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In the Public Interest

Creative Approaches to Section 106 Compliance

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Cover: Bighorn Medicine Wheel. Photo by Richard Collier, courtesy Wyoming Division of Cultural Resources. Inset: Photo courtesy Larson Anthropological Archaeological Services Limited.

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Jane Crisler, Kris Mitchell, and Carol Gleichman

Working Together for Better Solutions

In the years since Congress passed the National Historic Preservation Act (NHPA) in 1966, federal agencies have become increasingly adept at meeting the requirements of Section 106 of the NHPA. Section 106 calls for federal agencies to consider the affects of their actions on historic properties and to seek the comments of the Advisory Council on Historic Preservation (Council). Agencies meet these requirements by following the Council's implementing regulations, "Protection of Historic Properties" (36 CFR Part 800). The Council's regulations define a broad approach for how an agency should consider the effects of its actions on historic properties in the public interest. Today, however, the consideration and treatment of historic buildings, structures, objects, and archeological sites by the federal government are often routine. Standardized approaches often help applicants and licensees get through the process and minimize the chance of disagreements with the State Historic Preservation Officer or the Council. With the increasing use of programmatic agreements, in which agencies may develop alternative procedures for compliance with Section 106, many federal agencies are afforded increased opportunities to streamline review and consultation. Although such streamlining is a worthy goal, it must not overshadow the premise of Section 106 consultation, which is thoughtful decisionmaking in the public interest.

The articles in this issue of *CRM* illustrate the value of informed decisionmaking, collaboration, and effective use of the Section 106 process in making management decisions affecting historic properties. The authors were asked to contribute because all were key participants in projects or programs that stand out as unusual and creative approaches to managing historic properties or complying with Section 106. Each author faced the difficult challenge of balancing the desire to protect historic properties and the interests of the public and/or Indian tribes with agency missions and other public needs.

The articles contained in this issue were initially presented in sessions that we organized for two professional meetings: the first, a symposium at the Society for American Archaeology (SAA) Annual Meeting in Seattle, Washington, March 17, 1998; and the second, a workshop at the annual meeting of the National Council on Public History (NCPH) in Austin, Texas, April 16, 1998. The idea for both sessions arose quite independently, and from slightly different perspectives, but with similar goals in mind: to highlight a sample of the successes in federal historic preservation and planning and to stimulate creativity in the treatment of threatened historic properties. During the development of these sessions, it was discovered that many in the historic preservation field have been contemplating these issues for years, and wondered why there was not more pro-

Section 106 (16 U.S.C. 470f) National Historic Preservation Act of 1966

The head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any department or independent agency having an authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion for the National Register. The head of any such federal 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.

fessional dialogue about creative approaches to preservation treatment.

It is easy for those of us working daily with Section 106 to get tangled in the mechanics of compliance while losing sight of its purpose. The mandate of Section 106, to take into account the effect of federal undertakings on properties listed in or eligible for listing in the National Register of Historic Places, requires all federal agencies to weigh and balance historic properties protection against other public interests. For federal land-managing agencies, the public, in effect, owns the cultural resources. These agencies and others also may provide federal assistance for projects that impact historic resources. The end result of the Section 106 process should therefore benefit those who foot the bill: the general public. Unfortunately, this is not always the case. This is not to say that today's standard forms of mitigation, such as architectural documentation and archeological data recovery, are inappropriate or ineffectual. Professionals do, however, need to consider whether the most common and accepted forms of mitigation and management truly benefit the public and whether there is a reasonable relationship between the damage or loss of the historic property and the proposed treatment measures. Will the results of consultation effectively preserve that which is historically important, or adequately compensate the public for the loss of its cultural heritage?

If a building listed in the National Register of Historic Places based on Criterion A for its association with an important event in local history is threatened by a federal undertaking, the responsible agency often may prepare architectural drawings and photographs to mitigate the loss of this historic property. It is, however, not the architecture of the building that makes it significant. A more effective form of documentation might entail performing contextual research regarding the role of the building in the events for which it is significant, conducting oral history interviews, or preparing informational exhibits for display in the community. Too often these less conventional options are overlooked in favor of traditional documentation approaches.

When documentation is prepared or archeological data recovery carried out, the benefits to the general public may be indirect and minimal, particularly if the materials are not translated and distributed to the public. With archeological properties in particular, there is a tendency to limit mitigation options to two choices. Federal agencies may first attempt to avoid archeological sites by relocating ground disturbing activities to another area. If such avoidance is not possible, sites are excavated to recover the information they contain. The decision usually boils down to which alternative is least costly to the federal government or the project proponent. When data recovery is the choice, too often Indian tribes with historic ties to the area, or to specific sites being investigated, are not provided a meaningful role in decisionmaking, and the resulting reports are never published or summarized for distribution to interested tribes or the public.

Those professionals who implement and regulate the NHPA compliance process are integral players in the Section 106 process; but not the primary constituent. In order to improve public involvement, professionals must engage interested persons in a meaningful dialogue, and in order to be effective, public input must occur before treatment decisions are made. Of course, the level of public input sought by a federal agency should be commensurate with the scope of the project and the significance of the affected resources. In many cases, the public can be represented effectively by local archeological and historic societies or museums. It is important to note that it is communities, license applicants, Indian tribes, and others that ultimately must live with the results of consultation.

Many of the complicated Section 106 cases reviewed by the Advisory Council involve disputes between the federal agency and concerned Indian tribes or Native Hawaiian organizations. These groups do not wish to see places of traditional cultural importance or sacred sites destroyed by development projects primarily intended to benefit non-Indian communities. With the publication of National Register Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, federal agencies and their consultants have access to useful guidance on how to apply the National Register criteria to traditional cultural properties. Many agencies, however, remain fearful of the implications of finding a National Register-eligible traditional cultural property in a project area. The case studies in this volume illustrate that no standard, streamlined approach to addressing Native American concerns exists in the Section 106 process. Rather, opening the door to problem-solving and working together with tribes and other interested parties for mutually acceptable solutions is the key to successful resolution.

These articles represent the views of the individual authors regarding compliance and management, and are not necessarily those of the Council.

To provide a Council perspective, Tom McCulloch and Alan Stanfill, who represented the Council as the discussants at the workshop in Austin and the symposium in Seattle, offer a discussion of the case studies at the end of this volume. The projects and programs included in this issue are excellent examples of how federal agencies, State Historic Preservation Officers, Indian tribes, historians, and archeologists can work together with other interested persons to achieve effective historic preservation outcomes. Other good examples exist, but we hope those presented here will inspire readers to think creatively when faced with similar challenges to the preservation and long-term management of archeological and historic resources.

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The Advisory Council on Historic Preservation is an independent federal agency that advises the President and Congress on historic preservation and reviews federal undertakings that may affect historic properties in the United States. Visit the Council's web site <http://www.achp.gov>.

Fred Chapman

The Bighorn Medicine Wheel 1988-1999

In the fall of 1988, the Bighorn National Forest introduced plans for access road and facility improvements at the Medicine Wheel National Historic Landmark (NHL) in order to accommodate increasing tourism. During a field consultation with Forest Service personnel, Northern Arapaho traditional elders expressed concerns that the proposed construction would disturb or possibly destroy the spiritual life that surrounds the Medicine Wheel. The elders later recounted how a federal official advised them that the Forest Service could "bulldoze the Medicine Wheel" as long as the agency followed certain undisclosed regulatory procedures.[1] This notorious incident marked the beginning of years of intricate negotiations and chronic acrimony between federal, state, and local government agencies, the general public, and Native American traditional elders representing 16 Indian tribes. What began as a straightforward federal undertaking turned into Wyoming's most complex and protracted Section 106 case. Viewed retrospectively, the Medicine Wheel was a watershed historic preservation event in the Northwestern Plains that decisively changed the practice of public archeology in Wyoming by demonstrating the benefits and necessity of Native American consultation.

Prehistoric and Ethnohistoric Context

The Bighorn Medicine Wheel NHL is located at an elevation of 9,642 feet near the crest of the Bighorn Mountains of north central Wyoming. It occupies a high, alpine plateau about 30 miles east of Lovell, Wyoming. The Bighorn Medicine Wheel is the type site for medicine wheels in North America. Between 70 and 150 medicine wheels have been identified in South Dakota, Wyoming, Montana, Alberta, and Saskatchewan. Most are found in southern Alberta and Saskatchewan. The oldest medicine wheel is the 5,500-year-old Majorville Cairn in southern Alberta.

The most conspicuous feature of the Landmark is a circular alignment of limestone boulders that measures about 80 feet in diameter and contains 28 rock "spokes" that radiate from a prominent central cairn. Five smaller stone enclosures are connected to the outer circumference of the Wheel. A sixth and westernmost enclosure is located exterior to the Medicine Wheel but is clearly linked to the central cairn by one of the "spokes." The enclosures are round, oval, or horseshoe-shaped and closely resemble Northern and Northwestern Plains vision quest structures described by several researchers over the past 30 years. The surrounding 23,000-acre study area contains approximately 44 historic and prehistoric sites that include tipi rings, lithic scatters, buried archeological sites, and a system of relict prehistoric Indian trails all superimposed by a century of non-native use by loggers, ranchers, miners, and recreationalists.

The study area also contains 14 contemporary Native American traditional use areas and features. These include ceremonial staging areas, medicinal and ceremonial plant gathering areas, sweat lodge sites, alters, offering locales and vision quest enclosures. Many of these traditional use areas coincide with prehistoric sites containing problematic rock alignments that probably relate to early ceremonial or spiritual use. An accumulating body of ethnographic evidence collected over the past five years demonstrates that the Medicine Wheel and the surrounding landscape is and has been a major ceremonial and traditional use area for many regional Indian tribes. Contemporary traditional Arapaho, Bannock, Blackfeet, Cheyenne, Crow, Kootenai-Salish, Plains Cree, Shoshone, and Sioux, generally venerate the Medicine Wheel because it embodies uniquely important and powerful spiritual principles that figure prominently in tribal, family, and band-specific oral and ceremonial traditions. To many Native Americans, the rock alignments and cairns that make up the Medicine Wheel represent religious architecture rather than archeological data. It is probably fair to say that most knowledgeable Indian religious practitioners regard the Medicine Wheel as an essential but secondary component of a much larger spiritual landscape composed of the surrounding alpine forests and mountain peaks.

One of the earliest photos of the Medicine Wheel, taken in 1916 by H. H. Thompson, shows a Crow Indian named Cut Ear praying at the eastern end of the Wheel. Photo courtesy Wyoming Division of Cultural Resources.

Professional researchers generally believe that the Medicine Wheel is a Late Prehistoric composite feature that was constructed over a period of several hundred years. Twelve ceramic sherds were recovered from the eastern half of the Medicine Wheel during fieldwork conducted by the Sheridan Chapter of the Wyoming Archaeological Society in 1958.[2] Originally identified as Shoshone pottery, two of the sherds were subsequently identified as Crow.[3] The 1958 fieldwork project also produced nine early-19th-century glass beads found near the central cairn,[4] a wood sample from one of the cairns that was tentatively dated to 1760 A.D. by means of dendrochronological techniques, and a 4,400-year-old projectile point that was reportedly encountered beneath the central cairn structure.[5]

Four hearth charcoal samples recovered from within 400 yards of the Medicine Wheel have produced dates ranging from the modern era (post 1950) to 6650 B.P. At a multi-component site located in the upper Crystal Creek drainage basin approximately three miles southeast of the Medicine Wheel, charcoal and wood samples yielded dates ranging from 1450 B.P. to about 980 B.P. This limited radiometric data suggests that prehistoric occupation and use of the general study area occurred mainly during the first half of the Late Prehistoric Period. However, most datable archeological materials found in close proximity to the Medicine Wheel itself date to the latter half of the Late Prehistoric Period. Although these diagnostic artifacts and radiocarbon dates fail to decisively explain the construction and use of the Medicine Wheel, the evidence clearly indicates that the study area was used by prehistoric Native Americans for nearly 7,000 years. Whether or not this prehistoric occupation and use were predominantly oriented toward ceremonial or spiritual use—with the Medicine Wheel as the central focus—is a speculative issue that archeological data probably won't be able to resolve. In this regard, Michael Wilson's comments are especially pertinent. He notes the tendency of researchers to "...elevate the Medicine Wheel to the position of shrine..."[6] by overlooking the numerous sites that express the more mundane activities of hunting and camping. He also suggests that to fully comprehend a site like the Medicine Wheel "...probably requires a world view in which the secular/religious dichotomy simply does not exist."[7]

Assigning tribal affiliation to the Medicine Wheel by archeological means is a matter of inference rather than fact. As mentioned previously, ceramics recovered from the interior of the Medicine Wheel have been identified as Crow and Shoshone in origin. Frison and Wilson comment that there is a great deal of archeological evidence

supporting an extensive Crow presence on the western slopes of the Big Horn Mountains beginning in the latter part of the 16th century or possibly earlier. During this Late Prehistoric Period, evidence for a substantial Shoshone occupation can be seen in the western Big Horn Basin rather than in the Bighorn Mountains. Finally, it is important to note that horseshoe-shaped enclosures like those found in direct association with the Medicine Wheel have been associated with the Crow Indian fasting (vision quest) ritualism.

Administrative History

Efforts to memorialize the Medicine Wheel began in 1915, when the National Park Service recommended to the Secretary of Agriculture that the site should be designated a national monument. In 1956, in response to a rumor that the federal government intended to relocate the Medicine Wheel to a more accessible elevation, Wyoming governor Milward L. Simpson requested assurances from the National Park Service and the U. S. Forest Service that the "Indian Medicine Wheel" would not be moved. Federal authorities responded in June of 1957, when the Forest Service formally withdrew the Medicine Wheel and the surrounding 120 acres "...from all forms of appropriation under the public land laws, including the mining and the mineral-leasing laws...." Due to the influence of several locally prominent officials, efforts to formally commemorate the Medicine Wheel were renewed in the 1950s and the required supporting documentation was compiled in the 1960s. In recognition that the Medicine Wheel was "...the largest and most elaborate Indian structure of its type," the site was designated a National Historic Landmark in September 1970 by Walter J. Hickel, the Secretary of the Interior at that time.

As mentioned previously, in 1988 the Forest Service proposed changes designed to accommodate and encourage tourism at the Landmark. The preferred development alternative included the construction of a large parking lot, a viewing/photography tower, and a modest visitor center all within about 100 meters of the Medicine Wheel. Public response was revealing. The Native American community circulated a petition that asked the Forest Service to recognize the Bighorn Medicine Wheel as an important Native American religious site, allow Indian people 12 days a year to conduct ceremonies at the Wheel, and prohibit new construction within one-half mile of the Landmark. Eventually, 659 signed petitions were submitted to the Forest Service. Commentary from the local community was often racist in nature. Rather than addressing the preferred construction alternative, much of the commentary vilified Native American involvement and motives. An influential former state senator from Big Horn County stated publicly that "...the ceremonies conducted by Indians might be an attraction for tourists." A growing assembly of cultural resource advisory agencies and natural resource advocacy organizations uniformly opposed the planned construction activity on the grounds that it would seriously impact the values that contributed to the significance of the cultural landscape that included the Landmark. The Forest Service was dismissive and responded by insisting the preferred alternative would not significantly affect the archeological values on which the 1970 NHL designation was based. In a public comment analysis published by the Forest Service in 1989, the 659 Indian petitions (which represented 85% of all public comment) were counted as a single response. The battle lines were now clearly drawn.

By 1990, it had become apparent to most interested parties that the Forest Service's inability to reach a public consensus concerning the management of the Medicine Wheel was profoundly influenced by the fact that the archeological and ethnohistoric parameters of the Medicine Wheel were not well known. Although the Medicine Wheel had been studied by numerous professional researchers beginning in 1903 with S. C. Simms of the Chicago Field Museum, no comprehensive effort had ever been made to synthesize the existing data. Further, ethnohistoric and ethnographic information concerning the use of the Wheel by Native Americans had never been compiled. Based on fieldwork conducted by Wilson, Reher and Wedel, Laurent, and Reeves, it was clear that the Medicine Wheel was merely part of a much larger cultural landscape containing numerous archeological and ethnographic localities. Although initially opposed by the Forest Service, the involved government agencies eventually agreed to cooperatively sponsor and produce a NHL boundary revision study designed to establish boundaries encompassing all historic, ethnographic, and archeological sites associated with the cultural landscape that included the Medicine Wheel. In 1991, the Wyoming State Historic Preservation Office (WYSHPO) awarded a $15,000 matching grant to the Medicine Wheel Coalition, a prominent Native American advocacy organization, to begin the collection of pertinent ethnographic information regarding tribal use of the Medicine Wheel and surrounding landscape.

Throughout the early 1990s, the Forest Service committed a number of miscues that severely undercut their credibility in the eyes of the Native American community. The Bighorn

Fasting (vision quest) enclosure, Bighorn Medicine Wheel. Photo by Richard Collier, courtesy Wyoming Division of Cultural Resources.

National Forest Supervisor, in a generous overture of support for Indian religious practices, administratively designated a staging area for Native American use near the Medicine Wheel. Unfortunately, agency cultural resource specialists were not consulted beforehand, and the designated area was later found to coincide with a prehistoric site containing numerous surface features and subsurface cultural deposits. The Forest Service rescinded the administrative action.

The Forest Service later scheduled a series of open house events intended to solicit public input and participation concerning various management proposals for the Medicine Wheel. An open house was scheduled for Riverton, Wyoming, which adjoins the Wind River Indian Reservation, home to the Northern Arapaho and Eastern Shoshone tribes. Forest Service officials expressed disappointment that no Native Americans attended the Riverton open house and concluded that there was little real interest in the Medicine Wheel within the Indian community. Only later did the Forest Service discover they had scheduled the open house during the Arapaho and Shoshone sundances—a time when traditional Native Americans are least likely to participate in any event not related to the sundance.

By 1993, increasing visitation—which rose from 2,100 visitors in 1967 to approximately 70,000 visitors in 1992—was noticeably impacting the Medicine Wheel. In this regard it is important to point out that the Medicine Wheel is inaccessible to normal traffic for eight or nine months of the year due to snow cover. Consequently, visitation is concentrated during the three summer months. During the summer of 1992, the informal path that surrounded the Medicine Wheel became a 10"-12" rutted trail and the fragile alpine vegetation that normally covers the landscape had all but disappeared. In an apparent effort to emulate the Native American religious custom of leaving prayer flags and other religious offerings on the fence surrounding the Medicine Wheel, non-Indian visitors attached used cigarette lighters, fish hooks, belt buckles, condoms, tampons, and other inappropriate items to the fence. To historic preservationists, the physical impacts were alarming. To traditional Native Americans, the consequences of unregulated visitation at the Medicine Wheel constituted the worst kind of spiritual desecration.

With the physical integrity of the Landmark now undeniably and visibly at risk, the Forest Service finally acknowledged the necessity of finding viable solutions for the long-term protection of the Medicine Wheel. The bureaucratic response to these impacts was encouraging. The consulting parties, which by this time included the Bighorn National Forest, the Advisory Council on Historic Preservation, the Big Horn County Commissioners, the WYSHPO, the Medicine Wheel Coalition, and the Medicine Wheel Alliance, began slowly to work together more cooperatively. A series of interim agreement documents was executed that prohibited vehicular access and also provided for Native American spiritual use of the Medicine Wheel. Additional funding was secured to complete the ethnographic survey and the Forest Service hired an archeologist to compile and synthesize all archeological information relating to the study area.

In 1994, the consulting parties began work on a Historic Preservation Plan for the Medicine Wheel and vicinity. This difficult work proceeded slowly due to endless revisions, bureaucratic skirmishes, internecine warfare between contending tribal factions, and a deliberate strategy of delay later openly acknowledged by Forest Service managers. The resulting preservation plan and programmatic agreement, executed in September of 1996, were compromise documents that reflected the diverse and contending interests of the consulting parties. The document establishes a 23,000-acre "area of consultation" that encompasses all cultural resources associated with the Medicine Wheel. The preservation plan also facilitates traditional cultural use by Native American practitioners by providing for scheduled ceremonial use and allowing plant gathering in support of religious activities. Vehicular access is generally prohibited and replaced by pedestrian access, although exceptions can be made for disabled and elderly visitors. Livestock grazing and timber harvesting is restricted but not prohibited. The site will be carefully and systematically monitored for adverse effects using well defined baseline data collected in 1993. And finally, the historic preservation plan provides for the completion of a revised NHL nomination and stipulates that the NHL will be formally withdrawn from future mineral extraction activities.

Epilogue

In any battle there are casualties. The Medicine Wheel is no exception. Since 1988, the Bighorn National Forest has seen four Medicine Wheel District Rangers and three Forest Supervisors. Four of these managers resigned from the Forest Service and three were reassigned. By any measure, this is a high rate of upper management turnover. One District Ranger was asked to retire due to his unwillingness to work cooperatively with Native Americans and cultural resource advocacy organizations. The children of another District Ranger were harassed by schoolmates because of their "Indian loving" father. He was later reassigned after receiving anonymous death threats by phone. The Medicine Wheel probably played a key role in the departure of two others.

The Native American community most often sent their highest ranking traditional elders and medicine men to negotiate with the Forest Service concerning the Medicine Wheel. Between 1988 and 1996, six traditional elders who figured prominently in the Medicine Wheel saga passed away due to a variety of medical complications associated with old age. They include Anthony Sitting Eagle, senior traditional elder of the Northern Arapaho tribe; Vince Redman, principal Northern Arapaho medicine man; Bill Tallbull, a highly respected Northern Cheyenne elder probably best known to this audience as an appointed member of the Advisory Council on Historic Preservation and the NAGPRA Review Committee; Art Bigman, a prominent Crow elder whose great grandfather, Cut Ear, is featured in the 1916 H. H. Thompson photo (see page 6); and the Southern Arapaho chiefs Virgil Franklin and Alton Harrison.

There was at least one other casualty. In 1995, the WYSHPO Native American Affairs Program was effectively terminated due to efforts by state and federal managers to remove the State of Wyoming from the controversial arena of Native American Section 106 consultation. The WYSHPO consequently withdrew from active participation in the Medicine Wheel negotiations, but retained observer status. To the Native American traditional community the message was clear. If you were a white rancher, oil company executive, mine operator, or government bureaucrat, the WYSHPO would assist with historic preservation compliance issues—but not if you were an Indian.

Not all Medicine Wheel issues have been fully resolved. The Medicine Wheel boundary revision study, which was intended to establish National Historic Landmark boundaries that reflect both archeological and ethnographic values, is currently under attack by the logging industry, conservative advocacy organizations, Wyoming's congressional delegation, and local citizens who do not believe Native Americans have any legitimate cultural ties to the Medicine Wheel. What began as an effort to revise the boundaries based on objective criteria has now become an issue where politics, rather than facts, will likely determine the outcome.

Despite this discouraging prognosis, the "Battle of the Big Horn Medicine Wheel" includes an outcome that may more than compensate for the previously mentioned losses. Consultation between archeologists and Native American traditional leaders, subject to a set of unwritten protocols and etiquette developed during the Medicine Wheel negotiations, is now a more or less permanent fixture of the Section 106 landscape in Wyoming. Public archeology in the Northwestern Plains will never be the same.

In February 1999, Mountain States Legal Foundation filed suit against the Forest Service on behalf of Wyoming Sawmills, Inc. The suit was filed, in part, because the Forest Service suspended a timber sale to complete consultation with Tribes regarding the effects of logging truck traffic on the Medicine Wheel. The suit alleges that establishment of the Medicine Wheel Historic Preservation Plan and subsequent amendment of the Forest Plan violated a variety of federal laws and regulatory procedures, including the Establishment Clause of the First Amendment.

Notes

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Mike Andrews

The Shoshone Irrigation Project

Educational Exhibits as Mitigation

The Bureau of Reclamation of the U.S. Department of the Interior is responsible for the development and conservation of the nation's water resources in the Western United States. With its original purpose "to provide for the reclamation of arid and semiarid lands in the West," Reclamation set about to construct large irrigation systems, especially during the first half of this century. These irrigation projects played a significant role in the settling of the West.

Reclamation's history includes building large and impressive dams, many of which are listed in the National Register of Historic Places. In contrast, the irrigation systems which are fundamental elements of these projects are subtle and unspectacular to most people. In fact, some archeologists consider them so unremarkable as to not be worthy of evaluation. The necessity of historic preservation compliance for projects at the high-profile dams is rarely debated. However, it can be a challenge to comply with the National Historic Preservation Act for projects on the canals and ditches, especially if one wants to get beyond a cookbook approach. The Shoshone Irrigation Project in northwest Wyoming illustrates such challenges and one possible solution for their resolution.

Irrigation systems are dynamic systems. They require a great deal of periodic maintenance to be kept operational. Many of the system's components suffer from exposure to the elements: earthen walls erode, canal bottoms silt up, concrete structures are subject to freeze-thaw action, and wooden features deteriorate. As a result, constant vigilance is required to keep a system from quickly becoming inoperative. During this maintenance it is usually appropriate to replace deterio-

rated or obsolete features with the latest technology for increased water efficiency, thus changing the historic fabric of the system.

The Bureau of Reclamation's Shoshone Irrigation Project near Cody, Wyoming, is an old reclamation with considerable history and unique engineering features that faced such changes. By the 1980s, time and nature had taken their toll and the system needed substantial rehabilitation and upgrading. Engineering features of the project include Buffalo Bill Dam, two large concrete diversion dams (Willwood and Corbett dams), two reservoirs with earthen dams (Deaver and Ralston), four power generating plants, six and one-half miles of water conduit tunnels, about 150 miles of main canals, and more than 1,200 miles of laterals, ditches, and drains. The project serves about 100,000 acres of land stretching along 40 miles of the Shoshone River Valley.

Because of its contributions to the history of the Shoshone River Valley as an example of engineering accomplishments, the project is eligible for the National Register of Historic Places. Buffalo Bill Dam (the largest concrete dam of its kind when completed in 1910) is also designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers. The Heart Mountain Relocation Camp, significant for its role as home to 10,000 Japanese relocatees during World War II, is also located on the project. The project's formulation dovetails with early Reclamation history and highlights the entrepreneurial spirit of Buffalo Bill Cody.

To address the needs of this aging project, the Bureau of Reclamation initiated the Shoshone Rehabilitation and Betterment Program in 1989. The goals of the program were to rehabilitate a flume across Frannie Creek, a tunnel through Cedar Mountain, a series of drop structures on the main canal near Powell, and to put many miles of canal laterals into pipe. Totaling over $15 million, the program would take about five years to implement.

Typical wayside from the Shoshone Irrigation Project: Willwood Dam. Photo by the author.

Reclamation began complying with Section 106 through a series of individual inventories and consultations. This was necessitated by the work plans and schedule which were developed annually. While this approach was acceptable for prehistoric sites affected by the project, there was clearly a need for a programmatic approach to address the cumulative impacts to the Shoshone Irrigation Project. The previous approach of documenting all affected structures according to HABS/HAER standards not only proved to be of little public value but required a substantial amount of labor and cost. As a result, Reclamation proposed and the Wyoming SHPO agreed to the development of a program to mitigate these effects through a public education/exhibit program. An integral part of this program was to document and share the historic and technological contributions of the project with the public through a series of educational exhibits. The program, which was enthusiastically supported by the Advisory Council, specified that:

- All historic irrigation features would be documented through inventory and recordation on a single-page Irrigation Feature Form which includes photograph and map.
- Reclamation would develop a portable exhibit highlighting the contributions of the Shoshone Irrigation Project to the settlement and history of the Valley. As part of this plan, the exhibit would be made available for loan to schools, libraries, and other organizations.
- Reclamation would develop a series of integrated wayside exhibits which would comprise a self-guided driving tour of the project. This driving tour would highlight engineering as well as historical values of the system. We envisioned that 10 to 14 exhibits would be developed, supplemented by the publication of a booklet designed to guide visitors through the project. Reclamation contracted the Joint Powers Board of the four individual Irrigation Districts (which operated the system) for the planning, preparation, and implementation of the mitigation, thereby bringing community members into the project. The driving tour was clearly to be the centerpiece of the mitigation plan.

In addition to the above, Reclamation developed a separate agreement with the Montana SHPO for mitigating the effect of replacing the Frannie Flume. This steel structure supported by a wooden trestle was located in the Montana portion of the project and had outlived its usefulness. Mitigation involved the production of a video tape

documenting the history of the flume including its construction, maintenance, and demolition.

With the development of a Statement of Work (copies available from the author) in 1994, and with much helpful advice from the National Park Service Denver Service Center, the project began. The Statement of Work stipulated minimum conceptual and technical requirements, and allowed creativity for the scope, concepts, text, art work, and theme of the project. Reclamation and the Wyoming SHPO retained review and approval oversight for the project. Ultimately, the services of Dr. Paul Fees, Director of the Buffalo Bill Historical Society, and Dr. Robert Bonner, a historian, were enlisted by the Board to complete the project.

The portable exhibit was installed on a commercially available, aluminum-frame table-top display. The contributions of the Shoshone Irrigation Project to local and regional history and economy were brought to life through photographs and text, including quotes from individual Project farmers. The display is currently housed at the Shoshone Irrigation District Office in Powell, Wyoming, and is made available frequently to educational groups.

The driving tour was completed and dedicated in 1996. Ten wayside exhibits were developed, fabricated, and installed at Buffalo Bill Reservoir, Willwood Dam, Corbett Dam, Ralston Reservoir, Deaver Reservoir, and the Powell, Willwood, and Deaver Offices of the project. Fiberglass embedment panels were used to display historical facts, anecdotes, and original artwork.

Each wayside exhibit integrates the same color palette, typeface, and logo to underscore the continuity of the tour. The logo, an oval containing a silhouetted figure with a shovel over his shoulder, is continued also on the table-top display and in the driving tour booklet as well. Each exhibit also contains the entire tour route along with the major irrigation project features, local highways, towns, and other wayside exhibit locations. Exhibit locations were selected using a set of criteria, including security for the display, the potential for handicapped accessibility, adequate parking, safety precautions, and other variables specified in the Statement of Work. Although the overall tour clearly caters to the motoring public (each installation contains adequate parking for two or three cars/RVs), paths are constructed at several of the locations and the displays are placed usually on prominent topographic features overlooking one or more of the irrigation system features.

A booklet, *Land, Water and People: The Shoshone Project Story,* which accompanies the tour, contains a brief history of the major divisions on the project, their importance to the area, as well as a description of the exhibits. A glossary of water-related terms used in the exhibits and a short list of recommended readings on the history of the area are included.

The project implementation was not without its problems. Differences in the expectations of the Shoshone Irrigation District, which bore the cost of mitigation, and the preservation community were vast at the beginning. While the District was concerned about expense of the program, Reclamation and the Wyoming SHPO were most interested in quality and educational excellence of the exhibits. As a result, what Reclamation and the SHPO envisioned as a two-year project took about seven years to complete. However, the final product, largely because of professionalism and the mandates of the Statement of Work, was lauded by all parties.

Reclamation has received considerable positive feedback that the exhibits not only are successful in delivering the message of history, settlement, and engineering, but they also have contributed to the tourism in the area. In addition, the project also established partnerships where none had existed before. Reclamation, the SHPO and Advisory Council, along with the Joint Powers Board, the County Roads Department, and Wyoming Game and Fish Department, all contributed to the success of the project. The Advisory Council has recommended similar programs to other agencies. If the project proves to be a long-term success, it was due to the combined creativity of historic preservation specialists, the willingness of the Bureau of Reclamation and the Irrigation District manager to take a chance with an experimental idea, and the dedication of professionally qualified museum specialists. Without the interplay of agencies and individuals with a desire to see this mitigation through and, ultimately, an atmosphere of cooperation, this project would not have been achieved.

Mike Andrews is the Area Archeologist for the Bureau of Reclamation's Montana Area Office, Billings, Montana.

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Karen E. Watkins

Government to Government

King County's Program for Tribal Involvement in Water Quality Decisions

It's not just archeology, it is the interaction and interplay of human beings with their surroundings and successful solutions to problems of living over a period of several thousand years.

David G. Rice
Lead Archaeologist
Army Corps of Engineers

The waters and adjacent lands of Puget Sound and the Duwamish River near Seattle, Washington, are ancient travel routes and have provided resources to the people of the Northwest for thousands of years. Protecting these resources is an important goal of both King County and local Indian tribes. Because many wastewater projects involve federal funding and have the potential to impact significant cultural resources, King County developed a program to coordinate with local tribes in meeting responsibilities under Section 106 of the National Historic Preservation Act. As a result, a beneficial relationship has developed between the King County government and local tribal governments, serving to illustrate that government agencies can communicate and work effectively with tribes in the Section 106 process.

In 1989, the State of Washington signed the Centennial Accord with Federally Recognized Indian Tribes in Washington State to better achieve mutual goals through an improved relationship between their sovereign governments. The same year, King County Wastewater Treatment Division established a Tribal Initiatives Program, in part to secure critical water quality capital project permits and to manage intercultural and intergovernmental relations throughout the life of large construction projects. The program provides formal structure for joint water quality stewardship involving tribal policy makers and their technical staff in the early planning, review, and design of wastewater projects. The result has been preservation of both cultural and natural resources while meeting the wastewater conveyance and treatment demands of a growing regional urbanized population.

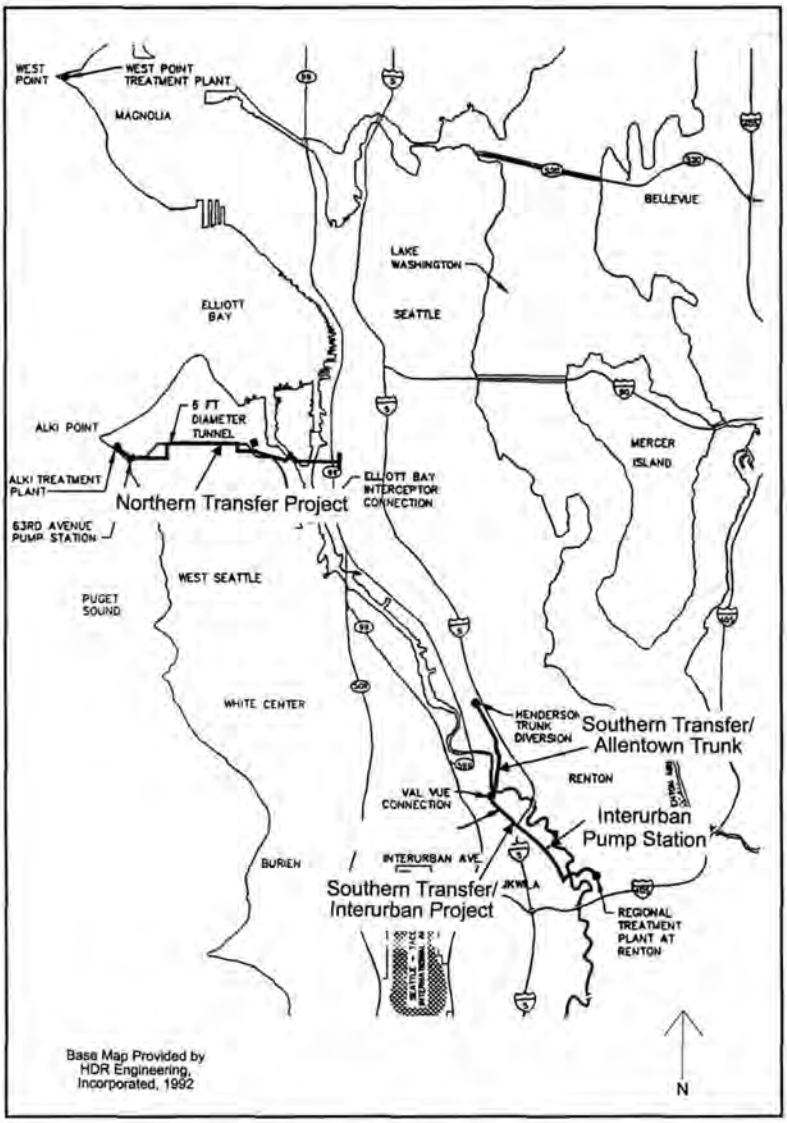
Over the past 10 years, the Tribal Initiatives Program has increased the trust between the Muckleshoot and Suquamish tribes and King County by formalizing intergovernmental protocols for working together and developing a close working relationship coordinating water quality efforts. The Tribal Initiatives Program provides a link between the project team and the tribes. With tribal cooperation, cultural resource issues are considered in the context of tribal cultural beliefs and traditions and not solely as a construction project element. Tribal staff provide technical perspectives on project design while also offering a broader cultural perspective on the mutual goal of improving water quality in Puget Sound and the Duwamish River. In turn, the project teams are able to respect the cultural perspective during project design and construction.

This mutually beneficial arrangement is exemplified by tribal involvement in the Alki Transfer/Combined Sewer Overflow Facilities Project, a $124 million, 10-year wastewater facilities project still under construction by King County. Facilities include a tunnel, pipelines, pump and regulator stations, and primary treatment plant modifications. The project area is on the interface between Indian and non-Indian contact in the Duwamish River Valley. This was the farthest up river from Puget Sound that white settlers homesteaded; all other land up river from this point was Indian Territory. To date, over $322,000, or one-fourth of one percent of the project budget, have been spent on archeology.

Before the Alki Project, tribes were not directly included in project planning and design; however, by incorporating these channels to include tribal issues throughout the life of a project, a successful relationship between King County and local tribes has emerged. The following sections briefly describe some creative communication channels that have been successfully used by King County and local tribes.

Programmatic Agreement

Compliance with Section 106 for the Alki Project was required by the involvement of two



Area map showing location of the Alki Transfer/CSO Facilities Project segments.

federal agencies. The Environmental Protection Agency (EPA) provided a construction grant under Title II of the Clean Water Act, and the US Army Corps of Engineers issued permits under Sections 10 and 404 of the same Act. Because of the size and complexity of the project and the high potential for discovering deeply buried archeological resources during construction along the Duwamish River and in other areas, King County (consulting on behalf of EPA) and the Washington State Historic Preservation Officer (SHPO) agreed that a modified approach to Section 106 was necessary.

The agreed upon approach called for developing a construction monitoring plan to ensure that archeological resources were not inadvertently destroyed during construction; the advanced development of an archeological treatment plan including important research questions to be addressed in data recovery efforts; and a quick turnaround in development and review of site specific data recovery plans in the event archeological properties were discovered during construction. The process was detailed in a programmatic agreement, which was signed by the EPA, the Washington SHPO, and the Advisory Council on Historic Preservation. The Muckleshoot and Suquamish tribes and the Army Corps of Engineers were included in review of the agreement but were not signatories.

The programmatic agreement also detailed the timeline for reviews and the roles and responsibilities of each party if cultural resources were discovered during construction. The agreement proved successful on three archeological discoveries made during construction. Because the required archeological treatment and monitoring plans were in place before construction began, the archeologists were able to submit a site specific treatment plan to the SHPO and King County within two hours of discovering cultural deposits; the county approved the data recovery plan within four hours; and archeologists were in the field in less than 24 hours after the initial discovery. In contrast, a similar county project, the West Point Treatment Plant Upgrade, was constructed without a programmatic agreement in place. When archeological materials were discovered, it took almost four weeks for the required review to be completed and for data recovery to begin.

Based on the success of the programmatic agreement for the Alki Transfer/CSO Control Project, it is now recommended that all King County wastewater construction projects with the potential for discovery of cultural resources have a programmatic agreement or discovery plan in place before beginning construction. Experience has shown that the quick response time of federal and state agencies, county staff, and archeological consultants saved significant costs by minimizing downtime during construction.

Site Visits, Presentations, Workshops

Early in the Alki Project effort, traditional cultural properties were assessed through site visits, windshield surveys, interviews with tribal elders, and meetings. During this process, it was confirmed that the Duwamish River valley was central to the mythology of the entire Puget Sound region and was included in the mythological stories of many tribes. Although several places of traditional cultural importance are located in this area, no traditional cultural properties were identified in the affected area.

The tribes, however, were interested in project impacts to two archeological properties that could not be avoided by pipeline construction: a

Duwamish winter village and a salmon fishing camp, both exhibiting some 400 years of occupation and use.* In order to keep the interested members of the tribes apprised of the identification and excavation of archeological resources discovered during construction, the county and its consultant planned site visits with representatives of the participating tribes during data recovery efforts. Presentations and workshops were also scheduled, when appropriate.

Construction Monitoring

Larson Anthropological/Archaeological Services, the archeological consultant for the project, developed a construction monitoring plan using geo-technical data for the pipeline areas, historic information, and regional subsistence-settlement pattern data to identify areas with high probability for buried archeological remains. The plan designated such high probability areas for monitoring by professional archeologists during pipeline construction. The plan was designed to accommodate construction techniques, schedule, and logistics to the extent possible without compromising important cultural resources.

In order to reduce the number of work delays while the archeologist inspected the trench walls in areas where native soil could be encountered, King County decided to train the on-site archeologist as a pipe inspector. Therefore, during pipe inspection, the archeologist could also inspect the vertical stratigraphy for cultural materials. The benefit of this decision was to reduce work delays for archeological inspection and to allow the archeologist additional time to inspect the trench walls.

Videos

A final creative channel to communicate with the tribes and agencies was the production of a series of short videos for the Alki Project filmed by King County during the course of cultural resource assessments, discoveries, and data recovery. The videos include the background of the project and interviews with team members, consultants, and tribes; and take the viewer through the Section 106 compliance process from start to finish, informing them of the nature and importance of the discovered archeological resources, as well as the legal basis for the work being completed. The videos were so successful in informing various audiences that they continue to be used to educate construction contractors, project engineers, County staff, and other agencies' staff on cultural resource protection. The video for the Allentown portion of the Alki Project is a great example of how the programmatic agreement and advanced planning in the planning and design phases of a project are supposed to work. By taking two years to prepare the programmatic agreement and treatment and monitoring plans, the archeological consultant only needed to mobilize when cultural material was discovered.

Conclusion

It has not been easy to get county staff, especially project managers and engineers, to understand the need for cultural resource protection. However, King County is making headway. A few years ago, one project manager asked why the county could not just construct the project and ignore cultural resources. I explained that by receiving federal funds for the project we were required to comply with the National Historic Preservation Act. About a year later, this same project manager was on site during data recovery assisting the archeological consultant in digging excavation blocks, just so he would be the first to know what was discovered. This is progress.

The following quotes from county, federal, and tribal team members referring to cultural resources protection on county projects show the progress and enlightenment that has occurred over the past decade.

> One of the things we learned is that you need to support (cultural resources). There (are) no options, you have to do it and to not accept the responsibility would have been more damaging all the way across the board. We just accepted the responsibility of doing it and then (got) everyone together to do it. *County Construction Manager*

> It is our part in preserving the irreplaceable cultural resource base that the laws are intended to protect. It's the right thing to do and I believe that (King County) will continue to do it. *County Environmental Planning Supervisor*

Muckleshoot Tribal elders (Walter Pacheco, Donna Brownfield, and Lorraine Cross) looking east at the Black River from the White Lake Site, a site eligible for listing on the National Register of Historic Places. Photo courtesy Larson Anthropological Archaeological Services Limited.

It's a tough situation because number one, the activity that is going on here is sewage treatment and that is important to the tribes. Because we meet with (King County) prior to their project(s) and understand the importance of sending clean effluent into the sound for our shellfish and salmon resources, we have to weigh that against the importance of the cultural sites as well. *Tribal Member and Archeologist*

King County views the Tribal Initiatives Program as a successful relationship with local tribal governments to cooperate on water quality projects and cultural resource protection not only now, but also in the future.

Note

* Dennis E. Lewarch, Lynn L. Larson, Leonard A. Forsman, Guy F. Moura, Eric W. Bangs, and Paula Mohr Johnson. 1996 Kings County Department of Natural resources, Water Pollution Control Division, Alki Transfer/CSO Project: Allentown Site (45KI431) and White Lake Site (45KI438 and 45KI438A) Data Recovery. Larson Anthropological/Archaeological Services. LAAS Technical Report #95-8.

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Denise McLemore and Robert J. Jackson

Buying the FARM

A Forest Service Model for Legal Compliance

The Pacific Southwest Region of the United States Forest Service (Region 5) recently celebrated its 25th anniversary of Heritage Resources Management (HRM). During this period, the nature and structure of Forest Service management have slowly evolved in response to political, legal, regulatory, and scholarly influences. This evolution has, in the last five years, culminated in dramatic and fundamental program changes on Region 5 forests of the North Central Sierra Nevada. These program changes are described in the *Framework for Archaeological Research and Management-FARM.** The FARM approach accomplishes a number of objectives: it streamlines compliance; it enables heritage resources to be more easily integrated with other laws and regulations; it provides context for decisionmaking and management; it establishes a process that considers the broad range of public interests and cultural values; the FARM provides specific management tools; it emphasizes standard data collection and treatment approaches; and it provides management tools and structure for implementing ecosystem management and research.

* Robert J. Jackson with Thomas L. Jackson, Charles Miksicek, Kristina Roper, and Dwight Simons, *Framework for Archaeological Research and Management for the National Forests of the North-Central Sierra Nevada* (BioSystems Analysis, Inc., 1994).

The Eldorado National Forest "bought the FARM" after more than 10 years of data collection during the course of project-related cultural resources management activities consisting primarily of surface inventories. The handful of excavations that had occurred at selected sites were limited to a few cubic meters of excavation, at most, and those data were seldom applied to regional or higher order analyses. It became clear that if the Eldorado National Forest was to begin a serious program of evaluation, a research design was critically needed. We sought a "regional" research design sufficient to allow studies of broad cultural patterns, while focused enough to distinguish local variations in such patterns. It was soon apparent that a research design limited only to the Eldorado would not provide a sufficiently broad regional context. A management component was also recognized as an important component of forest planning, since any research design would be implemented within a management context.

Eldorado Forest archeologists hosted a meeting with forest archeologists from neighboring forests to determine the boundaries for a "regional" research design and settled on the North-Central Sierra Nevada, which includes four national forests: Eldorado, Stanislaus, Tahoe, and Lake Tahoe Management Unit. These selections recognized shared overlapping ethnographic cultural boundaries, similar ecological units, similar

site types, and similar management issues for the four Forest Service management units.

When financing became available through timber salvage funds, the Eldorado contracted for the preparation of a North-Central Sierra Nevada Research Design for prehistoric sites. The participation of both regional academic and contract researchers outside of the agency was recognized as central to developing a thoughtful research design that would be widely accepted and used. Toward that end, the Eldorado sponsored workshops that included a range of regional researchers and managers to provide input throughout the plan development process. Early in the planning process it became clear that Forest Service archeologists and regional researchers alike wanted something rather different from the "standard" research design. The forests desired guidance to implement the forests' prehistoric archeological management efforts to more thoughtfully, effectively, and efficiently consider the values associated with archeological sites. Although the FARM focuses on the values associated with prehistoric archeological resources, its principles and management strategies are equally relevant to the full spectrum of heritage resources.

The FARM is guided by the following principles:

- Archeological properties have inherent value as representations of our past for Native Americans, academic researchers, and the public. Barring conflicting land use interests, preservation for future use is the desired condition of archeological properties.
- Not all archeological properties are valued equally.
- Management of archeological properties should balance conflicting public interests within forest planning processes according to the type and relative value associated with each property to arrive at a desired condition or use for each resource.
- Archeological resource management involves the selection of management options that achieve the desired condition and uses of archeological sites.

The eight volumes which comprise the FARM cannot be easily or quickly summarized. Following are selected features that demonstrate its utility.

Planning /HREZs

Integration with planning efforts is enabled through use of Heritage Resource Emphasis Zones (HREZs). Based on a review of existing heritage information, the forests or sub-region is zoned into geographic areas based on predominant heritage resource classes (e.g., historic roads and trails, lithic scatters, mining), much like cities are zoned as commercial, residential, or industrial. These zones (HREZs) identify the diversity of heritage resources known and expected, and they alert forest planners to possible land use constraints, allowing them to budget, schedule, and anticipate the outcome of heritage resource studies. HREZs can also identify areas for which little information exists and areas where certain information needs to be developed. An identification of data gaps may assist the forests in developing a long-term strategy that may be integrated in their day-to-day and project-specific planning and management process. At the project level, HREZs assist in developing inventory strategies and identifying the particular technical expertise that would be most appropriate.

Identification

Identification of heritage resources for specific undertakings is guided by the concept of **resources of interest**. Resources of interest are classes of heritage resources that have a reasonable potential to be affected by the land use activity under consideration. Exclusion of a particular site type as a resource of interest does not mean it is unimportant or that standard baseline information should not be recorded. It merely means that heritage resources belonging to that class may not be sought and considered for the land use activity in question. Future land use activities with different potentials for damage may prompt the identification of resources of interest that were excluded from previous studies. In this way, inventory strategies may be focused to make the most efficient use of time and funds.

To determine which resource types are most likely to be affected by a specific project, it is necessary to understand the project type and its components. An essential component of project planning is to identify and understand the type of project proposed; its likely impacts; the objective of the identification effort (i.e., project planning, research); the types of resources likely to be situated within the study area (HREZs will be helpful in this effort); and the fragility of those resources. Inventory strategies are designed based on the studies and methods necessary to identify those resources.

Using this approach, previously inventoried areas may require re-entry for additional archeological survey if previous inventory is not adequate for locating resources of interest for a new project. Re-examination of previously inventoried ground is appropriate in forested environments such as the Sierra Nevada, where ground visibility is often obscured by thick duff and dead-fall. For example,

it is not uncommon to find twice the number of archeological sites in previously inventoried areas following a wildfire. The FARM "resources of interest" approach accommodates the practical needs of management while promoting optimally useful professional methods.

Standardized Data Collection

In the North-Central Sierra Nevada, value laden descriptions of field inventory such as complete, general, and cursory, provide limited help in assessing the adequacy of previous inventory efforts or determining methods adequate to identify resources of interest. "Complete" survey may be misconstrued as thorough examination of the ground surface, which is seldom possible in forested environments. Such ascriptions needlessly complicate our explanation to forest project managers when it is professionally appropriate to reexamine an area. More exacting descriptive terminology is provided in the FARM to allow the professional to reliably determine the adequacy of previous inventory and to designate appropriate observing distances and techniques to locate resources of interest. For example, surface coverage types include surface-intensive (transect interval <15 m); surface-30 (transect interval 15-30 m); surface-50 (transect interval 30-50 m); surface-broad (transect interval 50-80 m). Enhanced inventory is the term used to describe surface scrapes, shovel transect units, shovel probes, augers, or even backhoes to locate buried deposits.

While a variety of methods are advocated for archeological investigations, standard practices are necessary to produce comparative baseline data for archeological sites in a region. Significant progress toward understanding regional patterns of prehistoric land use and the evolution of prehistoric cultural systems can be made only through standard data collection and the comprehensive examination of a wide variety of regional archeological phenomena. In examining the site record database for the North-Central Sierra Nevada, we soon realized that much of the data were not comparable because of the dissimilarities in description and application of archeological methods and techniques. The FARM remedies this problem by providing standards and guidelines for conducting archeological research, including a detailed menu of standardized data collection methods and techniques for surface and subsurface archeological investigations. The explicit design and implementation of research remains within the purview of the researcher; however, the FARM enables a common understanding and sharing of the results.

An Alternative to NRHP Criteria

The FARM provides a comprehensive and relatively fine-grained system for archeological resource evaluation that considers a wider range of cultural values than the National Register of Historic Places (NRHP) criteria, and recognizes that those values are not absolute but occur as a spectrum. The target (page 19) illustrates the range of cultural values associated with heritage resources.

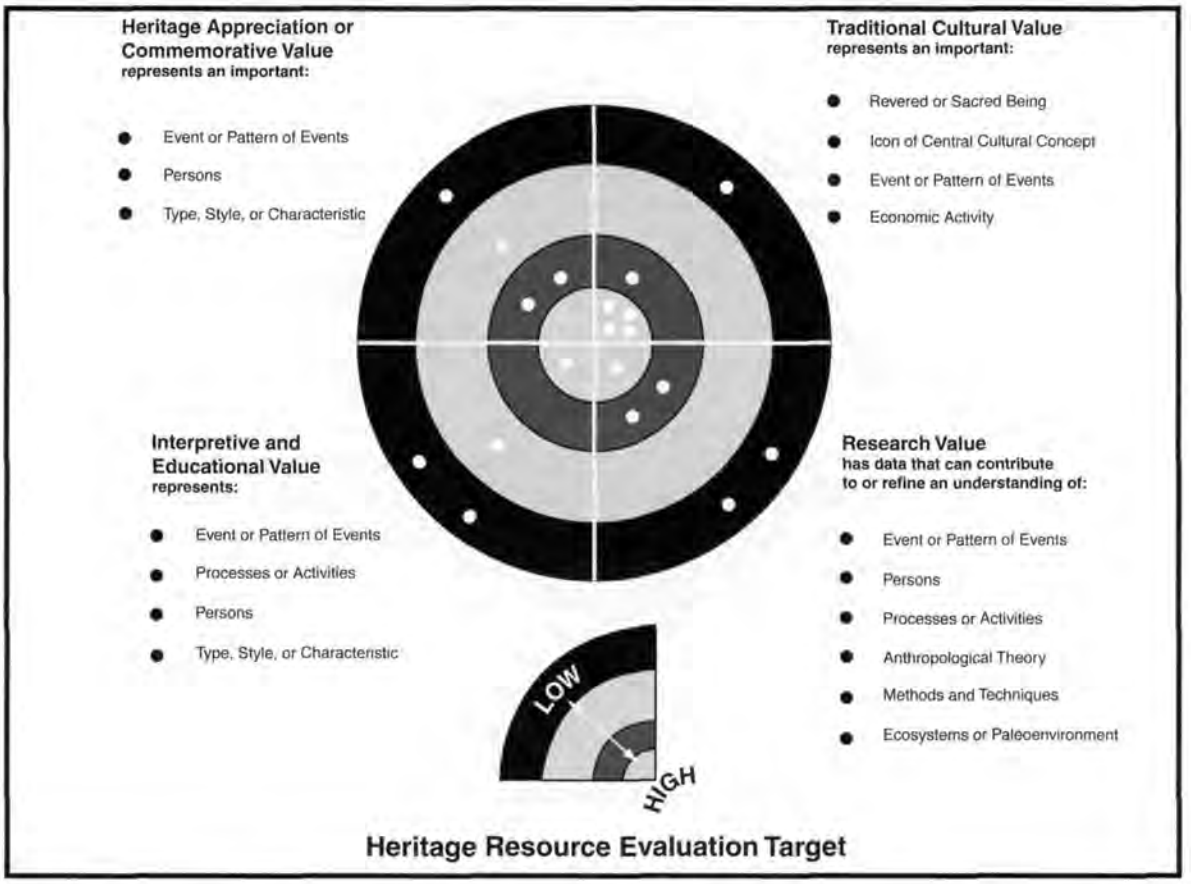
Values can be segregated by type (heritage appreciation, traditional, interpretive, and research). Each of these types, in turn, has several subcategories by which archeological resources can be valued. Note that there are parallels to NRHP criteria for most of the subcategories (e.g., events or patterns of events, persons, types, styles, or characteristics), however, with added criteria going beyond the NRHP. Each type of value is represented in a quadrant of the target. The bullseye depicts high cultural values, and the black ring of the target depicts low cultural values. Each of the "holes" in the target signify an expressed or identified value. If many "holes" lie close to the bullseye, the resource is highly important in that value category. The degrees of importance may vary, however, for each category. Traditional properties, for example, may be represented by people ascribing values to a resource; each "hole" in the target portrays a person's stated value, and the location of the "hole" characterizes the stated importance of that value. The research category measures the potential to contribute to different research domains. Thus, an archeological site valuable for research may have high value in addressing chronological and paleoenvironmental issues, but low value for contributing to an understanding of subsistence or social organization.

The FARM is fully implemented through a Programmatic Agreement Among the U.S.D.A.Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of the Sierra Nevada, California (PA). This PA offers many benefits to the forests.

The streamlined Section 106 compliance process, greater flexibility in professional and managerial decisionmaking, and standardized approaches have proven to be efficient and resulted in huge cost savings to participating forests. Such benefits, however, do not come without obligations. The PA requires a more balanced program of heritage resource management and increased emphasis on compliance with Section

110 responsibilities to proactively manage heritage resources through evaluation, interpretation, historic building rehabilitation, public participation, and research.

them in the document. We believed this to be the most productive and pragmatic approach, but we learned along the way that archeologists are, perhaps, the only professionals more resistant to



Heritage Resource Evaluation Target

Implementation

Although the PA provides the legal means, there are other intervening factors that inhibit the FARM's full implementation. We recognize that other elements such as historic archeology and ethnology need to be added to the research design to make it appropriately comprehensive, and some sections need further expansion. Those elements, however, are not the most serious impediments. From the outset of FARM development, our approach was one of inclusion. We solicited involvement of a wide variety of academic, agency, and contract researchers. We consulted with reviewing agencies such as the California State Office of Historic Preservation and the Advisory Council on Historic Preservation. In developing key concepts and principles, we periodically sought the opinion and advice of various Forest Service managers, including Line Officers, Forest Supervisors, and the Regional Forester. We felt it would enhance successful implementation if we could identify management concerns and address

change than lawyers. There is a strong reluctance by many archeologists to give up their idiosyncratic methods of data collection and reporting. The FARM calls for standardized data collection and descriptive terminology, and it offers programmatic treatments for certain classes of sites. Many branded standardized data collection as "prescriptive" or "cookbook" archeology. However, such criticisms are most often levied by those who either have not read the FARM and are unclear on its concepts and procedures, or are simply satisfied with their own traditional mode of operation and are unwilling to change. The procedures and processes of the FARM are open to constructive criticism and revision, and we welcome input resulting from good faith efforts to use or thoughtfully appraise the FARM.

Forest Service management at all levels have been supportive of the FARM in principle, although moral support has yet to translate to funding for full implementation. The FARM, like any new strategy, must be thoroughly tested before it can be accepted as fully functional.

Unfortunately, we have not had the financial support to fully implement all aspects. Over four years have elapsed since its completion, and the research design needs to be further developed and updated before it can more completely facilitate coordinated research efforts, in light of several regional studies that have occurred in the intervening time. The FARM's utility to contract archeologists working in the North-Central Sierra is also largely untested because of the current paucity of contract work. The management strategy will be fully implemented when we develop research designs for the full spectrum of heritage resource types. This absence of research designs for these other resource types results from the lack of appropriate expertise and budget constraints that are unlikely to be available in the near future.

We have highlighted some of the major features of the FARM in this article, but not all. There are additional features such as programmatic treatments of certain classes of archeological properties common to the Sierra Nevada (i.e., bedrock milling stations and surface lithic scatters); programmatic treatments for certain classes of undertakings (e.g., prescribed fire, grazing, roads and trails); and methods for balancing conflicting cultural and other public land use interests within a context that is understandable to management.

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National Historic Preservation Act Compliance

Comparison of the Section 106 Process and the FARM/Sierra Nevada PA Process

SECTION 106 PROCESS	FARM/SIERRA NEVADA PA PROCESS
Inventory:	**Inventory:**
All projects subject to inventory	Many activities are categorically screened or exempted.
Inventories must locate all resources in the project area.	Inventories may be limited to resources of interest, thus reducing survey acreage.
Consult with SHPO regarding area of potential effect	No consultation required.
If project is already inventoried, prepare report, submit to SHPO for 30 day review and concurrence.	No consultation required
If project inventory results in negative findings (no sites), prepare report, submit to SHPO for 30 day review.	Prepare report, in-house review and approval, then project may proceed.
If inventory identifies sites which can be routinely avoided, evaluate sites, consult with SHPO, 30-45 day review period required.	No consultation required. Evaluation not required for sites that will be avoided.
Evaluation:	**Evaluation:**
All project area sites need to be evaluated, 30 day SHPO review period for concurrence.	Evaluation not required if standard protection measures are applied.
All sites subject to impact must be evaluated, and submitted for 30-45 day SHPO review.	Variance for FARM CARIDAP site evaluations. Use standardized methods. No SHPO consultation required.
Site evaluation using National Register Criteria (36CFR60).	Option to evaluate using FARM methods to identify cultural values.
Must evaluate entire site, even when only a portion of the site may be affected.	Alternative FARM approach allows for identification of the data potentials for only the portion of the site that may be affected, if appropriate.

Discover Cathlapotle

Partnerships for the Past and Present

U.S. Fish and Wildlife Service

The Cathlapotle Archaeological Project is not your typical Section 106 project. It was not conceived, as excavation projects often are, to mitigate the impacts of a Section 106-mandated undertaking. Nor was it a site in imminent danger of being destroyed by natural forces. The project was conceived precisely because Cathlapotle was one of the few archeological resources left on the Columbia River which had *not already* succumbed to development, looting, or flooding. It was designed as a pro-active research and educational outreach effort to share a disappearing aspect of the Columbia River legacy with its inheritors. In short, it was a unique opportunity that we in the compliance business rarely get to experience.

Now, after four years, the Cathlapotle Archaeological Project can serve as a model illustrating the benefits to be reaped from a relatively small-scale cultural resource management project when partnerships are nourished and community outreach is made an integral part of the long-term management plan.

Cathlapotle is situated beside the Columbia River on Ridgefield National Wildlife Refuge in Washington. Its name refers to the Cathlapotle People who lived there, one of the many tribes of Chinook Indians occupying the Columbia River from its mouth to Celilo Falls (now known as the Dalles).

First documented in 1805 by Lewis and Clark, who observed 14 cedar plank houses and estimated as many as 900 inhabitants, the village was one of the largest and most important Chinook settlements on the river. Historical records indicate that it was occupied until the first European settlers arrived in the area in the 1840s.

It might seem the remains of 14 houses would be easy to find, but efforts to locate the site's whereabouts were long confounded by changes in the physical landscape. The one-fourth-mile-long riverfront town that Lewis and Clark observed from the water is now some 80 meters inland, obscured by a dense under story of stinging nettles in a wooded riparian forest. In 1992, several subtle rectangular depressions averaging 20 to 25 meters in length were finally identified as cedar plankhouse foundations, and the Cathlapotle Archaeological Project was launched.

The site's significance stems not only from its association with the period of contact between native cultures and Euroamericans in the early 19th century, but also from its potential to provide important information about human history and prehistory in the Columbia River region. This discovery offered an excellent opportunity for the U.S. Fish and Wildlife Service to develop a long-term management plan for a significant cultural resource without the constraints of impending impact.

Strong partnerships coupled with high-quality research, interpretation, and outreach were identified as key elements to be emphasized in the management plan. Research focused on gathering data about sedentary complex hunter-gatherer culture through archeological evidence of social stratification, complex technology, environmental manipulation, and intensive practices of food production. The site's well-defined stratigraphy established a 1,000-year chronology spanning the prehistoric, contact, and post-contact periods.

Partnerships have been central to the project's success. Supported by challenge grant funds, Portland State University undertook to study and

Dr. Ken Ames provides an overview of the Cathlapotle site to Chinook tribal members during a 1995 visit to the excavation.

Third grade teacher and student display exhibits created by the class for a community heritage festival focusing on the archeology of Cathlapotle.

report on the site. Dr. Kenneth Ames and crews of students conducted excavation field schools for three consecutive years. The resulting laboratory analysis continues into the present and the foreseeable future. Already, the project has generated practical training in archeological techniques for more than 100 students, in addition to numerous master's theses, Ph.D. dissertations, and professional publications. We have also been able to use data from the excavation to reconstruct the ancient environment, information which contributes to the Refuge's plans for managing the land. This partnership enabled us to conduct high-quality research for a relatively low cost.

The Chinook Tribe has also been an active and enthusiastic partner in the project. Today there are more than 1,200 tribal members living throughout the Northwest working hard to revive the culture of their ancestors. Despite concerted and ongoing efforts, the tribe is as yet unrecognized and lacks the financial resources to develop and maintain its own heritage education program. Consequently, they recognized the Cathlapotle Archaeological Project as an opportunity to share their cultural knowledge of Chinook Indian history with the people who now live in their traditional territory. They also welcomed the chance to delve deeper into their own heritage through the excavation. Working with the tribe has ensured that the information we disseminate is both accurate and appropriate.

Through the outreach programs and products we developed, we have established an ongoing and positive partnership with the community as well. Plans are currently being developed to construct an interpretive center in Ridgefield highlighting the cultural and natural history of the area. The site has benefitted from this partnership through increased awareness and a sense of stewardship generated among residents for the cultural heritage in their own backyard.

The goals of the public outreach program are to promote understanding of past and present Chinook Indian culture and the Chinook People's relationship to the natural world, foster a sense of stewardship for the conservation of both cultural and natural resources, and provide an understanding of the archeological process and how the science of archeology turns raw data into information about the past. Our public outreach efforts have taken the form of a wide variety of events and written materials. Their impact has been like throwing a stone into a still pond. The ripple of contact grows larger and larger.

During the summer we provided public tours of the excavation, followed up in the fall (during Archaeology Week) with a community archeology festival. Volunteers from FWS, PSU, and the Chinook Tribe facilitated slide talks, hands-on activities, exhibits, and demonstrations. Each year attendance at these festivals has steadily increased, with visitors coming not only from Ridgefield but from all over the Portland-Vancouver area and even from as far north as Seattle. The popularity of these events attests to the intense interest the public has in learning about the cultural history in their own community.

School students, a large and extremely important audience, missed out on the excitement of visiting the summer excavation. To address this outreach need, we developed the "Discover Cathlapotle!" environmental and heritage educational resource kit. Designed for grades 3-6, the kit uses curriculum-based materials emphasizing hands-on exploration, discovery learning, and critical-thinking skills in language arts, social studies, math, and science to meet both the program's and the school system's educational goals. A volunteer advisory panel of Vancouver-area teachers reviewed and field-tested materials to ensure the kit would be an effective teaching tool. Each year, teachers introduce more than 1,000 students to the rich cultural heritage of Cathlapotle and the Columbia River history during their two-week borrow period.

Despite the fact that the excavation phase of the project is over for now, efforts to bring the story of Cathlapotle to the public continue to be a central element of the site's long-term management. Our plans for the future include producing more copies of the kit to meet increasing demand, producing a booklet summarizing the prehistory and history of Cathlapotle in non-technical lan-

guage, and continuing our cooperation with the Chinook tribal heritage committee to present information about Cathlapotle at events such as pow wows and history festivals.

As a result of our outreach efforts over the years, we have reached thousands of children and adults who knew little, if anything, about the cultural history in their community. What we've done at Cathlapotle can and probably has been done to varying degrees at many other archeological sites. The outcomes this type of project produces benefit both the specific cultural resource management program and the science of archeology as a whole. They are also within easy grasp.

Archeology, when shared with the public, inspires excitement about the past and enthusiasm for protecting cultural resources. These lines, written by the late Chinook poet Ed Nielsen after visiting the excavation at Cathlapotle, illustrate the power of a positive experience.

...In the shadows of trees
students of Archaeology
bring to present light
the past people's living
These are My People's
Lives buried in this
Sacred Land, Sacred Soil!
This is the Chinookan History
coming to a very different
Time's sight
green tree limbed
shadow summered light
in the digs, ridges
of long extinct fires
soil shadows
layers of debris
we stand in this place
of past living
but life is here again
The Chinookan History is once again
given back to Us!...

Virginia Parks is an archeologist with Region 1 of the U.S. Fish and Wildlife Service, Portland, Oregon.

Janet R. Balsom

Staying Upright

Reflections on the Section 106 Process and the Glen Canyon Dam Cultural Program

Management of cultural resources along the Colorado River is complicated not only by the naturalized system, but by competing responsibilities and interests of federal and state agencies and Indian tribes. Utilizing the National Historic Preservation Act (NHPA), the Bureau of Reclamation (Reclamation) and the National Park Service (NPS) developed a management partnership with all of the entities retaining oversight and interest in the Section 106 process. This process, detailed in the programmatic agreement regarding Glen Canyon Dam Operations, marks a turning point in federal agency responsibilities related to Glen Canyon Dam under NHPA. Implementation of the program is the challenge discussed in this article.

Glen Canyon Dam was completed by Reclamation in 1963 as a feature of the Colorado River Storage Project (CRSP). The underlying project purposes are defined by Section 1 of the Colorado River Storage Project Act of 1956 (43 U.S.C. 617), which authorized the Secretary to construct, operate, and maintain Glen Canyon Dam. The purposes include "regulating the flow of the Colorado River, storing water for beneficial consumptive use, making it possible for the states of the Upper Basin to utilize the apportionments made to and among them, respectively, providing for the reclamation of arid and semiarid land, for the control of floods, and for the generation of hydroelectric power, as an incident of the foregoing purposes"

Even though power generation was incidental to other purposes, Glen Canyon Dam has been operated primarily for power generation. Drastic fluctuations in river flow from the dam mirrored electrical power needs in the urban centers of the west. These fluctuating flows caused visible changes to the ecosystem of the river, eroding camping beaches and endangering native fish species. Because Glen Canyon Dam was com-

pleted prior to enactment of the National Environmental Policy Act (NEPA), no Environmental Impact Statement (EIS) was filed regarding construction or operation of the dam, nor was any consideration given to potential impacts to historic properties affected by dam operations.

In the past, Reclamation projects were constructed, dams built, and cultural resources submerged under newly created lakes. No evaluation of resource damage was possible for those projects that were unevaluated since the archeological sites were submerged under hundreds of feet of water. The Glen Canyon Dam program provided an opportunity to utilize the procedures in 36 CFR Part 800 to evaluate a federal undertaking, in this case the building and operation of Glen Canyon Dam, "not previously considered under Section 106." The Colorado River presented an unusual situation in that not only was one dam completed which had resultant impacts that were not evaluated, but another dam was proposed that was never built. The historic site of the proposed Marble Canyon Dam is one of the few places where the remains of Reclamation construction facilities were not obliterated by dam construction. Although the site is less than 50 years old, it is significant to the history of the modern environmental movement and the dam building era in this country. It has been determined eligible for listing on the National Register of Historic Places as part of the larger Colorado River corridor through Grand Canyon.

While cultural resource preservation laws mandate the consideration of cultural resources on federal lands potentially impacted by federal undertakings, additional laws have authority when issues pertain to the Colorado River. Referred to as the "Law of the River," these authorities represent a collection of federal and state statutes, compacts, court decisions and decrees, federal contracts, a treaty with Mexico, and formally determined long-range operating criteria which define the operation and management of the Colorado River. In carrying out the Section 106 program related to the operation of Glen Canyon Dam, we found the guidance provided by the Advisory Council to be invaluable. Cultural resources had to be considered on equal footing with the other legal mandates. Up until this time, there had been no consideration of the effects to cultural resources from the dam. Studies had been on-going for over 10 years related to natural resource components of the system, but nothing had been done related to cultural resources or tribal concerns. Reclamation and the other agencies involved in the process at that time did not want to include cultural resources in the program; they did not understand the connection between river flow and cultural resources. It was only the legal mandate that opened the door for evaluation of cultural resources as influenced by Glen Canyon Dam. The Council was a strong and vocal advocate of insuring the process was addressed appropriately and that all resources were considered.

Reclamation initiated a series of studies referred to as the Glen Canyon Environmental Studies (GCES) in 1982 in response to concerns raised by agencies, Indian tribes, and the public over proposed uprating and rewinding of the generators at Glen Canyon Dam and potential impacts to downstream natural resources. These studies were designed to evaluate the effects of low and fluctuating flows caused by Glen Canyon Dam operations. These studies were confined to natural resource related research and focussed mainly on impacts to fisheries and camping beaches. Shortly after the initiation of research associated with GCES, Glen Canyon Dam began spilling water, with a maximum flow of 93,000 cfs achieved in July of 1983. The spill was the result of a combination of dam management practices and high spring run-off in the upper basin, resulting in a high reservoir that could not accommodate the inflow into Lake Powell. Water releases above power plant capacity were continuous for nearly four years, with documented detrimental impacts to many of the downstream resources. The first documentation of damage to cultural resources was in September of 1983.

Public concerns about possible increases in peaking power generation at Glen Canyon Dam continued to be expressed, eventually leading to former Secretary of the Interior Manuel Lujan directing Reclamation to prepare a full EIS on the operations of Glen Canyon Dam. The purpose of the EIS was to determine specific options that could be implemented to minimize—consistent with law—adverse impacts on the downstream environmental and cultural resources, as well as to Native American interests in Glen and Grand canyons. The direction for the EIS was the first time cultural resources were identified as having potential impacts downstream from dam operations.

In addition to the evaluation called for by the EIS, Congress passed the Grand Canyon Protection Act (P.L. 102-575) on October 30, 1992. Section 1802 (a) of the act requires the Secretary to

> ... operate Glen Canyon Dam in accordance with the additional criteria and operating plans specified in section 1804 and exercise other

authorities under existing law in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreational Area were established, including, but not limited to natural and cultural resources and visitor use.

In addition to NHPA requirements for federal agencies to evaluate the effects of their projects on cultural resources, the Grand Canyon Protection Act (GCPA) prescribes management of the dam for the protection of cultural resources. Rarely in federal land management are cultural resource concerns placed at the forefront of management of a "natural system." The draft versions of the GCPA did not include cultural resources. We were able to include cultural resources into the language at the last minute, a situation that allowed us to consider cultural resources on par with natural resources and recreational values.

For the purposes of this project, the federal agencies, Arizona State Historic Preservation Officer, Advisory Council on Historic Preservation, and the participating tribes (Hopi, Hualapai, Kaibab Paiute, Paiute Indian tribe of Utah, San Juan Southern Paiute, Navajo, and Zuni) agreed that operation of the dam would have "no adverse effect" on historic properties based on a long-term monitoring and remedial action program which is described in the Historic Preservation Plan for Glen Canyon Dam operations. Implementation of the plan completes Reclamation's responsibilities for compliance under Section 106 of NHPA.

In many federally funded projects, it is the archeological work or Section 106 reviews that are blamed for holding up projects. In the Glen Canyon Dam program, the cultural component represents the only major component that was completed prior to the Record of Decision (ROD) for the EIS. Although research on endangered species, biological response, geomorphology, sediment transport, and water related issues was begun with Phase I of the Glen Canyon Dam Environmental Studies in 1982, little definitive information was available for the EIS when it was written in the early 1990s. For this EIS, the cultural component was completed before most of the other resource work, even though it was begun long after research was initiated for most other resource areas. Reclamation and the Fish and Wildlife Service are still discussing components of the Biological Opinion, three years after the ROD was signed.

Prior to the initiation of the archeological survey, the NPS coordinated a field review of the river corridor with the representatives of the affiliated tribes, SHPO, and the Council. This trip was the first of many river trips, some done with many tribes, others done independently by each tribe, to evaluate areas of concern along the river. These trips allowed all of those involved to become immersed in the environment and understand the range of resources, logistical realities, and the concerns of others. Spending 8 to 12 days in the wilderness of the Colorado River through Grand Canyon provided trip participants with opportunities for a deeper level of respect for the resources and the concerns expressed by others involved with the program. The river provided a bond for working and consultative relationships among all of the participants, a relationship that cannot be obtained outside of that environment.

A crew of 12 archeologists and technicians completed the archeological inventory of the Colorado River corridor between Glen Canyon Dam and Separation Canyon in eight months. A total of 475 archeological sites were reported, 336 of them potentially impacted by dam operations. This 255-mile stretch of the Colorado River represents an affected environment of slightly over 10,000 acres at the bottom of the Grand Canyon. This remote and harsh environment, accessible only by boat or foot, was home to thousands of people for thousands of years. Archeological evidence ranges from isolated charcoal lenses exposed in pre-dam flood sediments to masonry structures, roasting features, historic foundations, and trails. Site dates along the river corridor range from archaic to historic, representing ancestral Puebloan, Pai, Paiute, Navajo, and Euroamerican uses of the river corridor.

Impact evaluations were incorporated directly into the impact analysis in the EIS. Using the criteria established in 36 CFR Part 800.9, we were able to clearly identify impacts and recognize the on-going nature of those impacts. Impacts were defined as either direct or indirect. Direct impacts such as inundation have occurred; indirect impacts due to the loss of sediment and arroyo cutting continue to occur. We established the program to allow us to continue to refine our understanding of the physical factors that influence archeological site stability and integrity within the system.

Ethnographic and traditional cultural properties inventories were initiated a little later in the process but were included as part of 106 review. The influence of dam operations on traditional cultural places is an area of concern that has often been overlooked. With the inclusion of Traditional Cultural Properties (TCPs) as a defined National Register property type, evaluation and consideration of impacts on these types of properties needed

to be included. Identification of TCPs was based on information provided through ethnographic research and the knowledge shared by tribal elders and religious leaders who had information related to ancestral uses of the Grand Canyon. The tribes designed and conducted their own ethnographic studies, and incorporated their results directly into the EIS impact evaluations. Tribally based research was another departure from the way in which research had been conducted.

Reclamation, the NPS, Arizona SHPO, and the Council were strongly committed, early in the process, to a programmatic approach to the ongoing resource degradation caused by Glen Canyon Dam. The affected Indian tribes made the same commitment. The Secretary of the Interior made the commitment for the cultural program as the second environmental commitment in the ROD. The Section 106 process worked because both NPS and Reclamation were willing to use it in a very open format, including in discussions all those who needed to be included and working closely with both the SHPO and the Council.

Incorporation of all of the concerns, from both a conservation and preservation perspective, has been critical to the success of the program. Neither Reclamation nor NPS views our role as the minimum legally required. We view our role as incorporating both the letter and the spirit of all of the laws and policies related to preservation of the valuable resources of the Colorado River system. In order to do this, we have had to take a much broader look at both what, and how, we manage. We focussed on what we felt was the right thing to do, using law and policy to guide our approaches to the preservation mandate. Much of this came down to individual commitment to the process. However, without agency backing and legal guidance, we could not have created the program.

Virtually every aspect of the way in which this program has been carried out is unusual. From the initiation of environmental studies in 1982 to the eventual inclusion of cultural studies in 1989 and 1990, this program has attempted to chart a different course when dealing with federal responsibilities. The recognition that federal obligations toward cultural resources affected by Glen Canyon Dam did not stop with completion of the dam was a major victory. Recognition of the role of the tribes as full participants in this program with Reclamation and NPS was also a milestone. The knowledge that tribes were not only concerned with what we typically view as cultural resources was also an important benchmark in this program. The very things that biologists, botanists, and geologists feel are their "natural resources" are often considered "cultural resources" by tribal members. Springs, mineral sources, and medicinal plants can be viewed myopically in the western view as only natural resources, but taken from a cultural perspective, they have a very different meaning and importance. The recognition of this type of philosophy is one of the things that make this program different from most federal compliance projects.

The participating tribes represent a major component of the success of the program. The tribes are not simply interested parties. They are full signatories to the programmatic agreement and have responsibilities to monitoring of traditional resources to tribal specifications. In addition, they are key members of the mitigation efforts, fully participating in the design and implementation of non-site stabilization methods. Erosion control, bank stabilization and redirecting of run-off are part of the on-going program of preservation we employ along the river.

Incorporation of traditional cultural concerns with the physical archeological remains has been a challenge. Our approach to archeological sites has been aided by over 30 years of compliance law and implementation. We know how to evaluate and mitigate sites, how to conserve and preserve. What we are learning through this program is that our notion of "cultural resources" must be broadened if we are to fully realize the concerns of both the agencies and the tribes. If we are truly to evaluate and monitor the health and well-being of the cultural resources of the river corridor, and mitigate impacts to them when we recognize problems, we must incorporate non-traditional means for monitoring. What this means is combining the standard archeological and geomorphic work with the less quantified measures ascribed by the tribes for evaluation to those resources considered traditional to them.

From the traditional archeological survey, to the addition of geomorphic research and traditional cultural places and resources, this program has gone beyond most federal compliance programs. The very notion that conservation is preferable to excavation is novel to many, but it is indeed preferable. Erosion control, stabilization, non-intrusive management actions to preserve these resources, and an on-going consultation process have moved us in a direction rarely seen within either Reclamation or NPS. The Section 106 process has provided the guidance we needed for a successful program.

Janet R. Balsom is Chief of Cultural Resources at Grand Canyon, with responsibilities including oversight of the museum collection, historic preservation program, and archeological and Indian consultation programs.

Brenda Barrett

A Framework for Creative Mitigation

The head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any department or independent agency having an authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion for the National Register. The head of any such federal 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.

Section 106 (16 U.S.C. 470f)
National Historic Preservation Act of 1966

Just a paragraph, but it has generated pages of regulations, followed by volumes of policy guidance and years of controversy. Of all the criticisms of the Section 106 process, one of the hardest to refute is that it is just a process. A paper pushing exercise that federal agencies and applicants for federal largess or permits must comply with before they get down to the real work of doing the project.

The best counter to this charge is to show results in historic preservation terms. What value has the process added to the project? How many resources have been preserved or how has our understanding of the past increased? What benefit to the community or to the general public has been conferred by this expenditure of time and money?

Yes, Section 106 is, at its heart, only procedural. For this reason, mitigation is, or should be, the most important outcome of the consultation process when there is an adverse effect on historic properties. However, in many cases, there is little creativity or energy left over by the time the identification, evaluation, and effect finding have been completed. In too many cases, both the agencies and state historic preservation offices look to stock solutions and what has always worked before. Based on a session by the National Conference of State Historic Preservation Officers (NCSHPO) in Duluth, Minnesota, in 1996, a subsequent questionnaire to all members and a session at the NCSHPO annual meeting in 1997, a more flexible and creative approach to mitigation has been identified as a desired result. The following framework offers suggestions on new ways of carrying out standard mitigation treatments and a sampling of innovative ideas that have been tried or at least proposed in the recent years.

Standard Treatment Measures

The high volume of Section 106 reviews and the limited staff to manage the workload have led to standardized responses to projects with adverse effects on historic resources. Based on both questionnaire results and interviews with state preservation offices, most mitigation agreements involve the dreaded double Ds, "Document and Destroy," when historic properties are involved or "Dig and Destroy" for archeological resources. Federal agencies and state historic preservation offices rely heavily on these approaches. The utility of standard treatments should not be minimized merely because they are standard. In many cases they are appropriate and have stood the test of time. However, they should be used subject to the following considerations:

Documentation or Recordation—Historic Structures

In default of any other recordation standards, agencies often request the National Park Service, Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) program to set the level of recordation. Some agencies have adopted the HABS/HAER standards wholesale for all properties to be demolished or substantially altered. This has resulted in expensive over-documentation of many kinds of historic resources.

The National Park Service, aware of this issue, has tackled it in a guidance document entitled "HABS/HAER Mitigation Documentation: A Reengineering Proposal." It provides guidance for appropriate documentation, emphasizing that HABS/HAER level of documentation is not a requirement and should be reserved for resources significant on a national level.

An alternative is to develop state level recordation standards with a clear understanding of where the information will be archived. If no one knows it exists and it is not accessible, the value of preparing the documentation is diminished. Conversely, good documentation at any level can be the foundation of future publications, interpre-

tive signage, exhibits, and a host of interpretive and educational products.

Data Recovery—Archeology

Since data recovery is an often-used process in most states, agencies and contractors routinely prescribe it without much thought to where the information will end up and how it will be utilized. Unfortunately, many archeological data recovery reports are published in limited numbers and available in limited locations. These reports join the ever-growing ranks of the gray literature—so called because it is not available through regular searches of the literature or perhaps so called because of the poor quality of the copies!

Outcomes of data recovery projects can be improved if the work is undertaken within the framework of a state archeological plan and with the goal of addressing already identified research needs. Involving the professional archeological community in developing such a plan and ensuring that the information is presented at professional meetings and published in peer reviewed journals is critical.

Review of the Rehabilitation of Historic Buildings or Structures

Rehabilitation projects include downtown revitalization programs, housing rehabilitation, and other community development activities. While the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Standards and Guidelines)* are almost always referenced as the standard by which the project will be reviewed, they may not be appropriate in every project. These *Standards and Guidelines* are not mandatory; therefore, alternative approaches should be considered when circumstances warrant.

Marketing

All marketing proposals should ensure that the offer is available to a broad audience. Utilizing local historic preservation organizations, realtors, and statewide preservation organizations can be helpful to develop both public support and to find active buyers.

The marketing of historic properties is usually very dependent on the old principle of location, location, and location. However, the marketing of more portable historic resources such as bridges may require a regional or even statewide marketing effort.

Easements and Covenants

The use of these tools can be a very powerful way to protect historic resources that are being transferred from government ownership. It is also a method to limit the secondary effects of federal projects such as development that might be spurred by installation of highway interchanges or sewer and water infrastructure. Finding an appropriate party to hold and enforce covenants and easements is an important part of the agreement.

Public Benefit Measures

Public benefit provisions are a major step forward in sharing with the public the information gained through Section 106 compliance. Many times significant dollars are spent on researching, recording, or excavating a historic property and then the results are simply filed away and are not accessible to those with an interest in history or archeology, let alone regular citizens. Increasingly, agencies are recognizing that it is critical to build public support and to show results.

Popular Publications

Additional public benefit measures include a popular version of technical reports, booklets that illustrate the work on a property or its history, pamphlets, and brochures. One issue not always successfully addressed is the distribution of information produced as part of the mitigation process. Books or popular reports produced through existing presses or publication houses have an established distribution mechanism. However, many federal agencies and state preservation offices have stacks of brochures and booklets with no well-defined plan to get them in the hands of the end user.

Educational Curriculum

The development of school curriculum or other school programs can provide a long-term benefit to a local or regional school system. However, to best ensure utilization of the materials, these should be developed in coordination with classroom teachers and educators. Unless the curriculum fits within the state guidelines, i.e., children will be tested on it, it may only be an additional burden for teachers.

Interpretive Signage

Interpretive signs often are erected at the completion of a project to show, for example, the historic building or bridge previously in that location. An interesting twist on this approach is to place a sign interpreting the ongoing work. This is particularly useful for archeological excavations. If the signage can be placed within a statewide or regional context, it will make a more lasting contribution. In addition, the maintenance and long term care of interpretive signage is best allocated to an existing entity already in that business.

Exhibits

Exhibits can range from modest displays in community centers, local historical societies, libraries, and municipal buildings to permanent exhibits in major museums. Information gained

from HABS/HAER recordation or archeological excavation can be an important foundation for the development of meaningful exhibits. As in the above example, finding an appropriate partner who will undertake the long-term care of an exhibit is an important step.

Lectures, Open Houses, and Tours

These are especially effective for ongoing archeological excavations and can include the associated processing labs and artifact analysis areas. Community members and school groups enjoy the opportunity to visit work in progress and it draws very positive media attention.

Beyond Standard Mitigation Measures

Some states are going beyond standard mitigation to provide even more creative and flexible solutions. Most of these solutions require a higher level of public involvement and planning to actualize the project.

Contributions to a Local Historic Preservation Effort

In a quid pro quo approach, some states, through memoranda of agreements, have agreed to accept government agencies providing funds or other specified assistance for historic preservation purposes when their projects have an adverse effect on community resources. For example, a city that manages a Community Development Block Grant Program might establish a revolving loan program to benefit other historic resources in a historic district where agency actions are having an adverse effect.

Relocation of Historic Properties

In some cases, the provision to relocate also includes a provision to market the property. While relocation is never an ideal historical preservation solution, in some cases it may be the best of a bad choice.

Development of Historic Contexts and National Register Nominations

The preparation of historic contexts and associated National Register nominations for an impacted historic resource is another approach to mitigation. The development of a historic context is a gift that will keep on giving. Historic resources associated with an existing context can then be listed more easily in the National Register and provided with such benefits as listing entails.

Preparation of Preservation Plans or Preservation Ordinances

Another effective approach that encourages the future preservation of historic resources is to fund preservation plans or ordinances as part of a mitigation strategy. It is critical to the success of such an effort to make sure that the local government or other community partners are working together to ensure the development and implementation of any product.

Innovative Mitigation Measures

Establishing a Fund for Future Preservation Activities

There are a number of outside-the-envelope mitigation ideas being tested across the nation. While revolving funds have been set up for the treatment of historic properties within the area of potential effect of a federal project, the more straightforward payment of money damages has not yet been widely accepted. It is a tempting idea, but it needs to be tied to project impacts in some defensible way. Those parties implementing such an approach should consider how the fund would deal with secondary or cumulative impacts of the projects in question. A related approach is to establish a gift of goods or services in lieu of actual liquidated damages.

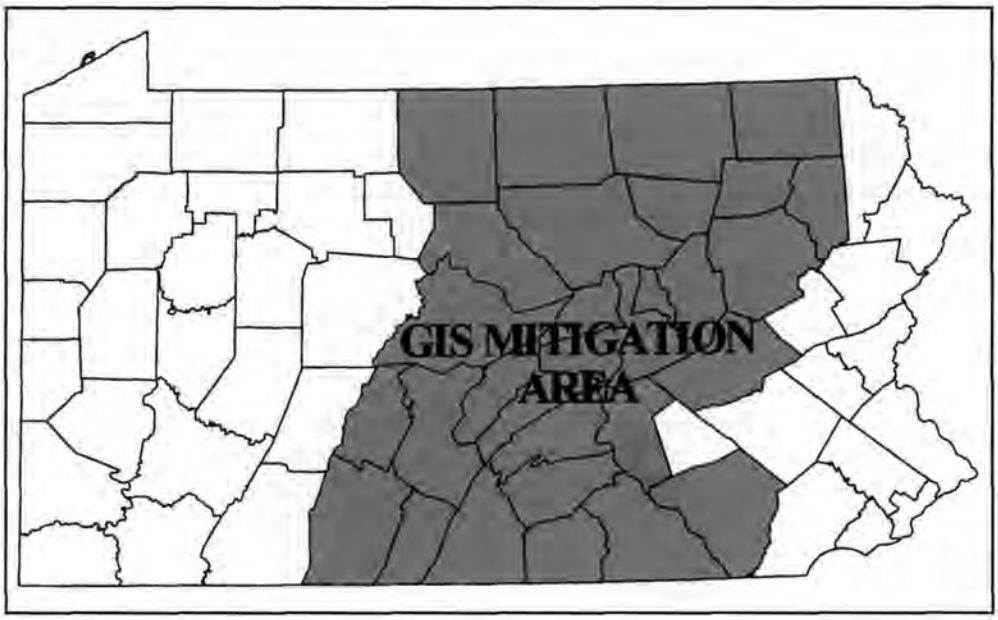
Restoring or Preserving a Resource Similar to One Adversely Effected

This eye -for-an-eye approach has been done in a few cases and it appeals to basic fairness. Another variation to restoring a similar property would be to protect a similar property with a perpetual easement.

Off-Site Mitigation

This is similar to the above procedure, but envisions a broader base of operations. It has been proposed, particularly

In Pennsylvania, the Corps of Engineers funded the entry of cultural data into the Commonwealth's Geographic Information Systems mitigation for the impacts of a major flood control project on Susquehanna River Basin.



for archeological resources, where similar archeological resources can be found adjacent to the project area. In the environmental community, wetlands off site mitigation is a very common practice.

Other Factors in Creative Mitigation

There are a lot of creative ideas out there. The biggest stumbling block to implementing creative approaches to Section 106 are a lack of time and money. A couple of key concepts for improved mitigation include:

Public Involvement

The development of mitigation should be done in concert with the public and the interested parties. Whether the product is an interpretive sign or a new zoning ordinance, it will have value only if the parties who must care for it or implement it are involved in its development. Taking time early in the consultation process to identify interested parties is important and it doesn't have to be just the local historical society!

Lessons Learned

Every consultation on adverse effects under Section 106 is a teaching moment. For federal and state agencies it should be an opportunity to reflect on how to plan and develop projects to avoid adverse effects in the future. For members of the public and for interested parties, the stakes may be higher. After all, they may not have another Section 106 case that effects their neighborhood or home. However, the adverse effect and the opportunity for consultation and negotiation can be a starting point for better historic preservation in the future. If agencies truly involve the public, they may be empowered to come up with both good mitigation and a better approach to the preservation of community heritage.

Planning Mitigation Measures

State preservation offices and agencies can identify research issues and needed historic context and, as projects are proposed that would impact this type of resource, match up the need with the potential impact. Another planning approach is the production of public benefit products. For example, SHPOs and agencies may develop a history or archeology series that can be added to through mitigation products. Early involvement of educators in developing educational curriculums can help identify needs and match mitigation products to those needs.

This effort is intended as a framework to assist all parties in improving the Section 106 consultation. On behalf of myself and the National Conference of State Historic Preservation Officers, I would appreciate comments and additions to this work. Special thanks to Elizabeth Merrit of the National Trust for Historic Preservation and to Don Klima and Jane Crisler of the Advisory Council on Historic Preservation for their assistance.

Brenda Barrett is the Deputy State Historic Preservation Officer for Pennsylvania.

Tom McCulloch and Alan Stanfill

Comments on Compliance and Management

The articles presented in this issue of *CRM* are examples of projects and programs designed to benefit historic properties and their management through collaboration. These cases represent some of the more innovative and creative solutions to the conflicts that occur between development and historic property values that we see at the Council. They are not the only creative solutions we have seen in recent years, but they provide a useful range of situations, and solutions, that professionals in cultural resource management may want to know about.

There is a fairly diverse range of historic properties and issues tackled by the presenters here:

Mike Andrews worked to bring the history and engineering aspects of the Shoshone Irrigation Project to the interested public. Various kinds of media exhibits were used to convey the range of historical significance the project exhibited.

Fred Chapman's dilemma was to try to uphold the values that made the Medicine Wheel sacred site significant in the first place in the face of an agency and local community who wanted to develop it for heritage tourism purposes.

Jan Balsam was faced with development of programs to accommodate the Bureau of Reclamation's perennial water releases from the Glen Canyon Dam into the Grand Canyon, where hundreds of archeological and traditional cultural properties vulnerable to and suffering from the effects of water release practices needed to be managed in the long term.

For Virginia Parks, the Cathlapotle Project focused on how to use a federally owned property to benefit research while increasing public awareness, including contributing information to the heritage education programs of the Chinook Tribe.

Karen Watkins' central issue was involving concerned tribes in decisionmaking regarding infrastructural improvements of waste water treatment facilities, in an increasingly urbanized setting, and planning for various contingencies that always seem to arise.

Denise McLemore and Rob Jackson found themselves working to improve the efficiency and effectiveness of archeological property management within the wider, regional context.

And finally, Brenda Barrett emphasizes the need to continue to seek innovative ways to treat threatened historic properties, but also provides a much needed reality check on many of the problems we face when trying to be "creative." She notes that translating ideas into successful preservation solutions can be a daunting task. While anyone can be creative on paper, it takes drive and commitment to make it operational.

Of necessity, each author approached their respective problems and issues differently, but all attained a high level of success in the final outcome. These differing approaches to problem solving reflect the particular situations each faced, and the historical values of the properties involved. Despite these differences, however, the solutions to the problems shared important commonalities that merit examination.

First, for the cases in this issue and the examples Brenda Barrett cites, compliance with the National Historic Preservation Act was the driving force, and the Council's regulations for implementing Section 106 of that Act provided the framework to help clarify the issues and resolve the problems. The solutions reached were formalized in agreements (memoranda of agreement and programmatic agreements) to provide documentary evidence that statutory requirements were met.

Second, development of these agreements was used as the procedural basis for promoting and maintaining communication among those who had an interest in the future of the historic resources. This demonstrated the flexibility of the Section 106 review process, and its applicability to all kinds of situations requiring the resolution of conflicts between the need to preserve our historic properties and provide for economic growth and other forms of development. The responsible parties relied on consultation with interested persons and other stakeholders to bring about meaningful and mutually satisfactory solutions that reflect the public's interests. All of the projects and programs discussed here produced agency decisions that accommodated the interests of the various parties that had legitimate interests in the outcomes. Rather than seek ways to minimize the number of parties participating in consultation or the amount and effort of consultation, the responsible parties allowed for, and in most cases openly promoted, the participation of others in their decisionmaking efforts. The final outcomes for all were the direct result of the participation of the interested publics. The Section 106 review process enabled them to work together and communicate with each other to ensure that their diverse and sometimes conflicting needs were met. And there is a lesson in this that merits more discussion.

Some of these projects and programs took longer than others to develop and legitimize in Section 106 agreement documents because some were more complicated, and/or were more controversial than others. These parties understood that the consultation process is not about getting "clearance" for federal projects as quickly as possible, nor is it about creating *pro forma* paper trails to be filed away in a cabinet and forgotten. They were aware that attempts to restrict participation in this process will not really make completing the process any faster, and may actually cause delays if there are legal challenges down the road.

The Section 106 review process is about building consensus among people who hold differing views, in a manner that recognizes the needs of all. For most projects, the process is completed easily and quickly because the projects, or their impacts on historic properties, are neither complicated nor controversial. For those that are complicated or controversial, however, there is no magical formula that will guarantee an agency will complete the Section 106 review process in a prescribed timetable. The framework for reaching these decisions is the process itself, as set out in federal regulation. Following the spirit of the process, which is informed decisionmaking through consultation, the result tends to be intelligent and defensible decisions. Such decisions are never reached through haste or ignorance.

Historic preservation and the federal preservation program are about how to accommodate and preserve historic properties. Historic properties derive their importance not from any inherent qualities or inviolate universal laws, but from the values that living people attribute to them. These values are personal, cultural, subjective, and judgmental. Those of us who know that consensus building can be exasperating also know that it is

worth the effort. The projects and programs presented in this volume were successful not despite the participation of many interested parties, but because of their participation. Public participation results in projects and programs that are better, more creative, responsive, and, in the end, meaningful. All who see value in historic properties have the capacity to contribute to better, more thoughtful solutions when those properties are threatened.

If we learn only one thing from these papers, let it be the realization that the more the public and tribes participate in the Section 106 process, the better. The examples discussed in these papers demonstrate the valuable contributions that interested persons and tribes can make when provided real opportunities to participate in decisions that affect our national heritage. They also demonstrate that responsible agencies can reach informed decisions, and that federal agencies are capable of committing the time and effort needed to reach that point. The task is to get more agencies to break out of their conservative, administrative shells. This requires that we all become sales people. We have an important product to sell; but our customers won't appreciate the value of what we offer unless we adopt the confidence in and commitment to our product, as Denise McLemore and Rob Jackson did with their FARM program, and Mike Andrews did for the Shoshone Irrigation Project.

The cases discussed here show that it is possible to attain a better solution to conflicting values and priorities when people of good faith are encouraged to work together, rather than allowed only to mail in their cards and letters of opposition as may be the case in other forms of environmental review. The National Park Service and the Bureau of Reclamation could have taken an easier approach to considering the historic properties in the Grand Canyon, but they didn't. Instead, as Jan Balsam showed, they brought the tribes to the table early on and with them created on-going monitoring and management strategies that meld Section 106 and 110* requirements effectively, and for which the tribes continue to carry out a critical role. Karen Watkins demonstrated this in her example of how the King County Wastewater Treatment Division established a tribal initiatives program of long term government-to-government commitments with the Muckleshoot and Suquamish tribes. Virginia Parks also has shown this with the Cathlapotle Archaeological Project and its partnership with the Chinook Tribe.

All of the papers presented here demonstrate that our national heritage—our places of historic, prehistoric, traditional, cultural, and religious importance—deserve our utmost efforts to preserve and manage them in ways that respect the values and qualities that make them significant. By respecting the values of historic properties, we show respect for those who hold them valuable. And when we make that effort, wonderful things can happen.

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* Section 110 of the National Historic Preservation Act sets out the broad historic preservation responsibilities of federal agencies and is intended to ensure that historic preservation is fully integrated into the ongoing programs of all federal agencies.

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