁵ Whitley, "Meaning and Metaphor in the Coso Petroglyphs," 150-151; Lewis-Williams and Dowson, "The Sign of All Times," 201-245; Pearson, *Shamanism and the Ancient Mind*, 49-51.

³⁷⁶ R. Michael Stewart, *Archaeology: Basic Field Methods* (Dubuque, IA: Kendall/Hunt, 2002), 39.

³⁷⁷ King, *Cultural Resource Laws and Practices*, 311-26.

As the name implies, the site management plan provides explicit plans for the protection, conservation, and management of the site, and determines access controls and restrictions.³⁷⁸ Dave Whitley notes that at a minimum, a site management plan should limit any alterations to the site to the minimum necessary to maintain the site, and should include only those actions that are reversible, since the long term effects of a policy may not be immediately discernible.³⁷⁹ As a case in point, for many years it was considered acceptable to remove surface dust or accumulation from petroglyphs using stiff brushes. Recent work using lasers to improve the accuracy of carbon dating, however, has found that microorganisms that grow within the petroglyph itself can be used to obtain a carbon date, since the microorganisms must post-date the creation of the petroglyph.³⁸⁰ Stiff brushes can remove accretions of desert varnish, and remove the microorganisms. Because we cannot foresee the development of such technologies, any conservation or other activities performed on the rock art should be minimal.³⁸¹

Physical Conservation Issues

Johannes Loubser notes that land managers will confront two main conservation issues. The first is the identification of the processes of destruction, both cultural and natural, and second are the acceptable methods of conservation for rock art resources, and which practices should be adopted for a particular site.³⁸²

³⁷⁸ Francis P. McManamon, "Managing Archaeological Resources," in *Handbook of Archaeological Methods*, ed. Herbert D. G. Machner and Christopher Chippendale (Walnut Creek: Alta Mira, 2005), 1228-31.

³⁷⁹ Whitley, *Introduction to Rock Art Research*, 153.

³⁸⁰ *Ibid.*, 64.

³⁸¹ Tratebas, "Biodeterioration of Prehistoric Rock Art and Issues in Site Preservation," 204-5.

³⁸² Loubser, "Management Planning for Conservation," 80.

Gejendra Tyagi has identified three categories of deterioration of rock art. The first is the damage caused by natural forces, such as flooding, freeze and thaw cycles, and the action of vegetation, just to name a few. Second are caused by animals and pests and insects, such as bird droppings. Third are those caused by human agency.³⁸³

Human agency can be further subdivided into two subcategories, as well: intentional and unintentional. Intentional deterioration includes vandalism and theft. Vandalism is simply the act of destroying the rock art, such as the bullet holes found at many rock art sites, or painting or carving over the art. Theft, while seemingly unlikely, is a major problem at rock art sites worldwide. Thieves often use rock saws to literally cut the art from the rock face, destroying less commercially valuable elements or panels in the process, and often destroying the art they were attempting to steal. Rock art is even easier to steal when it occurs on boulders that can be moved by one or more people, such as the case of John Ligon, who was convicted in the US 9th District Court of stealing three large boulders in August of 2003 and using them in the landscaping in front of his house.³⁸⁴

Graffiti can be a major problem at rock art sites. It seems to be an innate human tendency to want to immortalize one's self by recording a name or making a mark on something seen as permanent. Campbell Grant relates the story of his brother-in-law, Robert Hyde, who served as a steward for a rock art site that lay in a small rockshelter on

³⁸³ Gejendra S. Tyagi, "Conservation of Indian Rock Art," in *Rock Art and Posterity: Conserving, Managing, and Recording Rock Art*, ed. C. Pearson and B.K. Swartz, Jr. (Melbourne, Australia: Archaeological Publications, 1991), 28-29.

³⁸⁴ Scott Sonner, "Trial Stirs Up Controversy Over Rock Art," *Associated Press*, June 1, 2004, <http://www.msnbc.msn.com/id/5112564/>; International Foundation for Art Research, *Case Study: United States vs. Ligon: 1200073273*, http://www.ifar.org/case_summary.php?docid=1200073273.

his land. The site was protected by a locked gate, but nonetheless, Hyde interrupted a father and son trying to bash the lock from the gate, so that, in the father's words, his son could write his name on "some of that old Indian jazz."³⁸⁵

Graffiti, as unwelcome it may be in a modern context, however, with time becomes a part of the archeological record.³⁸⁶ The graffiti in the Great Pyramid at Giza is just such an example, where the graffiti left by early explorers provides a who's who of visitors throughout time.³⁸⁷ Graffiti, therefore, can become a controversial topic for conservation, and often it is simply a matter of timing. Graffiti left by mining prospectors around the turn of the century, or even graffiti left by WWII soldiers training in the Mojave Desert at the Desert Training Center, may be considered historical, while graffiti that has occurred more recently is considered vandalism and can be removed with impunity. Graffiti that is carved or pecked into the rock surface is not reversible, however. Professional conservators can sometimes lessen the visual impact of graffiti carved into the rock surface through the use of specialized paints, including mineral based paints.³⁸⁸ The advantage to this method is that it not only enhances the experience of visitors to the site, but operating on the basis that graffiti begets graffiti, it does not encourage future visitors to add their own comments or names to the rocks.

³⁸⁵ Campbell Grant, "Vandalism and the Protection of Prehistoric Indian Rock Art," in *Prehistoric Indian Rock Art: Issues and Concerns*, Monograph XIX, ed. JoAnne Van Tilburg and Clement W. Meighan (Los Angeles: Institute of Archaeology, University of California, Los Angeles, 1981), 8.

³⁸⁶ Whitley and Loendorf, "Rock Art Analysis," 949.

³⁸⁷ Douglas J. Brewer and Emily Teeter, *Egypt and the Egyptians* (Cambridge: Cambridge University Press, 1999), 8.

³⁸⁸ Claire Dean, *Reintegration at the Foxtrot Petroglyph Site, CA-SBR-161, Marine Corps Air Ground Combat Center, Twentynine Palms, California*, Report on file at the Natural Resources and Environmental Affairs Division, Marine Corps Air Ground Combat Center, Twentynine Palms, California.

A second form of vandalism is akin to looting, but on a smaller scale, and consists of the desire of people to take away with them a small piece of the site. It can take the form of removing small rock chips from the surface, or of taking a portion of painted or carved rock. This sort of destructive behavior is often worse than graffiti put on using magic markers or spray paint, in many cases, because it cannot be reversed.

Unintentional deterioration by human activity is less insidious, but often no less destructive. It includes all of those activities that contribute to the deterioration of rock art despite the good intentions of humans, as well as those actions that indirectly cause damage, such as acid rain and other airborne pollutants. Chalk was once frequently used even by archaeologists to highlight petroglyphs for photography, as recorded by the author at the Barker Dam Petroglyphs in the Joshua Tree National Park.³⁸⁹ Visitors to sites may step on less visible elements when climbing up rock faces to better see a more impressive or more visible element. At the Lascaux caves in France, the carbon monoxide concentrations caused by the breathing of visitors began to deteriorate the art, causing French officials to close the cave to all but a very few visitors each year.

A group calling themselves the DZRTGRLS makes regular visits to archeological sites all over the Mojave Desert. The group is made up of two women, Niki and Jamie, who claim to “have a long abiding love of the desert,” but who repeatedly violate the integrity of archeological sites on federal and private land. The photograph below, published on their web site in 2008, shows Niki excavating a bedrock mortar in the Eagle

³⁸⁹ This phenomenon is discussed in more detail in the Site Stewards Section of this chapter.

Mountain Range in Joshua Tree National Park.³⁹⁰ Other photos show them entering abandoned mines, pulling cans and other artifacts from historic dump sites, and displacing prehistoric artifacts. Additionally, the web site provides explicit directions for finding the sites, including a photo log of the journey, allowing anyone, including looters and vandals, to easily find remote sites.



Figure 11. Niki, of the DZRTGRLS, illegally excavates a bedrock mortar in Joshua Tree National Park. The caption on the site reads "Niki empties out some of the sand and finds that it's quite deep."

In addition to encouraging the disturbance of archeological sites, the DZRTGRLS also engage in potentially dangerous behavior, including entering abandoned mines, and posing on military vehicles placed for artillery and air bombardment aboard the Marine

³⁹⁰ DZRTGRLS, *JTNP: Petroglyphs in the Southern Eagle Mountains*, http://dzrtgrls.com/petros_southern_eagle_mtns/JTNPpetroglyphsintheSouthe/049.html.

Corps Air Ground Combat Center. Besides violating the boundary of a federal installation, they potentially exposed themselves to the risk of unexploded ordnance and harmful chemical residues, endangering both themselves and others that may be called to their aid or responding to the intrusion.³⁹¹ While not malicious in their intent, the DZRTGRLS demonstrate how a complete lack of regard for the protection and preservation of archeological sites, not to mention violation of federal laws, can not only impede the work of cultural resources professionals, but can actually aid those that would loot or vandalize a site.

Ethical Conservation Issues

The question of conservation is not always an easy one, either. Conservation can mean different things to different people, both professional and laypersons alike. For architectural historians and historic preservationists, conservation means the active steps taken to prevent the further deterioration of a structure or to restore a structure to a previous state.³⁹² For archaeologists, conservation can mean simply doing nothing to an archaeological site, so that it can be excavated at a future date, if ever.³⁹³ Some Native Americans object to the steps taken at sites to prevent the deterioration of the rock art, believing that the site, like everything else in nature, had a birth, and life, and will have a death. In 1971, Campbell Grant was attending a workshop on rock art preservation at the University of Saskatchewan. Near the end, an Ojibwa student asked, “Why are you

³⁹¹ DZRTGRLS, *Lavic Jasper*, http://dzrtgrls.com/lavic_jasper/LavicJasper/index.html; DZRTGRLS, *Lavic Lake to Mystery Townsite*, http://dzrtgrls.com/lavic_lake_mystery_townsite/lavic_lake_mystery_townsite.htm.

³⁹² Norman Tyler, *Historic Preservation* (New York: W. W. Norton & Company, 2000), 18.

³⁹³ Stapp and Burney, *Tribal Cultural Resource Management*, 38-9.

whites so anxious to save and protect everything?” The rock art was made for a particular purpose, he argued, and once it had fulfilled that purpose it should be allowed to return to the earth.³⁹⁴

In the western educational tradition, however, historians, archaeologists, museum specialists, historic preservationists, and other heritage professionals are taught to value the physical remains of the past. It is therefore understandable that persons coming from a background in historic preservation, archaeology, or museum studies will naturally see as a part of their job to restore or repair the objects or sites under their care. It is often difficult for them to reconcile the desires of the Native American community with regard to prehistoric cultural remains.³⁹⁵ That reconciliation must occur, however, and the opinions, attitudes, and questions of the Native American community must be considered when determining the proper course of action for each rock art site. While the federal land manager is ultimately responsible for the actions taken on federally-controlled land and the decision must lie with that individual, the consultation process detailed under Section 106 of the National Historic Preservation Act should always be implemented.³⁹⁶ While the decision is the land manager’s, it should be an informed decision that takes into account the perspectives of all concerned, including the Native American community, the agency that is responsible for the land, and the American public at large.³⁹⁷

³⁹⁴ Grant, “Vandalism and the Protection of Prehistoric Indian Rock Art,” 8.

³⁹⁵ Stapp and Burney, *Tribal Cultural Resource Management*, 39-40.

³⁹⁶ King, *Cultural Resource Laws and Practices*, 59-60.

³⁹⁷ Loubser, “Management Planning for Conservation,” 83-84.

Site Management Plan Components

According to Dave Whitley, a rock art management plan should consist of three main components:

- Conservation Strategy
- Site Visitation Strategy
- Recommendations

A site conservation strategy is concerned with activities at and around the site affecting its physical condition. Whitley argues that conservation is an overarching term that encompasses four types of activities: maintenance, preservation, restoration, and reconstruction. Each level is increasingly more active, with maintenance consisting of little more than clearing garbage or dusting off panels. Preservation consists of active intervention to prevent further harm coming to a site, such as the removal of plants that threaten to overgrow panels, or preventing erosion from undercutting a cliff wall containing rock art. Typically maintenance and preservation activities can be handled by cultural resource professionals at the local level, since no actual modification of the rock art takes place.³⁹⁸

Restoration consists of even more intense activity that involves actually modifying parts of the rock art or areas immediately adjacent to the art, such as painting over graffiti etched into the rock face with mineral paints to lessen the visual impact of the graffiti. Reconstruction consists of rebuilding a site to a former state, such as the reconstruction of earthen redoubts at military sites. Both restoration and reconstruction should always be performed by experienced conservators, trained professionals whose

³⁹⁸Whitley, *Introduction to Rock Art Research*, 153-161.

job it is to protect, and often repair or restore, artifacts, art, or architecture.

Reconstruction is generally avoided at rock art sites, because it would most likely require the repainting of pictographs, the removal of desert varnish from petroglyphs or other extreme measures.³⁹⁹ Johannes Loubser notes that any active conservation efforts should always follow specific steps:

- Consultation with all interested parties
- Recording
- Assessment
- Review of alternative treatment options
- Testing of preferred options
- Actual intervention⁴⁰⁰

A site visitation strategy is important because of both the direct and indirect impact visitors can have on a site. The most important aspect is to maintain control over the site to prevent vandalism and theft, but also to control the unintentional impact caused by visitors. This can take the form of dust raised by the passage of people, trash (such as discarded gum or spilled soft drinks), damage to the rock art by flash photography (in the case of pictographs), touching the artwork, or climbing on the rock faces. Many strategies are available to control traffic, minimize dust and garbage, and prevent direct contact with the rock art.⁴⁰¹ In the past, the primary strategy has been to keep the location of rock art sites strictly secret, shared only amongst historians, archeologists, and other history professionals and land managers.⁴⁰² That strategy, however, has definite

³⁹⁹ Ibid, 153-155.

⁴⁰⁰ Loubser, "Management Planning for Conservation," 105.

⁴⁰¹ U.S. Congress, Office of Technology Assessment, *Technologies for Prehistoric and Historic Preservation* (Washington, D.C.: Government Printing Office, 1986), 167-168.

⁴⁰² Whitley, *Handbook of Rock Art Research*, 28; Arnold P. Goldstein, *The Psychology of Vandalism* (New York: Plenum, 1996), 60-66.

limitations, and rarely prevents looters from finding sites. Whitley notes that this strategy has had unforeseen repercussion, in that it has fostered a belief amongst federal agencies that if the sites are kept secret, there is no need to do anything further, and no funding is allocated to carry out any site management.⁴⁰³

The third component of a site management plan, recommendations, should ensure that the site management remains, above all, flexible. No management plan can take every possible contingency into account, and it must be able to accommodate unexpected occurrences, such as natural disasters or the development of a new technology that makes accurate dating possible. Sites should be constantly monitored and re-assessed at regular intervals to ensure that the currently implemented management plan is adequate. Above all, the land manager should be prepared to modify the plan as necessary, and not allow it to become a static article.⁴⁰⁴

SIGNAGE

Signs are an important aspect of interpretive and educational aspects of site visitation, but also serve a vital role in informing visitors of site etiquette, laws regarding the protection of cultural resources, and the potential penalties for violating those laws.⁴⁰⁵

⁴⁰³ Whitley, *Introduction to Rock Art Research*, 153-161; Whitley, *Handbook of Rock Art Research*, 28.

⁴⁰⁴ Whitley, *Introduction to Rock Art Research*, 153-155.

⁴⁰⁵ Leigh Marymor, *ARARA Guidelines for Managers of Rock Art Sites on Public Lands: Public Access*, American Rock Art Research Association Conservation and Protection Committee, February 4, 2001. http://www.arara.org/Guidelines_Managers_Public_Lands.pdf; Loubser, "Management Planning for Conservation," 104.

GROOMED PATHS

Grooming paths serves to guide the visitor through a site, without forming an actual barrier. Groomed paths can include paved paths, paths smoothed and topped with gravel, or simply paths lined with rocks or vegetation. The grooming serves to subtly encourage visitors to stay on the path, and also provides reassurance that the visitors have not strayed on their way to their destinations.⁴⁰⁶

FENCES AND OTHER BARRIERS

Regardless of the best intentions of interpretive and educational programs, fences and other types of barriers may still be necessary. Often fences are the last resort for controlling unauthorized access to sites or portions of sites, and are often resented as ugly intrusions on the view shed of the site. Careful planning, however, can ensure that the impact of the fence is minimal, but still effective.

In reality two types of barriers are used for controlling access to sites. The first type of barrier is intended to prevent access to particular areas, such as the eight-foot high chain link barriers surrounding the Blythe Intaglios, large figures etched into the desert floor near Blythe, Arizona (Figure 2). Another type of barrier is a barricade that can be open or closed to permit or deny access to a road or trail, such as the type used at trail heads to permit foot traffic, but deny vehicle traffic (Figure 3).

⁴⁰⁶ Loubser, "Management Planning or Conservation," 101; U.S. Congress, *Technologies for Prehistoric and Historic Preservation*, 122-5.

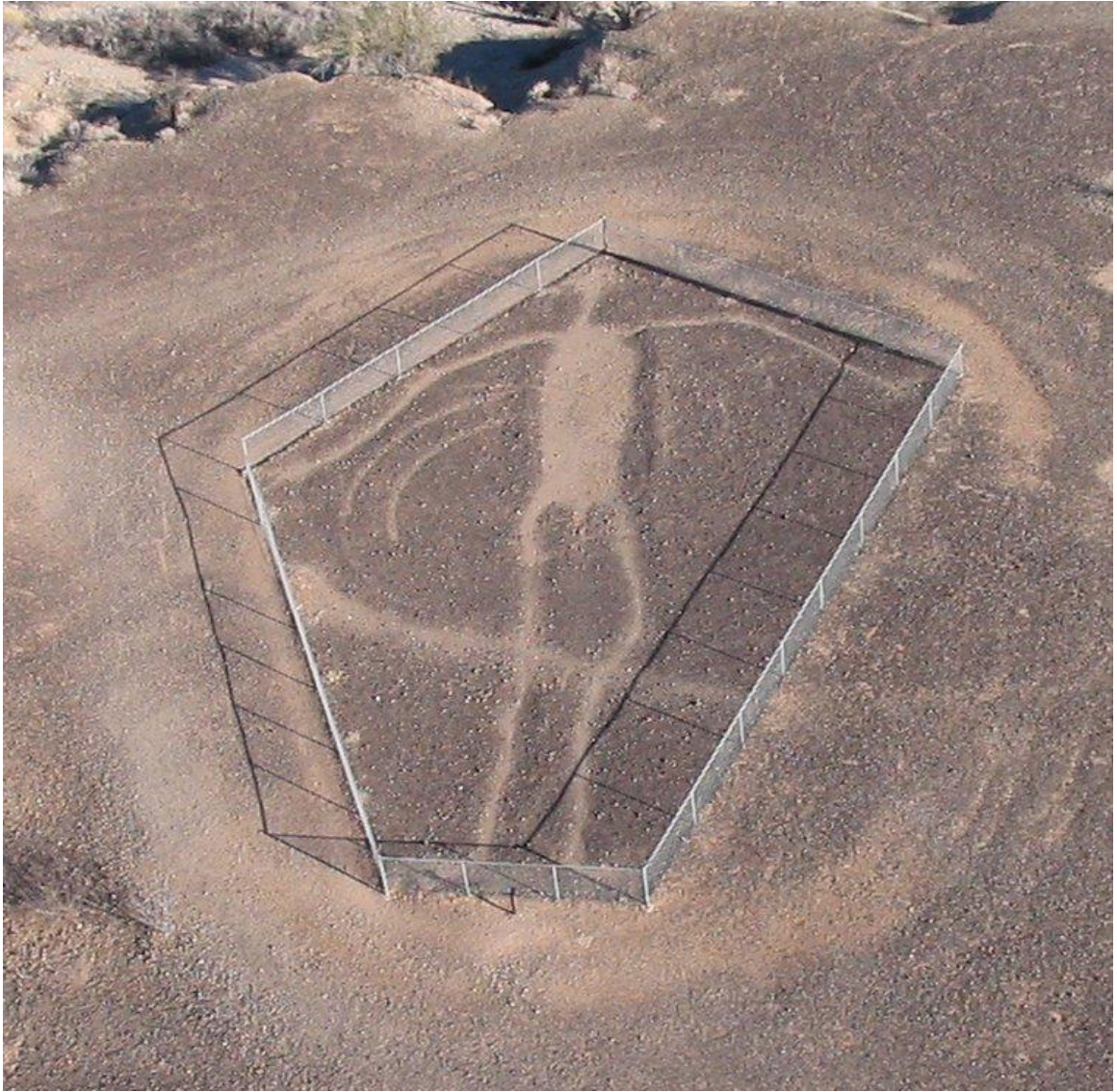


Figure 12. To prevent additional damage from off-highway vehicles, stewards of the Blythe Intaglios were forced to install tall chain link fencing.



Figure 13. Gates used by the National Park Service often allow foot traffic while denying vehicle traffic.

The second type of barrier is provided for safety, such as a hand rail, or is meant to guide visitors without significantly impacting the viewshed. These types of barriers can be low rock walls, boulders placed along trail edges, or the aforementioned railings. These types of barriers can be easily surmounted, and are intended for safety or simply for encouraging visitors to stay within designated areas, including viewing areas or on trails. Some may simply be the next level up from a groomed trail, such as one lined with low wooden fences several inches from the ground.

When the land manager must resort to barriers to help control visitation, traffic flow, or for safety, the primary consideration should be the impact the barrier will have upon the experience of visitors to the site. Any intrusion on the natural landscape will

detract from the quality of a visit. It goes without saying that the larger the intrusion, the more it detracts from the visitor's enjoyment of the site. Nonetheless, the land manager has the responsibility of protecting the site from adverse impacts to the greatest extent possible. When barriers must be erected, the location and type should be carefully evaluated for the aesthetic value they bring to the site.

Building barriers that blend into the natural landscape is nothing new to the National Park Service (NPS). While techniques and goals have evolved over the years, the basic policy of the NPS is still rooted in the philosophy of design developed by Andrew Jackson Downing, originally published in 1841 in his seminal book *Treatise on the Theory and Practice of Landscape Gardening*. According to Linda McClellan, Downing's works "provided a philosophical basis for preserving America's natural areas and translated the idea of 'wilderness,' as evocative of the sublime and picturesque, into design terms."⁴⁰⁷ By the 1920s, the policies put in place by the NPS culminated in the formal practices put in place by Thomas Chalmers Vint, based upon "the principles of landscape preservation and harmonious design."⁴⁰⁸ The Going-to-the-Sun Road in Glacier National Park is emblematic of this period, and is recognized as both a masterpiece of civil engineering as well as an historic landmark. The desire was to engineer roads that both highlight the scenery and seem to make little impact on the landscape, making them, in Vint's words, "Simple in line, and retiring."⁴⁰⁹ While barriers and fences are often necessary to prevent access to rock art while facilitating easy

⁴⁰⁷ Linda McClellan, *Building the National Parks* (Baltimore: John Hopkins University Press, 1997), 20.

⁴⁰⁸ *Ibid*, 196.

⁴⁰⁹ Qtd in Joe Flanagan, "Access to Paradise," *Common Ground*, Fall 2008, 28-41.

and convenient viewing, Vint's principles should be foremost in the land manager's mind when developing the site plan. Every effort should be made to avoid impacting the viewshed of the site, thus preserving the site as it would have been originally and enhancing the visitor's perception of the site.

Fences, walls, and other barriers should be kept to the minimum required to minimize unwanted traffic in particular areas, without trying to prevent all traffic. A balance must be struck between an aesthetically pleasing environment that enhances the experience of visitors to the site and site security to prevent looting and vandalism. The Forest Service has developed extensive guidance on trail planning, construction, and maintenance, and have made all of their publication available on the internet at <http://www.fs.fed.us/im/directives/>. Some of the key publications for trail management published by the Forest Service are:

- Trails Management Handbook (FSH 2309.18)
- Forest Service Standard Specifications for Construction and Maintenance of Trails (EM-7720-103)
- Sign and Poster Guidelines for the Forest Service (EM-7100-15).
- Forest Service Health and Safety Code Handbook (FSH 6709.11)
- Bridges and Structures (FSM 7722 and FSM 7736)

The Ubirr rock art sites in the Kakadu National Park in Southern Australia is a prime example of how management practices, especially well placed barriers and boardwalks, can help deter unintentional impacts to sites. Park staff began installing barriers consisting of rope fences, large boulders, and boardwalks approximately three years after the park began receiving visitors, whose numbers had been increasing exponentially following the opening. The staff placed boardwalks at key points where

dust being raised by visitors was causing damage to the rock art, and placed rope barriers at other key points. Boulders were placed along the entrance to a large, painted overhang to prevent people from entering the site. Once put into place, the decrease in incidents of visitors approaching rock art too closely or touching rock art was nearly eliminated. In those cases where people did cross barriers the majority simply wanted closer pictures, while a small minority actually touched the rock art. The percentage of visitors touching the rock art prior to the installation of barriers was approximately 21 percent, which dropped to less than 1/100th of a percent following the installation of the barriers. Only one individual during the study crossed the barriers and touched the art, and even he showed clear signs that he knew he was doing something he should not do.⁴¹⁰

The exception to the general behavior of respecting the barriers, interestingly, was the line of boulders placed to deter entrance into a large overhang. The visitors that climbed over or around the boulders to access the site, however, did not realize that the boulders were intended as barriers, or as any different from that naturally occurring boulders over which they had to climb in the ascent to the viewing areas. In this case, the barriers blended *too* well into the landscape, and became ineffective. The rope barriers, perhaps because they were foreign to the landscape, was significantly more effective in keeping visitors at a proper distance from the rock art surfaces. In fact, though the rope barriers were not secured to the ground, the posts were accidentally knocked over, but in

⁴¹⁰ Fay Gale, "The Protection of Aboriginal Rock Art From Tourists at Ubirr, Kakadu National Park," *Visitors to Aboriginal Sites: Access, Control and Management*, ed. Hilary Sullivan (Canberra: Australian National Parks and Wildlife Service), 32-40.

every case either the adult that knocked over the post or the parent of the child that had knocked over the post righted it again without attempting to cross the barrier.⁴¹¹

The study at Ubirr is illustrative of two main principles: first, that even a seemingly flimsy barrier that could be easily crossed or moved is an effective tool in controlling visitors. Second, barriers must be unobtrusive so that they do not detract from the site visitation, but at the same time foreign enough to be seen as a barrier. While the Ubirr staff chose rope barriers, the Bureau of Land Management staff of the Palm Springs Office chose a different material for the barriers at the Corn Springs rock art in the Chuckwalla Mountains of Southern California. The Corn Springs Campground is in a remote part of the Colorado Desert, and does not have regular staff hours. The campground operates primarily on the honor system, and BLM staff visit on regular if rare occasions. The entrance road passes within feet of the petroglyphs, which are scattered on large rock outcrops. The BLM has placed low, powder-coated steel barriers between the rock outcrop and the roadbed, presumably to prevent vehicle traffic from impacting the rock face. Sean Milanovich, an archeologist and member of the Agua Caliente Band of Cahuilla Indians, Milanovich noted that he had not noticed the low barriers, despite unconsciously staying on the outside of the barriers when viewing the rock art. The metal, black barriers are conspicuous in their contrast to the tones of the surrounding desert, but were nonetheless inconspicuous enough to go unnoticed by an experienced archeologist, intent as he was on the rock art.⁴¹²

⁴¹¹ Gale, "The Protection of Aboriginal Rock Art From Tourists at Ubirr, Kakadu National Park," 37-38.

⁴¹² Sean Milanovich, personal communication to the author, March 2007.

SITE STEWARD PROGRAMS

Swartz's second responsibility is what he terms "sociopolitical." The sociopolitical responsibility, he states, is the "undertaking of the operations of (1) stabilizing, preserving, restoring and protecting the original evidence, (2) replicating high fidelity facsimiles, and (3) documenting (here meaning high fidelity recording to preserve evidence) by generating records (images and descriptions)."⁴¹³ In reality, Swartz's sociopolitical classification encompasses a wide range of activities aimed at conserving rock art resources. A key term that is central to Swartz's definition, however, is *protecting*. In addition, Swartz also mentions the responsibilities for educational and informational roles, both of which include outreach to the public.⁴¹⁴ The roles of protecting while still maintaining outreach are often at odds with one another.

Site stewardship programs depend upon informed volunteers that visit sites at irregular intervals.⁴¹⁵ Volunteer stewards perform at least three vital functions for the sites they help manage. First, they can assist in recording the site, and on subsequent visits can help document natural deterioration of the sites.⁴¹⁶ Second, they can serve as docents to inform other visitors about the significance and value of rock art sites. Third, and perhaps most importantly, their presence at irregular intervals helps to deter would-be looters and vandals.⁴¹⁷

⁴¹³ B. K. Swartz, Jr., "The Roles of Those Who Serve Rock Art." *Occasional Sahara Publication* 4 (1997), 25-27.

⁴¹⁴ *Ibid*, 27.

⁴¹⁵ Whitley, *Handbook of Rock Art Research*, 27.

⁴¹⁶ Stapp and Burney, *Tribal Cultural Resource Management*, 176.

⁴¹⁷ McManamon, "Managing Archaeological Resources," 1254; Stapp and Burney, *Tribal Cultural Resource Management*, 177.

One estimate of damage to recorded archeological sites in Arizona by looters is about fifty percent.⁴¹⁸ Of the 6,000 sites recorded at the time, then, fully three thousand of the sites had been damaged to varying degrees by looters, an astounding number. In southwest Virginia, local archeologists estimate that 95 percent of Native American graves have been destroyed or disturbed.⁴¹⁹ The need for protection of archeological sites is nothing new to archeologists, historians, and land managers, but the need all too frequently exceeds resources. Given the limited resources of most cultural resource management programs, the primary strategy to protect archeological resources was simply one of non-disclosure.⁴²⁰ The fewer people that knew about sites, the safer they were assumed to be. With the advent of the internet, geographical positioning and information systems, and digital media provide looters with unprecedented information about previously unknown sites.⁴²¹ In fact, Dennis Slifer has argued that sites that are already known to portions of the public are at increased vulnerability if their locations are not disclosed publically, since looters and vandals can visit the site with little chance of having their activities interrupted.⁴²² For example, avocational groups such as the DZRTGRLS regularly visit archeological sites and publish information about their visits

⁴¹⁸ Robert D. Hicks, "Time Crime: Protecting the Past for Future Generations." *FBI Law Enforcement Bulletin* 66, No. 7 (July 1997), Quantico, VA: <<http://www.fbi.gov/publications/leb/1997/july971.htm>>.

⁴¹⁹ *Ibid.*

⁴²⁰ Whitley, *Handbook of Rock Art Research*, 60-66.

⁴²¹ Leigh Marymor, *ARARA Guidelines for Managers of Rock Art Sites on Public Lands: Public Access*, American Rock Art Research Association Conservation and Protection Committee, February 4, 2001. http://www.arara.org/Guidelines_Managers_Public_Lands.pdf.

⁴²² Dennis Slifer, *Guide to Rock Art of the Utah Region: Sites with Public Access*, (Sante Fe: Ancient City Press, 2000), viii.

on their website.⁴²³ Their site descriptions and ample photos provide an excellent roadmap for looters and vandals, and even provide photos of artifacts and rock art so the looters will know exactly what to expect. Savvy looters can easily use such public sites to identify archeological sites by using even rudimentary locational data and matching up locations using the photographs of the surrounding countryside to pinpoint the site location. The only remedy to such intrusive, careless behavior is to have an active site management program that includes regular visitation to such sites to prevent damage, or document damage that has already occurred. When the agency budget does not allow for additional Conservation Law Enforcement Officers, rangers, or other personnel, the land manager may need to turn to volunteers.

Purpose and Goals

Since volunteer programs are not mandated, each agency or activity has the freedom to design their own program. For most, the stated goals are very similar, such as those of the Arizona Site Stewards Program.⁴²⁴

⁴²³ DZRTGRLS, <http://dzrtgrls.com/>

⁴²⁴ Arizona State Parks, "Arizona Site Stewards Volunteer Program," <http://azstateparks.com/volunteer/v_sitestewards.html>, accessed August 29, 2009; Stapp and Burney, *Tribal Cultural Resource Management*, 166-182.

1. To preserve major prehistoric, historic and paleontological resources for the purposes of conservation, scientific study, and interpretation.
2. To increase public awareness of the significance and value of cultural resources and the damage done by artifact hunters.
3. To discourage site vandalism and the sale and trade of antiquities.
4. To support the adoption and enforcement of national, state, and local preservation laws and regulations.
5. To support and encourage high standards of cultural resource investigation throughout the state.
6. To promote better understanding and cooperation among agencies, organizations, and individuals concerned about the preservation of cultural resources.
7. To enhance the completeness of the statewide archaeological and paleontological inventory.

Effectiveness

The effectiveness of site steward programs is demonstrable through several key studies, discussed below. The major difficulty in assessing the effectiveness of site steward programs is the high number of variables involved in quantifying the resultant data; each must be taken, therefore, with the proverbial grain of salt. Every land manager will have peculiarities in the landscape, resources, access control, or other concerns which must be addressed when developing a site steward program, and no one study can address all the potential variables. Nonetheless, the studies are effective in determining the range of impacts that can occur on an archeological site, and help federal land managers develop a site management plan that addresses the potential impacts, and a site steward program that is properly prepared.⁴²⁵

⁴²⁵ Whitley, *Handbook of Rock Art Research*, 27.

Range Creek Canyon

Range Creek Canyon in eastern Utah has provided an unprecedented opportunity to evaluate the effectiveness of a land steward dedicated to protecting archeological resources, and for examining the behavior of looters and vandals. The Range Creek drainage is approximately 31 kilometers long, and has historically consisted of ranching properties. The properties have had various owners dating back to the mid-1880s when the canyon was privately developed for cattle ranching. The Wilcox family purchased a portion of the canyon in 1951, and when Ray Wilcox died his sons, Waldo and Don, divided the ranch and continued to operate a successful cattle business. Don took the upper, mountainous portion of the ranch, while Waldo took the lower range portion of the ranch. Situated at Waldo's ranch was the South Gate, which controlled all access to the upper valley, and over which Waldo maintained strict control. In 2001, Waldo Wilcox sold the property back to United States and the state of Utah, where it is now administered by the Utah Division of Wildlife Resources as the Range Creek Wildlife Management Area. Portions of the property are still under the jurisdiction of the Bureau of Land Management and the Utah School and Institutional Trust Lands Association, and some remain private lands.⁴²⁶

In a study conducted under contract to the BLM, archeologists Jerry Spangler, Shannon Arnold, and Joel Boomgarden analyzed impacts to archeological sites in the 23 kilometer stretch of Range Creek Canyon above the South Gate protected by Waldo

⁴²⁶ Utah Division of Wildlife Resources, "Range Creek Wildlife Management Area," n.d.

Wilcox, and compared the degree of impact to sites in the nine mile stretch of the canyon that was below the South Gate and easily accessible to the public.

Despite early reports in the media that described the sites above the South Gate as pristine, many had been looted at some point between 1931 and the present. The proportion of looted and vandalized sites above the gate relative to those below the gate, however, was remarkable. To test their theories, the team plotted all of the sites above and below the gate in a geographic information system (GIS), and were able to draw remarkable conclusions about the amount of protection the gates and the presence of the Wilcox family could provide. Fully 80 percent of the sites within Range Creek Canyon that showed some level of impact were outside of the gated portion of the canyon. Furthermore, those sites within the gated area that have impact from vandals or looters show a remarkable decrease at a distance of about five kilometers from the South Gate and three kilometers from the North Gate (where the terrain is significantly more rugged).⁴²⁷

A second significant decrease occurs for sites that were more than 200 meters from a road or trail, unless they were easily visible from the roadway. The percentage of vandalized sites within the protected area fell from approximately 28 percent within 200 meters of the road to approximately seven percent and lower as the distance increased.

The efforts of Waldo Wilcox and the other residents to protect the resources of Range Creek Canyon seem to have been particularly effective, and are a testament to

⁴²⁷ Jerry D. Spangler, Shannon Arnold, and Joel Boomgarden, *Chasing Ghosts: An Analysis of Vandalism and Site Degradation in Range Creek Canyon, Utah*, Utah Museum of Natural History Occasional Papers 2006-1 (Ogden, Utah, 2006), 13-22.

what truly dedicated site stewards can accomplish. The Range Creek Canyon project also shows, however, that not even the near constant presence of site stewards can protect sites all of the time.

Arkansas

In 1987, Frederick Limp conducted an assessment on site conditions across the state of Arkansas. While the study did not look at site stewards as a factor, nonetheless the data collected presented an alarming picture of site preservation in the state. Limp identified 14 types of site impacts, and assessed the records of over 18,000 sites statewide to determine the type of impacts to the sites. Limp estimates that only 5.9 percent of the known sites in the state of Arkansas are undamaged, or only 514 sites of the 18,425 evaluated.⁴²⁸

The damage to the sites was assessed as having no damage, minor damage, moderate damage, major damage, and totally destroyed. Of the fourteen types of impacts, extensive collection and pot hunting accounted for 11.7 percent of the impacts. When agricultural impacts were removed—which at 50.9 percent of the man-made impacts recorded accounted for the greatest amount of impacts—, that number jumps to 23.7 percent for extensive collection and pot hunting.⁴²⁹

Limp noted that the many of the impacts, including construction, highways, drainage efforts, clearcutting, and land leveling, have some degree of regulatory

⁴²⁸ Frederick Limp, *Archeological Site Destruction in Arkansas*, Arkansas Archeological Survey Technical Paper No. 6 (Fayetteville, 1987), 2-4.

⁴²⁹ *Ibid*, 8.

involvement; in other words, those impacts could have been mitigated. Limp estimates that at least 50 percent of the man-made damages could have been avoided.⁴³⁰

Texas

Throughout the late 1990s, the Texas Historical Commission (THC) conducted a systematic evaluation of site damage, using site stewards to collect data on site preservation. The volunteer site stewards were able to collect far more data than would have been possible for professional land managers and archeologists to collect, which resulted in a more accurate snapshot of site preservation in Texas.

While many of the sites were located on private land and subjected to damage that would not generally occur on federal land, the data can still be useful to federal land managers. The greatest impacts to site recorded by the THC study farming (30%) and public works projects (24%). Looting and collecting represented 7% of the damage recorded, and vandalism accounted for an additional 2%. Interestingly, recreational activities accounted for 11%, greater than both looting and vandalism combined, demonstrating that even well-meaning visitors can damage sites through carelessness, lack of understanding of the frail nature of sites, or through cumulative damage, such as trails worn through sites or increased dust accumulation.⁴³¹

The impact of recreational activity can be seen at the Barker Dam Petroglyph site in Joshua Tree National Park, located on the popular Barker Dam trail and easily accessible to most visitors. The petroglyphs are situated in a concave section of a very

⁴³⁰Ibid, 9.

⁴³¹ Dan Potter, "Measuring Archaeological Site Survival in Texas," *SAA Archaeological Journal* 6, No. 1 (2006), 7-13.

large boulder, with individual images on the floor, walls, and ceiling of the indentation. In order to get their pictures taken with some of the more spectacular pictographs, visitors often climb into the indentation and lean or sit against the wall for their photos. While posing, they stand or sit directly on other petroglyphs, many of which have been worn away from constant traffic in and out of the indentation. Such behavior is certainly not intentionally destructive, but the cumulative effects are disastrous for the petroglyphs that are in vulnerable areas. Most visitors interviewed at the site are simply not aware that they are stepping, leaning, or sitting on petroglyphs.⁴³² The damage was exacerbated when unknown persons repainted the petroglyphs to make them appear more vivid. As a result, the park staff considers the site a “sacrifice site.” Sacrifice sites are sites that has been damaged to the point that it can no longer provide reliable data for archeological inquiry, but is still useful as a destination for park visitors.⁴³³

⁴³² While visiting the site, the author queried visitors who had just performed the behavior detailed, and asked if they were aware that they were stepping, leaning, or sitting on petroglyphs. The majority stated that they did not know it, and had failed to look for it before ascending the rock for the photograph. While some showed embarrassment or regret, others simply shrugged or did not express concern when their behavior was pointed out.

⁴³³ Jeff Ohlfs, District Ranger, Joshua Tree National Park, conversation with author, June, 2008; Grahame L. Walsh, “The Archaeological Site Management in Carnarvon National Park: A Case History in the Dilemma of Presentation or Preservation,” *Visitors to Aboriginal Sites: Access, Control and Management*, ed. Hilary Sullivan (Canberra: Australian National Parks and Wildlife Service), 5.



Figure 14. Visitors to the Barker Dam Petroglyph Site in Joshua Tree National Park stand on petroglyphs in order to take photos of other petroglyph panels. Note the spalling of the patina from the rock surface where visitors have stood to take photos. (photo by author)

The damage to sites in Texas caused by looting was determined primarily by recognizable evidence left by the looters. Surface collection leaves little trace, except when “sorting piles” or other incidental evidence is recognizable by the site stewards, and can almost impossible to quantify. The majority of sites recorded as looted, therefore, were those that exhibited evidence of subsurface looting. Unfortunately, as discussed in chapter three, a common misconception is that surface collection is allowed under the

Archeological Resources Protection Act (Section 470(ee)(g)), but this is simply not the case.⁴³⁴ Nonetheless, the practice continues.

Australia

During the study of the effectiveness of barriers at the Ubirr site in Kakadu National Park in Australia, the staff observed visitors to the site by either mingling with the visitors or by observing the visitors from concealed locations nearby. It is interesting to note that some visitors engaged in conscious, though not necessarily destructive, behavior in violation of the posted rules when they did not believe they were being observed. The behavior included crossing the barriers to get better views or photographs of the rock art, touching the rock art, or hanging back from the group to be able to cross the barriers without the guide knowing. That behavior was minimized by the presence of other visitors or park staff, demonstrating the effectiveness of regular visitors as a deterrent to vandalism or looting. Additionally, it was noted that even when individuals crossed the barriers, they were inevitably hurried in their activity, which indicates that they were fully conscious that their behavior was not permitted, and that someone could come at any moment and catch them at it.⁴³⁵ Clearly, the presence of a site steward would have prevented even that activity. Further, the study at Ubirr concluded that the “[t]here is no evidence, from this study, to suggest that guided tours, longer walks to reach a site, or fewer tourists will lessen the damage.” Instead they found that “the

⁴³⁴ 16 USC § 470(ee)(g); Dave Wilson, *Hiking Ruins Seldom Seen* (Guilford, CT: Globe Pequot, 2000), 4-5; Smith, *Archaeological Theory and the Politics of Cultural Heritage*, 133-136.

⁴³⁵ Gale, “The Protection of Aboriginal Rock Art From Tourists at Ubirr, Kakadu National Park,” 36-39.

continual presence of visitors appears to limit damage because overt acts of vandalism seem to occur when no one else is there.”⁴³⁶

Summary

The efforts of Waldo Wilcox and the other residents to protect the resources of Range Creek Canyon seem to have been particularly effective, and are a testament to what truly dedicated site stewards can accomplish. The Range Creek Canyon project also shows, however, that not even the near constant presence of site stewards can protect sites all of the time. The data gathered in long term projects, such as the Texas Historical Commission and Range Creek Canyon projects, provide a baseline for developing strategies for managing and protecting rock art sites.

While the Arkansas and Texas study conclusions are both startling and do not seem to offer much hope, some of the damage could have been prevented with an active site steward program. While on a state scale the impact may have been minimal, on federal land or on a DoD installation the situation is significantly more manageable. Many National Parks have affiliated associations, such as the Joshua Tree National Park Association, through which effective programs could be developed.⁴³⁷ Many National Park associations are very active, but may not be aware that rock art sites are so threatened. Other local organizations, such as community historical societies, museum associations, and others, have an avid interest in local cultural resources. Land managers, historians, and archeologists must therefore take an active hand in making certain that

⁴³⁶ Gale, “The Protection of Aboriginal Rock Art From Tourists at Ubirr, Kakadu National Park,” 36-39.

⁴³⁷ Jeff Ohlfs, District Ranger, Joshua Tree National Park, conversation with author, June, 2008; Joshua Tree National Park Association, “Our Work,” < <http://www.joshuatree.org/about.html>>, accessed 29 July 2009.

such organizations are aware of the issues, and demonstrating how those organizations can participate in site stewardship programs. Cultural resources professionals must therefore be active participants in community affairs in order to constantly remind such groups that they can have a significant impact on reducing or eliminating looting and vandalism.⁴³⁸

Also particularly useful in the planning and budgeting process is the data gleaned from the study in Range Creek Canyon, which not only records the type and extent of the damage from looting and vandalization, but also provides critical data on how far looters will travel past gates and other barriers to access sites. That information is invaluable in helping resource planners place road barriers and other deterrents to unauthorized site access. The data can also be used to prioritize recording or evaluation priorities, since those sites that are closest to roads, trails and barriers are the most vulnerable, particularly those that fall within 200 meters of roads and trails.

INTERPRETIVE PROGRAMS

While it is outside the scope of this work to discuss the development of interpretive programs, for some agencies they will play a large part in the development of rock art sites for cultural heritage tourism. They are worth mentioning here for the part they can play in the overall goal of responsible management of cultural resources, since a key to the preservation and protection of cultural resources is recognition by the public at

⁴³⁸ David S. Whitley, *A Guide to Rock Art Sites: Southern California and Nevada* (Missoula: Mountain Press Publishing, 1996), xiii.

large in the value of those resources.⁴³⁹ If the public does not value or does not recognize the value of rock art sites, then no amount of site visitation strategies will protect a site, short of round-the-clock guards. A public education program is absolutely essential to a site management plan.⁴⁴⁰ In fact, of the five roles identified by Swartz, two are concerned with the interpretation of rock art for the education and benefit of the public and with the dissemination of information about rock art to promote social awareness.⁴⁴¹

As the chapter 4 on rock art research shows, many academic rock art researchers believed that rock art pre-dated contemporary Native American groups, and therefore the only valid way to study and interpret rock art was through other, more indirect methods, such as cognitive theories. In some cases that may be true, but as discussed in the chapter 6 on consultation, the point is moot, since rock art was and is an integral part of the landscape of Native American groups, both past and present.⁴⁴² According to Ernest Siva, the Serrano traditions relate that rock art was made specifically to guide the Serrano to the land that was to be theirs, placed there by “the people that came before.” Rock art guided them on their arrival, and confirmed that they had found the place they were intended to live.⁴⁴³ While such traditions may seem to suggest that the rock art may not have been a Serrano tradition, it is nonetheless an integral part of those traditions, and

⁴³⁹ Leigh Marymor, *ARARA Guidelines for Managers of Rock Art Sites on Public Lands: Public Access*, American Rock Art Research Association Conservation and Protection Committee, February 4, 2001. http://www.arara.org/Guidelines_Managers_Public_Lands.pdf.

⁴⁴⁰ Whitley, *A Guide to Rock Art Sites*, xiii; Marymor, *ARARA Guidelines for Managers of Rock Art Sites on Public Lands*.

⁴⁴¹ Swartz, “Roles of those Who Serve Rock Art,” 25.

⁴⁴² Stapp and Burney, *Tribal Cultural Resource Management*, 172.

⁴⁴³ Ernest Siva, interview with the author at the Morongo Band of Mission Indians, Banning, CA, February 2008.

that must be taken into account when creating interpretive literature and signage. The most important aspect of such an interpretation is that it highlights the indigenous groups as living cultures that still attach importance to the sites land managers are entrusted to maintain.⁴⁴⁴ Interpretive literature and signs should stress the fact that Native American societies are vibrant and active communities, and interpretive programs should make extensive use of Native American scholars, elders, and community members during all phases, from conception to implementation. An approach stressing the contemporary nature of Native American society will help underline why the preservation understanding, and respect of rock art sites is important to both Native Americans and non-native members of the public. A well constructed interpretive program can provide any number of advantages to the site, as well as to the public. Interpretive programs can garner interest in the site steward program, increase visitor awareness, and foster a general interest in history and archeology. As stated by the Secretary of the Interior, Bruce Babbitt,

We need more and better public education and opportunities for the public to participate in appropriate archaeological projects. Participation in public programs and events helps protect and preserve archaeological sites by ensuring, for example, the careful recording and detailed attention to context that is necessary in the scientific archaeological field and laboratory work and by educating volunteers who can help meet interpretive and management goals.⁴⁴⁵

⁴⁴⁴ Reba Fuller, "Aspects of Consultation for Central Sierran Me-Wuk," in *Native Americans and Archaeologists*, ed. Nina Swidler et al. (Walnut Creek, CA; AltaMira Press, 1997), 183.

⁴⁴⁵ Bruce Babbitt, Message from Secretary of the Interior Bruce Babbitt to the Readers of *Archaeology & You*, Society of American Archaeology, <<http://www.saa.org/publications/ArchAndYou/BabbittLtr.html>>.

Thus, outreach and interpretive programs should be considered as an integral part of site management programs, when and where they are appropriate to the mission of the agency. Those that believe that interpretive programs and outreach initiatives only serve to educate looters and increase pothunting forget that the looters are *already* educated, and that they form only a small percentage of the public body.⁴⁴⁶ As Charles Gimsey, then Director of the Arkansas Archeological Survey and the University of Arkansas Museum, argued more than 30 years ago, such an attitude is self-defeating. He further argued that without public support, state and federal agencies would be unable to acquire funds for management programs, and no effective protection strategies could be implemented.⁴⁴⁷ Denying the public access to and information about cultural resources simply ensures that the historian or archeologist will soon be out of a job.

Furthermore, the study at the Ubirr site in Kakadu National Park showed that the presence of visitors at regular intervals prevented overt acts of vandalism, the presence of clear, well-written signs and pamphlets also increased the likelihood that visitors would take additional steps to protect the art from other, less well-informed visitors, taking on something of a site steward role.⁴⁴⁸ Thus, far from educating those that would loot or vandalize rock art sites, the supplied information and literature created a more active, engaged body of visitors, who took a degree of ownership for the site and acted on its behalf.

⁴⁴⁶ Marymor, ARARA Guidelines for Managers of Rock Art Sites on Public Lands.

⁴⁴⁷ Charles R. McGimsey III, *Public Archaeology: Studies in Archaeology* (New York: Academic Press, 1972), 118.

⁴⁴⁸ Gale, "The Protection of Aboriginal Rock Art From Tourists at Ubirr, Kakadu National Park," 40.

Ernest Siva agrees, arguing that education can only help to preserve rock art sites through expanding the understanding of the general public to the role of rock art in various cultures, and a more nuanced appreciation for the rock art.⁴⁴⁹ A more thorough understanding helps to eliminate what D.A. Gillespie calls the “art gallery syndrome,” wherein art as an object of interest in the European tradition is something removed from everyday life, and does not have a direct impact on daily living.⁴⁵⁰ It is often the same in the United States, where rock art is seen as a curiosity, rather than being seen as the product of a living, vibrant culture with traditions that extend back to periods when the rock art was made. Siva argues that education about rock art, including programs that are conducted at rock art sites, will help European Americans better understand Indian culture.⁴⁵¹ It should go without saying, however, that the rock art sites must be treated with respect in any endeavor, and the etiquette of visiting such a site be stressed by staff, signage, and literature. Doug Deur notes that previous interpretations have been “simplistic and misleading” and that instead of offering an over-simplified answer to the questions posed by visitors, interpretations should stress cultural traditions and the long-term attachment to the land by Native groups.⁴⁵²

Richard Begay, Tribal Historic Preservation Officer for the Agua Caliente Band of Cahuilla Indians, notes that the important message conveyed through rock art is that it

⁴⁴⁹ Ernest Siva, interview with the author at the Morongo Band of Mission Indians, Banning, CA, February 2008.

⁴⁵⁰ D. A. Gillespie, “Ubirr: A Case Study in Compromise,” *Visitors to Aboriginal Sites: Access, Control and Management*, ed. Hilary Sullivan (Canberra: Australian National Parks and Wildlife Service), 26.

⁴⁵¹ Ernest Siva, interview with the author at the Morongo Band of Mission Indians, Banning, CA, February 2008.

⁴⁵² Deur, *Traditional Use Study*, 88.

is a visible and powerful reminder that Indians were living in and on the land much earlier than Europeans.⁴⁵³ Rock art sites can therefore serve as excellent classrooms to highlight the antiquity of Native American culture because of the obvious age of many of the rock art images, and that those cultures are still alive and vibrant, and in some cases still actively using rock art sites for traditional practices.

CONCLUSIONS

The federal cultural resource professional responsible for one or more rock art sites, or the historian working to help develop a management or interpretive plan for such a site, may find the challenge initially daunting, but may ultimately find the opportunity to manage the sites enlightening, educational, and broadening. Emphasis on the following principles will assist the cultural resources professional in prioritizing efforts to properly manage rock art sites and make them accessible to the public for enjoyment and education.

- 1. Identifying and Recording Rock Art Sites.** Section 110 of the NHPA requires all federal agencies to develop a management plan for inventorying historic resources on land under agency administration; however, the focus on identifying and properly documenting rock art sites should be a priority because of the enigmatic nature and potential for education, as well as their aesthetic value. No management plan can prevent the inexorable natural deterioration of rock art over time, and only the most determined efforts can

⁴⁵³ Richard Begay, Director of Tribal Historic Preservation, interview with the author at the Agua Caliente Band of Cahuilla Indians, Palm Springs, CA, February 2008.

completely stop or eradicate vandalism or looting. Thorough documentation is the only way to ensure that the elements of rock art sites are not lost forever.

- 2. Developing Site Steward Programs.** Though some vandals and looters are persistent enough to evade even the most pernicious site stewards, most are of the more common breed of scofflaw and are looking for easy targets and targets of opportunity. An effective site steward program can help make a rock art site less tempting to vandals and thieves, as well as assist the site manager in site recordation and monitoring the site condition.
- 3. Developing an Effective Site Visitation Plan.** Visitors to rock art sites may or may not have any prior knowledge of rock art sites, and an effective site visitation plan will prevent inadvertent damage to a site through proper placement of barriers, paths, and interpretive materials. Site managers must take into account the potential impacts to a site from visitation, and take active steps to mitigate that damage, including paving paths to reduce dust, placing natural or artificial barriers to keep visitors at an acceptable distance, and placing discrete and effective signage at key points to help educate visitors on site etiquette.
- 4. Developing Effective Interpretative Programs.** A well-developed interpretive program serves two primary functions. First, it fulfills the goal of educating the general public on the phenomenon of rock art as required under Section 5 of Executive Order 13287 “Preserve America.” Second, it can help

to engage visitors to the site, and help them develop a sense of ownership and responsibility towards historic resources. Integrating a site steward program into the interpretive program enhances the effectiveness of both programs, as site stewards can serve as docents, actively educating the visitors and possibly recruiting additional site stewards in the process.

Rock art represents a rich and fascinating aspect of our American cultural heritage, and represents a mere glimpse into the lives of the people that occupied this land in antiquity. The historian so tasked has an enormous responsibility, not only to protect and conserve the rock art sites, but to make that rock art an accessible and effective educational tool available to the American public. Only through an understanding of the past can we come to understand the present and our place in the modern world, and rock art provides a unique insight into an aspect of Native culture that can be seen in a very limited class of artifacts.

Cultural resources professionals can fulfill that mandate by carefully and conscientiously identifying, recording, and managing rock art sites that fall within his jurisdiction. Further, the cultural resource professional should be ever conscious of that responsibility to the American public, and seek always to improve the accessibility of rock art sites to researchers, native groups, and laypersons.

CONCLUSIONS

The significance of rock art goes far beyond a simple curiosity on the landscape. It goes beyond being mere enigmatic artifacts of a past time. Though history and heritage are sometimes used interchangeably, heritage has a meaning rooted in the concept of an inheritance, a legacy, and it refers to all those physical and non-physical trappings of our culture that is passed onto future generations.⁴⁵⁴ *Material culture*, on the other hand, refers specifically to physical artifacts—either made, modified, or used by humans—, and, as stated by Thomas Schlereth, “connotes physical manifestations of culture and therefore embraces those segments of human learning and behavior which provides a person with plans, methods, and reasons for producing things that can be seen and touched.”⁴⁵⁵ In other words, our material culture both informs our worldview and is informed by our worldview. As an expression of a world view, then, rock art is an invaluable glimpse into the psyche of the people that made it. Rock art, therefore, represents perhaps the only record remaining of the way the people that left their marks on the rocks saw and understood the world around them.

The urge to preserve key artifacts is nothing new to human civilization, and the significance of the artifacts left behind by previous cultures and civilizations has been recognized throughout time. Even Roman citizens took tourist trips to Egypt to marvel at

⁴⁵⁴ Peter Howard, *Heritage: Management, Interpretation, Identity* (London: Continuum International Publishing Group, 2003), 6.

⁴⁵⁵ Thomas J. Schlereth, *Material Culture Studies in America* (Lanham, MD: Alta Mira, 1981), 2.

the ancient temples and ruins, and left graffiti to record their visits.⁴⁵⁶ Those artifacts help us connect to the past, to see or hold some “tangible evidence that the old human past really existed.”⁴⁵⁷ Artifacts, such as rock art, are a constant reminder of what came before, and are an integral part of those peoples’ stories.⁴⁵⁸

The role of history discipline is to do more than simply record the events of the past; rather, the role of history is to interpret and explain those events in the context of the human condition worldwide. The general public has a right to expect that the historians, archeologists, and public land managers in the employ of the federal government, as stewards of our cultural resources, will represent the best interests of the American people, and ultimately to the future generations that are to come. Those historians, archeologists, and land managers are the designated stewards of those resources. Darby Stapp and Michael Burney define cultural resource stewardship as “preserving, protecting, and ensuring that cultural resources are accessible, as appropriate, for present and future generations, especially descendant communities.”⁴⁵⁹ For those that steward rock art sites on public lands, it is important to note that *accessible* is a key word in Stapp and Burney’s definition, since rock art is more than simply history, it is a part of our national heritage. Every citizen should have the opportunity to learn about rock art, to integrate rock art into his or her own worldview, and to pass that heritage on to future generations.

⁴⁵⁶ Brian M. Fagan, *The Rape of the Nile: Tomb Robber, Tourists, and Archeologists* (Boulder, CO: Westview, 2004), 19.

⁴⁵⁷ George Kubler, *The Shape of Time: Remarks on the History of Things* (New Haven: Yale University Press, 1962), 5.

⁴⁵⁸ Jeff Duford, “The Things We Are,” *Air Power History* 55, No. 1 (Spring 2008), 6.

⁴⁵⁹ Stapp and Burney, *Tribal Cultural Resource Management*, 169.

The relevance of history, and by extension the relevance of rock art, is that it expands the understanding of the world and the people within it, allowing individuals to better negotiate his or her place in it, and it provides a perspective that is not confined to what an individual has directly experienced. By properly preserving and managing rock art sites historians, archeologists, and federal land managers can provide the public with a dimension of Native American life that will provide a clearer, more nuanced understanding of life in North America before the arrival of Europeans. Within the cultural resources managed by the federal Government lies fertile potential to engage the general public—many of which would seldom, if ever, be exposed to history or archeology beyond the high school level—in meaningful and valuable interaction that would provide them with a more comprehensive perspective on Native American lifeways.⁴⁶⁰ The proper management of rock art sites, therefore, hinges upon three critical areas: first and foremost, the incorporation of Native American beliefs, traditions, and desires into the management process; second, a thorough knowledge of methods for proper recording, conservation, and management within the framework of professional standards and federal laws and regulations combined with a multidisciplinary approach to the reconstruction of historic landscapes; and third, effective visitation strategies that maximize the potential of rock art sites for public education and enjoyment.

⁴⁶⁰ Donald G. MacLeod, “Peddle or Perish,” in *Conservation Archaeology: A Guide for Cultural Resource Management Studies*, ed. Michael B. Schiffer and George J. Gumerman, (New York: Academic Press, 1977), 63-72.

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