

December 1987

# CULTURAL RESOURCES

## Problems Protecting and Preserving Federal Archeological Resources



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United States  
General Accounting Office  
Washington, D.C. 20548

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**Resources, Community, and  
Economic Development Division**

December 15, 1987

The Honorable Malcolm Wallop  
Ranking Minority Member, Subcommittee on  
Public Lands, National Parks and Forests  
Committee on Energy and Natural Resources  
United States Senate

The Honorable Jeff Bingaman  
United States Senate

The Honorable Pete V. Domenici  
United States Senate

This report responds to your December 19, 1985, letter asking us to review the extent to which organized looting of archeological resources on federal lands and inadequate artifact curation are problems. Subsequent to your request, we agreed with your offices that the review would cover the Four Corners states of Arizona, Colorado, New Mexico, and Utah and the three major federal land management agencies in that area: the Bureau of Land Management, the National Park Service, and the Forest Service.

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretaries of Agriculture and the Interior; the Directors of the Bureau of Land Management and the National Park Service; the Chief, Forest Service; and other interested parties.

This work was performed under the direction of James Duffus III, Associate Director. Other major contributors are listed in appendix IX.

A handwritten signature in cursive script that reads 'J. Dexter Peach'.

J. Dexter Peach  
Assistant Comptroller General

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# Executive Summary

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## Purpose

The Four Corner states of Arizona, Colorado, New Mexico, and Utah contain a wealth of archeological resources due to the nature of the prehistoric peoples who occupied the area and the dry climate and soil that have preserved the archeological sites and artifacts. Concerned about federal agencies' ability to protect and ensure the preservation of archeological resources, the Subcommittee on Public Lands, National Parks, and Forests, Senate Committee on Energy and Natural Resources, asked GAO to determine (1) to what extent the resources are being looted, (2) what the federal agencies are doing to protect the resources, and (3) what the agencies are doing to ensure that the artifacts being removed are properly preserved.

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## Background

Archeological resources located on lands owned/controlled by the federal government have been protected by law since enactment of the Antiquities Act (Public Law 59-209) in 1906. The legal basis for the protection and preservation of these resources was further strengthened by the Archeological Resources Protection Act (Public Law 96-95) in 1979. A requirement that federal agencies locate and inventory all significant archeological sites located on their lands was first contained in Executive Order 11593, dated May 13, 1971, and later affirmed by the Congress in the 1980 amendments to the National Historic Preservation Act (Public Law 96-515).

The Department of the Interior's Bureau of Land Management (BLM) and National Park Service (NPS) and the Department of Agriculture's Forest Service (FS) are responsible for managing 37 percent of all land in the Four Corners states. The agencies seek to protect their identified archeological resources in two basic ways: (1) attempting to prevent looting and vandalism and (2) when looting occurs, attempting to apprehend and prosecute persons responsible.

NPS parks generally curate their own artifacts, whereas most artifacts from BLM and FS lands are curated by facilities operated by universities, colleges, and private museums.

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## Results in Brief

GAO found that the archeological resources of the Four Corners states continue to be lost and destroyed as a result of looting and that inadequate care is being provided to some of the artifacts removed from federal lands. Although the federal agencies reviewed have identified only a small portion (about 7 percent) of the archeological sites they estimate

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are located on their lands, they have been unable to curb the looting and destruction of even the identified resources.

The federal agencies do not have complete and accurate records on what artifacts have been removed from their lands or where these artifacts are located. Moreover, they have not been assessing the adequacy of the facilities caring for the artifacts. Officials at some facilities told GAO that they have deficiencies related to the management, storage, and care of artifacts.

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## Principal Findings

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### Looting Remains a Serious Problem

Agency records do not accurately reflect the extent of looting. However, knowledgeable persons contacted during GAO's review generally agreed that looters are destroying valuable scientific information at archeological sites.

Federal officials generally believe that enforcement efforts have deterred casual looting (looting to obtain artifacts for personal collections) but not commercial looting (looting to obtain artifacts for sale to others). When an agency steps up its enforcement efforts, commercial looters shift their activities to other agencies' lands or other geographic areas. According to knowledgeable federal and state officials, BLM and FS lands have experienced high levels of commercial looting; NPS has experienced little commercial looting.

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### Knowledge and Protection of Archeological Resources Are Limited

Funding and staffing constraints, together with the vastness of the area's federal lands, limit physical protection to only a small portion of the known sites. In fiscal year 1985, the three agencies had only 3 staff members whose primary duty was protecting sites on over 104 million acres. The agencies had another 603 staff members whose duties included site surveillance, but who generally had other duties as their primary responsibility—e.g., visitor protection or fire patrol. BLM had the fewest staff (63), the most land (57 million acres), and the most recorded sites (76,000).

Additional information on the actual number, location, and significance of archeological sites could assist the agencies in making better use of existing staff. However, the 3 agencies had surveyed less than 6 percent

of their lands to identify sites and had located only about 136,000 (7 percent) of the 2 million sites thought to be located on their lands. Furthermore, most recent archeological surveys have been performed to obtain clearances for development projects and were not necessarily directed at those areas having the greatest archeological potential.

### Efforts to Ensure Proper Preservation of Curated Artifacts Are Inadequate

Archeological artifacts removed from federal lands remain the property of the U.S. government. Therefore, the federal agencies are responsible for ensuring that the artifacts are properly cared for. However, GAO found that the agencies were doing little to ensure that the artifacts removed from their lands and sent to curatorial facilities were accounted for and being properly preserved. BLM and FS lacked information on many artifacts excavated prior to the mid-to-late 1970s. NPS estimates that it has 15.5 million uncataloged artifacts located in both federal and nonfederal facilities. None of the agencies have required nonfederal facilities to notify them when artifacts are received or transferred to other facilities.

Artifacts removed from federal lands are to be preserved by suitable scientific or educational institutions possessing adequate curatorial capabilities. However, GAO found that the agencies lacked procedures for determining the adequacy of a facility's ability to curate archeological artifacts. The agencies also seldom systematically inspected a facility. The need for such inspections is evidenced by the facilities' problems in artifact collections management, storage, and care. For example, 9 of 37 respondents to a questionnaire GAO sent to nonfederal facilities curating federal collections said that artifacts had deteriorated or had been identified as destroyed, missing, or stolen.

NPS has drafted a regulation addressing both the curation facilities' responsibilities for management and care of federal collections and federal agencies' responsibility for inspecting the curation facilities. NPS officials also told GAO that they would add a provision addressing the need for agency internal control records.

### Recommendations

GAO recommends that the Secretaries of the Interior and Agriculture direct the heads of the respective agencies to

- improve documentation of looting incidents and cumulative damage to archeological sites by developing agency-wide guidelines that (1) instruct field offices on when to prepare looting incident reports and (2)

require field offices to periodically revisit recorded sites to update records as to the condition of the sites.

- improve the protection and management of their archeological resources by (1) developing plans for surveying those areas not scheduled for project development and (2) consistent with priorities for available funds and staff, insuring that a reasonable number of these surveys are carried out each year.
- jointly develop an agreement for funding and staffing an office that would (1) compile and analyze looting incident information submitted by the individual agencies and (2) conduct undercover investigations using its own staff or the agencies' law enforcement staffs.

GAO is also recommending changes to improve both the agencies' enforcement of the Archeological Resources Protection Act (ch. 4) and their monitoring of artifacts removed from their lands (ch. 5).

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## Agency Comments

The Department of the Interior and the Department of Agriculture's Forest Service generally agreed with the contents of the report but disagreed with several of GAO's recommendations (See app. VII, VIII.). The Forest Service said that although the report is critical, it believes the report is accurate. Interior said that the report presents a good summary of major problems confronting all federal land managing agencies.

Interior did not agree that additional guidelines are needed, stating that current guidelines are adequate and recommending that only vulnerable sites attractive to commercial collectors be revisited. GAO's work showed that incident reports were being prepared when looting incidents were observed. However, in those cases where looting was discovered after the fact, field offices were inconsistent in preparing such reports. Further, if a clear picture of the extent of looting is to be obtained, all recorded sites must be periodically revisited, not just those attractive to commercial collectors (See p. 36.).

Neither Interior nor the Forest Service supported GAO's recommendation to establish a multi-agency office. Such an office, in GAO's opinion, is the most effective way to approach the looting problem on a coordinated, regional basis. Past law enforcement efforts, although sometimes coordinated, (1) have caused looting activities to move to lands of other federal agencies but have not caused the level of looting to decrease and (2) have not been effective in identifying and prosecuting the buyers of looted artifacts (See pp. 67-68.).

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**Abbreviations**

AHC	Anasazi Heritage Center
ARPA	Archeological Resources Protection Act
BLM	Bureau of Land Management
FLETC	Federal Law Enforcement Training Center
FS	Forest Service
GAO	General Accounting Office
IMS	Institute of Museum Services
NEH	National Endowment for the Humanities
NPS	National Park Service
NSF	National Science Foundation
OTA	Office of Technology Assessment
WACC	Western Archeological and Conservation Center

# Introduction

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Archeology is the scientific study of the material remains of past human life and activities. This includes artifacts such as pottery, basketry, ornaments, tools, and weapons; structures or portions of structures; and human skeletal remains. To study these archeological resources and learn more about preceding cultures, archeological sites are sometimes excavated. Following excavation, the artifacts removed from a site must be treated with care in order to retain their integrity for future study and analysis, and they must be preserved and protected against deterioration and loss. The preservation, care, and management of artifacts and associated archeological records and data (e.g., field notes, site maps, and artifact inventories) after excavation is known as curation.

Archeological sites and artifacts are non-renewable resources. Therefore, when they are destroyed, our ability to learn about the past is irreversibly diminished. These resources may be inadvertently destroyed (for example, through acts of nature such as erosion) or deliberately destroyed by vandalism or looting. Many archeological artifacts have become valuable as art objects in primitive art markets, and this has resulted in unauthorized excavations of sites to find these potentially valuable artifacts. This practice is known as commercial looting. Individuals may also excavate or remove artifacts from the surface of a site for their own personal collections. This practice is known as casual looting.

Much of the scientific information held by an archeological site is often lost when it is looted. Looted artifacts have no provenance, or documentation regarding source of origin, so the archeological knowledge that can be gained from studying these artifacts if recovered later is greatly reduced.

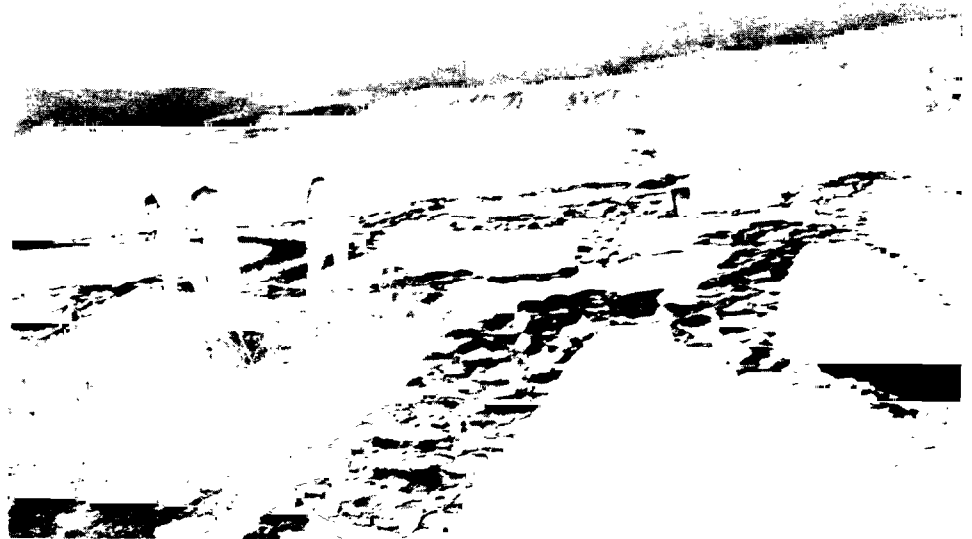
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## Resources of the Four Corners States

The Four Corners states of Arizona, Colorado, New Mexico, and Utah (so named because this is the only place in the United States where four states meet) contain a wealth of archeological resources. This situation is due to the nature of the prehistoric peoples who occupied the area, as well as the dry climate and soil that have preserved the sites and artifacts through the centuries. Prehistoric Indians referred to as Anasazi, a Navajo word meaning "Ancient Ones," occupied the central Four Corners area between about AD 1 and 1300. During this time, the Anasazi developed a culture unsurpassed by any other prehistoric Americans north of Mexico. Around 1300, the Anasazi abandoned the area, leaving behind thousands of villages. The remains of the Anasazi form the major

part of the Four Corners states' cultural resource base. Figures 1.1 and 1.2 (p. 12) picture examples of an Anasazi village and a cliff dwelling.

**Figure 1.1: Remains of Pueblo at Chimney Rock Archeological Site, San Juan National Forest, Colorado**



Two other cultures—the Hohokam and the Mogollon—flourished almost simultaneously with the Anasazi. The Hohokam occupied southern Arizona; they were flatland desert farmers who developed large-scale irrigation systems and complex architecture. Their eastern neighbors, the Mogollon, lived in the area's higher mountains; the Mimbres branch of the Mogollon lived in southwestern New Mexico along the Mimbres River.

The artifacts left behind by these prehistoric cultures include implements of everyday life, such as stone-head axes and stones used for grinding corn, and weapons, such as bows and arrows; pieces of clothing woven from native plants, or made with feathers from domesticated turkeys, rabbit fur, and cotton (apparently obtained in trade from other areas); and ornaments, beads, and ceremonial objects made from bone, shell, and turquoise (also obtained in trade). The Anasazi also painted and etched designs (petroglyphs and pictographs) into sandstone cliffs. However, the most prolific artistic legacy left by these three cultures is their ceramic pottery. The Hohokam and Mogollon developed ceramic

Figure 1.2: Palatki Cliff Dwellings,  
Coconino National Forest, Arizona



bowls as early as AD 1, while the Anasazi did not develop pottery until after AD 500. Over the years, the pottery of all three cultures developed such distinctive form and design as to enable archeologists to identify the time and place they were made. The ceramics included perfectly shaped bowls, jars, pitchers, and mugs that were often decorated with detailed, painted geometric or pictorial designs. Prior to developing pottery, the Anasazi made woven baskets for storing and carrying items (including water) that often had intricate designs woven in or painted on them.

The finer and better-preserved examples of the pottery and baskets of these cultures have high commercial values in today's primitive art market. Figures 1.3 and 1.4 show examples of prehistoric pottery and other artifacts that are being curated at the National Park Service's Western Archeological and Conservation Center (WACC) in Tucson, Arizona.

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## Legal Requirements

Archeological resources located on lands owned or controlled by the federal government have been protected by law since 1906, when the Antiquities Act (Public Law 59-209) was passed by the Congress. In

Figure 1.3: Mogollon Culture Pottery  
From East Central Arizona, 12th to 14th  
Century

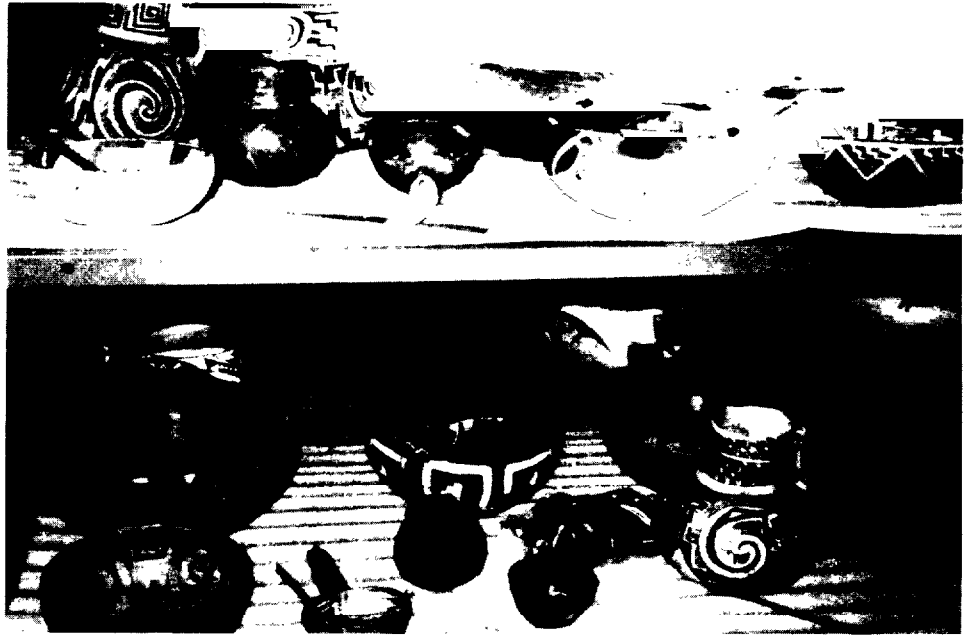


Figure 1.4: Anasazi Culture Artifacts  
From Northeast Arizona, 13th Century



1979, the legal base for the protection of these resources was strengthened by the passage of the Archeological Resources Protection Act (Public Law 96-95). In addition, the Congress passed six other acts and the President signed an Executive Order which further defined the role of the federal government in identifying and preserving archeological resources. The Antiquities Act and Archeological Resources Protection Act are discussed below. The purposes of the other six acts and the Executive Order are discussed briefly in appendix I.

These laws do not extend to archeological resources located on lands owned by states or private parties. Some states have passed laws protecting archeological resources located on their lands. Generally, private landowners control the removal and disposition of archeological resources located on their lands.

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## Antiquities Act

The Antiquities Act of 1906 provides that qualified institutions may be issued permits for the examination of ruins, the excavation of archeological sites, and the gathering of objects of antiquity on federal lands, provided these activities are undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that the gatherings shall be made for preservation in public museums. The act further provides that any person who shall appropriate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the U.S. government without the permission of the Secretary of the department having jurisdiction over the lands on which the antiquities are situated, are subject to fines of up to \$500 and imprisonment of up to 90 days.

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## Archeological Resources Protection Act

The Archeological Resources Protection Act of 1979 (ARPA) considerably strengthened the legal base for protecting archeological resources located on federal lands. This act provides more severe criminal penalties for unauthorized excavation, damage, destruction, or removal of archeological resources; and for the sale or purchase of these resources. Maximum criminal penalties (for repeated violations) are fines of up to \$100,000 or imprisonment for up to 5 years, or both. The law also provides for the assessment of civil penalties, forfeiture of any vehicles and equipment used in connection with violations of the act, and rewards of up to \$500 for information on such violations.



ARPA also addressed requirements for issuing permits and for preserving artifacts removed from federal lands. It requires agency land managers to determine that permit applicants are qualified and meet certain requirements, and that facilities which will be curating the removed artifacts are adequate. Permit applicants are required to identify the curatorial facility to be used and certify that they will deliver all artifacts and associated data from the excavation to that facility. ARPA further specifies that archeological resources excavated or removed from public lands remain the property of the U.S. government.

## Agency Roles and Responsibilities

In accordance with federal laws, all federal agencies are required to consider the effect their actions will have on archeological properties and to take the necessary measures to identify, preserve, and protect them. For example, in the event of a proposed construction project, agencies are to (1) identify archeological properties within the project area; (2) determine their significance; (3) develop plans to avoid the site or, if avoidance is not possible, to mitigate adverse effects of the project on the site; and (4) implement the selected plan (which may range from site avoidance, to protection or preservation, to excavation and data recovery). In addition, the Department of the Interior (Interior) is responsible for guiding and coordinating the federal archeology program; this responsibility is exercised through the Departmental Consulting Archeologist, National Park Service.

The three agencies included in our review, Interior's National Park Service (NPS) and Bureau of Land Management (BLM), and the Department of Agriculture's Forest Service (FS), manage much of the land in the Four Corners states. BLM manages 57 million acres, FS manages 42.8 million acres, and NPS manages 4.6 million acres. As shown in table 1.1, this represents 37 percent of all land in these states.

**Table 1.1: Percentage of Land in the Four Corners States Managed by the Three Agencies**

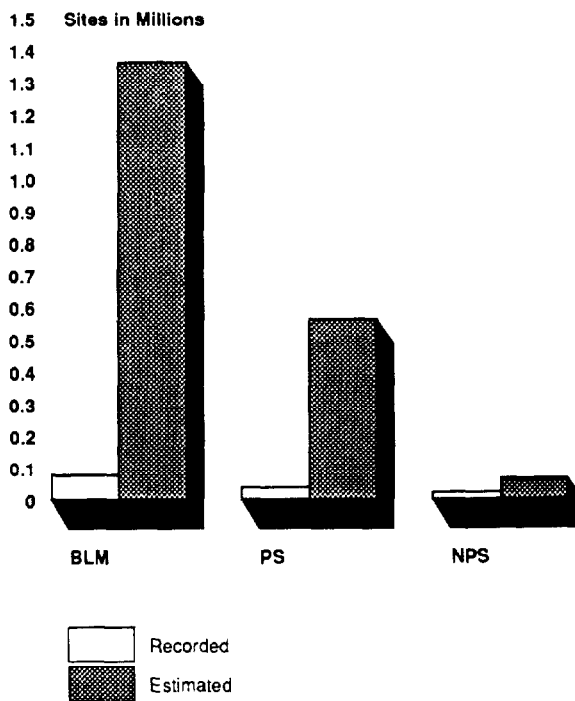
	Arizona	Colorado	New Mexico	Utah	Overall
BLM	17	13	17	40	20
FS	16	22	12	15	16
NPS	3	1	<sup>a</sup>	2	1
<b>Subtotal</b>	<b>35<sup>b</sup></b>	<b>35<sup>b</sup></b>	<b>29</b>	<b>57</b>	<b>37</b>
Other lands	65	65	71	43	62
<b>Total lands</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100<sup>b</sup></b>

<sup>a</sup>Less than 1 percent

<sup>b</sup>Does not add due to the rounding

The three land-managing agencies have identified and recorded about 136,000 archeological sites on their lands in the Four Corners states and estimate that there are a total of almost 2 million archeological sites located on their lands. Figure 1.5 illustrates these totals by agency.

Figure 1.5: Number of Recorded and Estimated Archeological Sites



Most of the authorized archeological excavations on these federal lands have been undertaken by permittees or contractors, rather than by agency personnel. For the 5-1/2 year period ending March 31, 1986, the three agencies reviewed had permitted or contracted 583 archeological excavations on their lands in the four states and conducted 177 archeological excavations themselves.

In the Four Corners states, the three agencies use both federal and nonfederal facilities to curate artifacts removed from their lands. Nonfederal facilities are generally state or privately operated universities, colleges, and museums. Federal facilities include large agency-funded repositories, as well as limited storage or display facilities

located at regional, state, and local agency offices. While BLM and FS primarily use nonfederal curatorial facilities, NPS parks generally use the WACC in Tucson, Arizona, which is an NPS regional repository, or retain the artifacts at the parks in which they were found. BLM also operates a new regional repository, the Anasazi Heritage Center (AHC) near Dolores, Colorado, which was built primarily to house archeological collections from the Bureau of Reclamation's Dolores-McPhee dam and reservoir project.

Field offices of the three agencies reviewed identified 66 nonfederal facilities as having received artifacts from their lands. Thirty of the 37 facilities that acknowledged having artifacts from lands managed by these agencies estimate they curate a total of about 6 million artifacts from federal lands.

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## Objectives, Scope, and Methodology

On October 14, 1985, the Subcommittee on Public Lands, National Parks, and Forests, Senate Energy and Natural Resources Committee, conducted an oversight hearing in Albuquerque, New Mexico, regarding the extent of looting of archeological sites located on federal lands and the adequacy of curatorial facilities. The testimony offered by various expert witnesses indicated that problems exist but there was no consensus on the extent of these problems.

On December 19, 1985, the Chairman and two other members of the Subcommittee requested that we review the extent to which organized looting and inadequate artifact curation are problems. Although the requesters noted that these problems appear to be nationwide in scope and apparently involve all major federal land management agencies, they asked that we concentrate our efforts on the Southwest. In subsequent discussions with the requesters' offices, we agreed to cover the Four Corners states of Arizona, Colorado, New Mexico, and Utah, and the three major federal land management agencies in that area: Bureau of Land Management, National Park Service, and Forest Service. We also agreed to address the following questions:

- To what extent are archeological sites located on these agencies' lands being looted for artifacts? Is organized looting of artifacts for sale a problem? (See ch. 2.)

- What are the agencies doing to protect the archeological resources located on their lands? This includes determining (1) whether the agencies have enough adequately trained personnel to protect their archeological sites from looting and (2) to what extent the agencies' authority to cite violations of historic preservation laws vary. (See chs. 3 and 4.)
- Are the artifacts that were removed from the agencies' land during the last 5 years being properly curated? Is the agencies' monitoring of the facilities that are curating these artifacts adequate to ensure that the artifacts are properly preserved? (See chs. 5 and 6.)

The requesters acknowledged that the data we would accumulate in responding to their question on the extent of looting would have to be primarily testimonial in nature. To develop this information regarding the extent of looting, including the extent of organized looting of artifacts for sale, we contacted representatives from the United States Attorney's Offices in Arizona and Utah, law enforcement agents from the Fish and Wildlife Service and the U.S. Customs Service, and various interested and knowledgeable persons not affiliated with the federal government. These included state historic preservation officers and state archeologists, local sheriffs and volunteers who monitor archeological sites, an investigative writer for The New York Times Magazine who spent 8 months investigating the looting problem, and a person convicted of looting an archeological site.

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## Work Completed at Agencies

To obtain information on agencies' policies and procedures in identifying and protecting archeological resources, we interviewed agency representatives (resource management personnel, law enforcement officers, archeologists, and NPS curation personnel) from the agencies' headquarters offices in Washington, D.C., and from the three FS and three NPS regional offices and the four BLM state offices responsible for the agencies' activities in the Four Corners states. We also reviewed pertinent documents and reports at these offices.

Much of the information regarding specific agency efforts to identify and protect archeological resources is located at the agencies' local field offices, i.e., BLM resource areas, FS forests, and NPS parks. In order to provide broad coverage, we mailed questionnaires to the 124 local agency offices in the four states. We received 121 responses which covered all 124 local agency offices, i.e., three of the responses each aggregated data for two local offices. However, three of the responses (two from NPS national monuments in New Mexico and one from a national forest in Utah) said that there were no archeological sites within the

offices' boundaries. Therefore, the questionnaire data used in this report is from the 118 responses that covered local agency offices that reported archeological sites within their boundaries.

**Table 1.2: Number and Location of Local Agency Offices Reporting Archeological Sites**

Agency	Arizona	Colorado	New Mexico	Utah	Total
BLM	8	11	8	16	43
FS	6	9	5	5	25
NPS	19	11	9	11	50
<b>Total</b>	<b>33</b>	<b>31</b>	<b>22</b>	<b>32</b>	<b>118</b>

To follow up on certain questionnaire data, we selected eight of these local agency offices to visit during our review. The requesters agreed that in selecting these eight sites we would

- provide for balanced coverage (that is, visit local offices from all three federal agencies and four states, and within each state visit offices of two different agencies),
- obtain recommendations from agency state and regional archeologists, state historic preservation officers, state archeologists, and the President of the Archeological Conservancy,<sup>1</sup> regarding which federally-managed land units in each state have experienced the most looting or are most susceptible to looting.

Appendix II provides certain information on the eight local agency offices selected for site visits.

## Work Completed for Curatorial Facilities

To provide broad coverage in answering the requesters' question regarding the adequacy of curatorial facilities, we developed a questionnaire for nonfederal curatorial facilities with the help and advice of the American Association of Museums and the Smithsonian Institution. We sent this questionnaire to all 66 nonfederal curatorial facilities that were identified by local agency offices as having received archeological artifacts removed from their lands. Six of these facilities are located in Arizona, 17 in Colorado, 12 in New Mexico, 8 in Utah, and 23 are located elsewhere in the United States and Canada. We received 53 responses (80 percent). However, only 30 of these respondents indicated that they currently curate archeological artifacts removed from federal lands, and our analyses are based on their responses.

<sup>1</sup>A non-profit corporation formed in 1979 to acquire and permanently preserve the best remaining archeological sites that are located on private land.

To follow up on the questionnaire responses and obtain more detailed information, we selected four nonfederal curatorial facilities (one in each state) to visit during our review. The facilities selected were those identified as having received archeological artifacts from (1) lands managed by each of the three agencies and (2) the most local agency offices. Appendix III lists the facilities that were initially identified as having received artifacts from federal lands in the four states. It also indicates which of those facilities responded to our questionnaire, and which ones stated they currently curate artifacts removed from federal lands.

We also visited two federal curatorial facilities located in the Four Corners states, BLM's Anasazi Heritage Center near Dolores, Colorado, and NPS' Western Archeological and Conservation Center in Tucson, Arizona.

We performed our review in accordance with generally accepted government auditing standards. The work was conducted between February and December 1986 and updated thereafter as necessary.

# Looting Is a Problem but the Agencies Do Not Have Data That Reflect the Extent of the Problem

In the Four Corners states of Arizona, Colorado, New Mexico, and Utah, the unauthorized removal of archeological artifacts from federal lands continues even though such activity has been illegal since 1906 and offenders have been subject to stiffer fines and prison sentences since enactment of the Archeological Resources Protection Act (ARPA) in 1979. The agencies' local offices in the Four Corners states estimate that nearly one-third of their 135,815 recorded archeological sites have been looted to some extent. Further, persons whom we contacted during our review, both federal and nonfederal, generally agree that looters are destroying important and valuable scientific information at archeological sites in the Four Corners states. However, there is no clear consensus on the extent of looting.

According to officials of all three agencies, agency records do not reflect the actual level of looting activity and current condition of the archeological sites because staffing and funding constraints limit the agencies' ability to monitor the sites and document looting incidents and site conditions. One hundred and sixty respondents to a questionnaire used in a study performed prior to the enactment of ARPA, Vandalism to Cultural Resources of the Rocky Mountain West, 1978, identified motivations for the vandalism of historic and archeological sites. Personal acquisition was the motive indicated by the most respondents (28.6 percent), whereas the profit motive was indicated by 11.3 percent of the respondents. The remaining 60 percent included motives such as curiosity, showing off, and rebellion against the agency. Agency officials told us that they believe ARPA has deterred casual looting but not commercial looting, however, and that other factors, such as the market value of artifacts, the threat of prosecution, and public attitudes, have influenced the level and location of commercial looting activity.

## Commercial Looting Continues While Casual Looting Decreases

Looting of archeological sites has been a problem historically and continues to be a problem on federal lands in the Southwest. In responding to our questionnaire, the agencies' local field office officials estimated that one-third of the recorded archeological sites have been disturbed. However, the perceived levels and types of looting activity differed at the various locations we visited in the Four Corners states. Federal and state officials believed that overall the extent of commercial looting had either remained constant or increased since the enactment of ARPA, whereas the level of casual looting, except for surface collecting, had decreased. NPS officials were of the opinion that commercial looting

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within parks was not a problem, even though they were aware of serious problems on the other agencies' lands bordering the parks. However, parks had experienced some problems with surface collecting.

**Extent and Type of**  
**Looting Varies by Agency**  
**and State**

According to our questionnaire results and interviews, looting activity varies by agency and state—BLM and Utah having the largest numbers of looted sites and NPS and Arizona having the fewest. We did not ask the questionnaire respondents to differentiate between casual and commercial looting; however, these differences were discussed during our interviews with both agency officials and persons not associated with federal agencies.

The local agency offices responding to our questionnaire estimated that almost 43,848 sites, or 32 percent, of the 135,815 recorded archeological sites within the four states reviewed had experienced at least some looting. Table 2.1 illustrates the total number of recorded sites on each agency's land, categorized by their condition as looted, undisturbed, and unknown. Table 2.2 shows the estimated number of looted sites by agency and state.

**Table 2.1: BLM, FS, and NPS Estimates of the Condition of Archeological Sites in the Four Corners States**

	<b>BLM</b>	<b>FS</b>	<b>NPS</b>	<b>Total</b>	<b>Percent</b>
Looted	29,327	9,947	4,574	<b>43,848</b>	32
No Disturbance	14,710	20,924	11,246	<b>46,880</b>	35
Unknown	32,561	6,904	5,622	<b>45,087</b>	33
<b>Total</b>	<b>76,598</b>	<b>37,775</b>	<b>21,442</b>	<b>135,815</b>	<b>100</b>
Percent	56	28	16	<b>100</b>	

**Table 2.2: Estimated Number and Percent of Looted Sites by Agency and State**

	<b>BLM</b>	<b>FS</b>	<b>NPS</b>	<b>Total</b>	<b>Percent</b>
Arizona	1,012	4,256	402	<b>5,670</b>	13
Colorado	5,130	2,191	172	<b>7,493</b>	17
New Mexico	4,933	1,165	2,724	<b>8,822</b>	20
Utah	18,252	2,335	1,276	<b>21,863</b>	50
<b>Total</b>	<b>29,327</b>	<b>9,947</b>	<b>4,574</b>	<b>43,848</b>	<b>100</b>
Percent	67	23	10	<b>100</b>	

The agencies' estimates of looted sites were based on the professional judgment of agency field office officials and site inventory records. Because of the vast land areas the local agency offices are responsible for covering and the remote locations of many of the archeological sites,



agency staff rarely revisit most archeological sites after the initial recording of the sites. Therefore, the extent to which recorded sites have been recently looted is uncertain. In addition, the numbers do not reflect the looting that is likely to have occurred on the estimated 1.8 million sites that have not been recorded.

In its comments on a draft of our report, the Department of the Interior said that the looting statistics shown in table 2.1 tend to mask the dimensions of the problem. According to Interior, looters usually do not bother with a majority of sites, but focus their energies on looting those sites, e.g., sites with structural features or caves, which they believe will yield commercially valuable artifacts or aesthetically fine specimens for their personal collections. As a result, one serious outcome of the vandalism and looting problem is that sites with stratified deposits capable of providing data on a wide range of research questions are being systematically destroyed.

Figures 2.1 and 2.2 (on the following pages) show two prehistoric structures in NPS' Glen Canyon National Recreation Area. Figure 2.1 shows a wall that is falling as the result of digging at its base. In contrast, figure 2.2 shows a structure located elsewhere in the park that is still in pristine condition, i.e., it still has its original stones, mortar, and timbers.

Appendix IV discusses the extent and types of looting activity in each of the Four Corners states.

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## Various Factors Affect the Location and Extent of Looting

BLM and FS studies, as well as agency officials we met, cited several factors that influence the level and location of looting. Public attitude influences the level and location of both casual and commercial looting. Two other factors, the probability of prosecution and the existence of a profitable artifact market, more directly affect the level and location of commercial looting than they do casual looting. In addition, economic and seasonal conditions influence the level of looting.

### Public Attitudes

According to federal and state agency officials, public attitudes affect looting activity. For example, NPS officials at the Glen Canyon National Recreation Area in southeastern Utah said that the public generally believes that archeological sites are abundant and they do not understand the significance of individual sites or the need for site preservation. Two BLM law enforcement rangers, also located in southeastern Utah, said that looters believe the public has a right to artifacts located

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Figure 2.1: Damaged Prehistoric  
Structure in NPS' Glen Canyon National  
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on public land and that looters do not view themselves as criminals. This attitude was reflected in the summer of 1986 with the sale of T-shirts stating "I Dig San Juan County" or "Get Your Pot in San Juan County."

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Figure 2.2: Pristine Prehistoric Structure  
in NPS' Glen Canyon National Recreation  
Area



as illustrated in figure 2.3, and the entry of floats in the Fourth of July parade in Blanding, Utah, that promoted the looting of arti-

Figure 2.3: T-Shirt Depicting Artifact  
Digging in San Juan County, Utah



facts. Federal and state officials also told us that looting archeological sites is a family tradition in areas of the Four Corners states.

Agency and state officials stated that the public has a different perception of NPS than it does of BLM and FS, and thus individuals are not as likely to dig for artifacts on NPS lands as on the other agencies' lands. Agency officials stated that the public has more respect for NPS land than for BLM land, based on NPS' orientation towards preservation of park resources rather than resource development activities. Moreover, the public generally perceives NPS lands as better protected than those of BLM and FS due to NPS' larger number of staff, the visibility of rangers and other uniformed staff, and better defined boundaries.

#### Probability of Prosecution

Commercial looting may be a relatively low-risk activity with high-profit potential. According to a 1981 BLM study entitled A Survey of Vandalism to Archeological Resources in Southwestern Colorado, prior to the implementation of ARPA the benefits of looting outweighed the risks, and this was a factor affecting the level of vandalism to archeological sites. However, several agency officials believed that looting had shifted out of areas where law enforcement efforts were increased after ARPA was implemented.

Agency and state officials said catching someone in the act of looting is difficult because of the large areas for which the three agencies are responsible. Utah's State Archeologist and BLM's San Juan Resource Area officials in Colorado said agency staff have a difficult time effectively patrolling agency lands because of the large acreage and number of sites in their area and the rugged terrain where sites are located.

Figure 2.4 illustrates a repeatedly looted site we observed in BLM's Vermillion Resource Area during a visit in June 1986. The resource area archeologist estimated that the holes were from 1 to 5 years old.

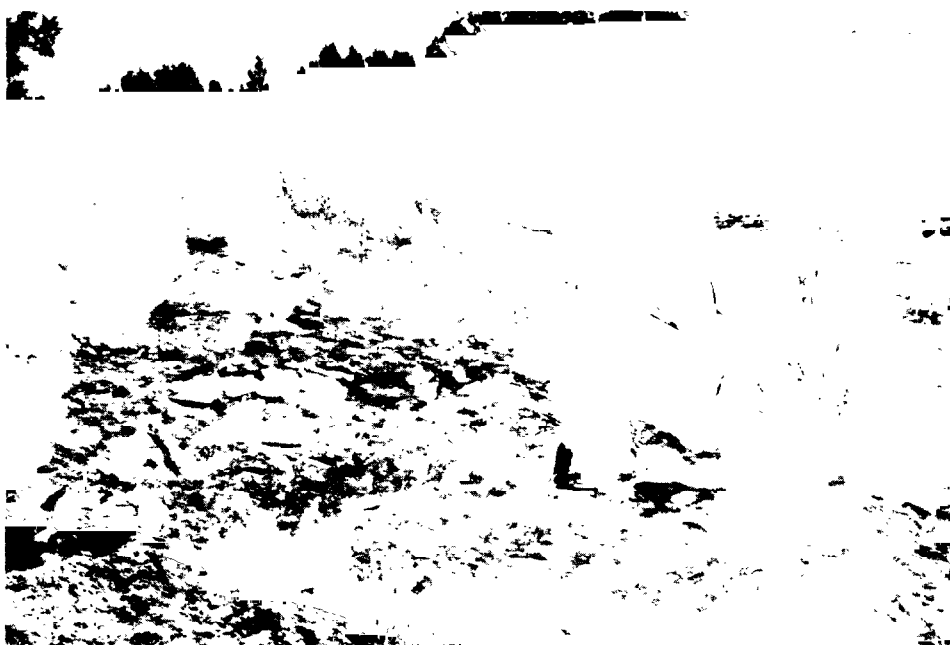
Even when suspected looters are arrested, however, it is often difficult to prosecute them because of the attitudes of prosecutors, judges, and juries. Respondents to our local agency office questionnaire reported that 10 of the 46 looting incidents referred for federal prosecution during the 5-1/2 years ending in March 1986 were not accepted for prosecution.

In a letter to the Attorney General dated July 16, 1986, the Secretary of the Interior said:

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Figure 2.4: Looted Archeological Site in  
BLM's Vermillion Resource Area, Arizona



“...crimes involving the protection of prehistoric and historic sites and artifacts are not taken seriously enough by federal prosecutors, and too often federal judges give only minimal sentences to those convicted.”

Attorneys we met with have similar opinions. An attorney who participates in NPS sponsored workshops on ARPA and who prosecuted several archeological resource protection cases as an Assistant United States Attorney for the District of Oregon said that in non-urban counties, where looting violations tend to occur, a looter is more apt to get a jury of his literal “peers” who consider artifact collecting to be wholesome family pastime and a matter of right. She also believes that the bottom line in obtaining jury guilty verdicts is getting the jurors to perceive that ARPA violations are serious crimes that affect them personally. The two attorneys we met with in Arizona had similar opinions—one is an Assistant United States Attorney for the District of Arizona and the other had previously worked in the same office. The current Assistant United States Attorney also said that prosecutors will generally accept a looting case for prosecution only if it has strong “jury appeal”—that is, the defendants clearly knew they were on federal lands and intentionally looted a site, they knew they were violating a federal law, and site damage was substantial or large personal profits were realized.

Although looters may consider their activity low risk, agency officials have noted that looting has shifted to other locations following increased law enforcement activities. This movement of criminal activity from one geographical area to another is referred to as vandal migration. While a FS undercover investigation in Arizona in 1982-1983 reportedly decreased the level of illegal digging activity on most FS lands in Arizona, there are indications that the looters may have moved to other states or other agencies' lands within the state. The FS Southwest Region special agent working out of the Gila National Forest in New Mexico believed the Gila had experienced increased looting activity because of the undercover investigation in Arizona.

As a result of a special investigation in southeastern Utah in 1984-1985, regional, state, and local BLM and FS officials agreed that the level of looting in that part of Utah was substantially lower than it had been a few years before. A FS law enforcement officer estimated that while 20 to 40 looters once worked in southeastern Utah, only 1 or 2 looters were still active in the summer of 1986. However, several of these officials noted that looting in southwestern Utah and northwestern Arizona had increased, indicating that looters from southeastern Utah may have simply moved to areas with less active law enforcement activity. A convicted looter we interviewed agreed that the level of looting decreased following his conviction. However, he believed that about 20 looters were still active but may have temporarily left southeastern Utah.

### Artifact Market

Several persons noted that looting in the Four Corners states has increased as prices for artifacts have increased, and as these prices have been publicized. BLM officials from the San Juan Resource Area in Utah, and a convicted looter from Utah, believed that prices for artifacts increased following the passage of ARPA in 1979. A 1983 report on a FS undercover law enforcement operation in Arizona stated that prices for artifacts reflect supply and demand. Consequently, because looting had declined following this operation, prices for artifacts were beginning to rise because fewer artifacts were being made available for sale. The report stated that these rising prices could tempt looters to resume looting.

Artifacts from the Four Corners states, those obtained legally as well as illegally, are sometimes resold in east coast or west coast markets. Further, an international market for these artifacts also exists, with even higher prices. For example, at a June 1985 auction at Sotheby's in New York City, one Mimbres bowl sold for \$2,200 and another for \$6,050.

One Mogollon Four Mile black-on-white bowl, which can be found in east central Arizona, sold for \$5,500. A Mogollon Four Mile polychrome (multi-colored) bowl sold for \$12,650 and another for \$19,800.

In another example, a convicted looter told us he had received a total of about \$30,000 for artifacts he illegally removed from a cave on FS land in southeastern Utah. These artifacts included 37 woven baskets, 8 pottery bowls, and other miscellaneous artifacts. According to the FS' Chief Archeologist, one of the baskets and its contents (pictured in figure 2.5) was subsequently sold by a dealer for \$180,000.

On the other hand, looters do not always receive high prices for artifacts. The Colorado state archeologist told us that while certain items such as Mimbres and Mesa Verde pottery can bring from \$60,000 to \$70,000, most artifacts are sold for \$2 to \$4. In another case, two looters of a FS site in southwestern Colorado who attempted to sell their artifacts to shops in Santa Fe, New Mexico, were reportedly offered less than \$50 for each of several bowls and jars.

## Other Factors

Two other factors noted—poor economic conditions and good weather—may also increase looting activity. According to the 1981 BLM report on vandalism in southwestern Colorado, the two most serious outbreaks of commercial looting have coincided with worsening national economic conditions: the economic slump of the early 1890s and the national economic decline of the 1930s. On a more recent and local scale, BLM's San Juan Resource Area officials in Utah attributed increased looting activity in the 1980s to the closing of uranium mines within the area. The NPS' Southwest Region law enforcement officer said that this is similar to the trend in other types of criminal activity.

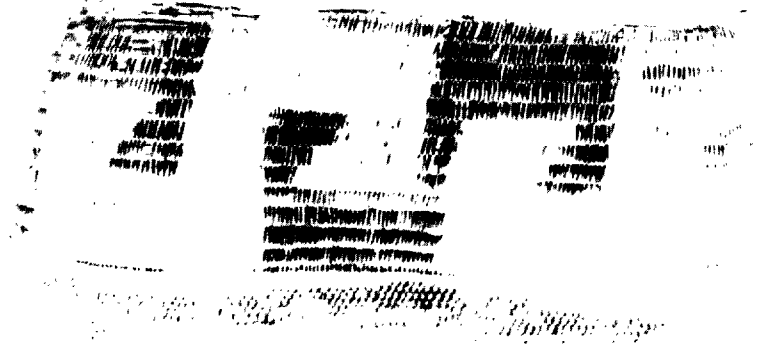
In addition, agency officials have noted that looting activity is seasonal. For instance, the San Juan Resource Area archeologist in Colorado said that the resource area experiences higher looting activity in the spring and fall months. The Las Cruces-Lordsburg Resource Area archeologist

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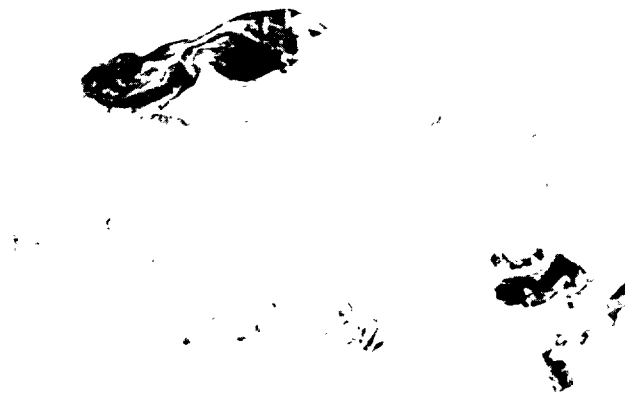
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Figure 2.5: Prehistoric Basket and  
Contents Recovered Following Looting  
Incident in Manti-LaSal National Forest,  
Utah



Source: Forest Service



Source: Forest Service



in southern New Mexico said that he believes hot summers are a deterrent to looters in that area. BLM rangers at the San Juan Resource Area in Utah said looters dig at dry cave sites in the summer and winter months and loot structural sites in the spring and fall months.

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## Agencies Do Not Have Data That Reflect the Extent of Looting

Agencies have two methods of documenting looted archeological sites located on agency lands but neither method demonstrates the extent of looting activity. The first method, which involves incident reports, documents current incidents of looting and/or vandalism. The second method, which involves site records, documents the condition of a site at the time the site is initially recorded and when the site record is updated. However, neither of these record systems currently contains sufficient information to determine the extent of looting.

Incident reports are not always prepared when looted sites are discovered and many of the site records, particularly the older records, do not contain current information on the extent of looting damage. Further, as we discuss in chapter 3, agency personnel have not identified and recorded most of the archeological sites thought to exist in the Four Corners states and rarely revisit many of the more remote recorded sites. Therefore, the agencies have no way of knowing the extent to which these sites are being looted.

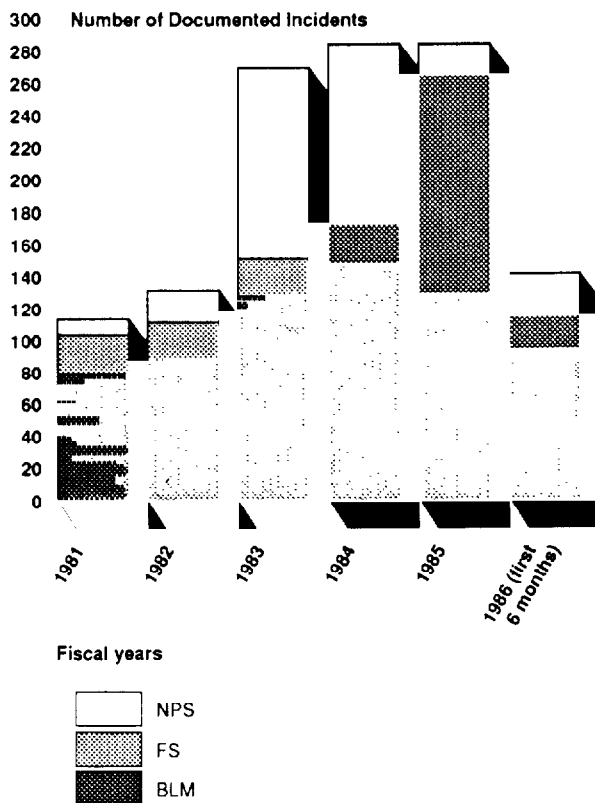
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## Incident Reports

In responding to our questionnaire, the agencies' local field offices stated that a total of 1,222 looting incidents were documented in the Four Corners states from October 1, 1980, to March 31, 1986: 665 on BLM lands, 304 on NPS lands, and 253 on FS lands. The relatively large number of incidents reported by NPS is due to one park, Bandelier National Monument in New Mexico, that reported 100 incidents for fiscal year 1983 and fiscal year 1984. This high number of reported incidents resulted from the use of time-lapse cameras at the monument during those two years. No more than 7 incidents were documented at this park in any other year during this period. Figure 2.6 illustrates the number of documented incidents by agency and fiscal year.

Each agency had developed a form for reporting crimes, including looting incidents, but BLM and FS had no agency-wide guidelines that instructed the local field office personnel on when to use the form to report looting incidents. As a result, the forms were being used inconsistently at the 8 local field offices we visited. Whether or not a report was

Figure 2.6: Number of Documented Looting Incidents



prepared depended on such factors as the extent of site damage, the level of previous site disturbance, the estimated length of time since the site was looted, the type of site looted, and the existence of substantive evidence of the type necessary for prosecution. For example, personnel at the Gila and Coconino National Forests and Glen Canyon National Recreation Area did not document the discovery of an isolated hole dug at a site if damage was considered insignificant or not done recently; personnel at both San Juan Resource Areas (in Colorado and Utah) routinely documented each discovery of looting regardless of the extent of damage and the existence of evidence; while personnel at the Vermilion and Las Cruces-Lordsburg Resource Areas and the San Juan National Forest did not prepare any reports on looting incidents.

At the time of our visits to the agency field offices, none of the agencies had computerized systems capable of retrieving and compiling data on the looting incidents that had been reported by the field offices. For

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example, NPS had an agency-wide crime data system which included looting incidents as part of a broader category of crime, i.e., natural resource violations, but data on looting incidents could not be broken out separately. The Chief Ranger at Glen Canyon National Recreation Area said that NPS was considering whether to add this capability in the future, but that in the meantime the park was going ahead and modifying its own system so that it could retrieve looting incidents data. An NPS headquarters law enforcement official said that starting in January 1988, parks will be asked to submit annual statistics (for the preceding calendar year) on archeological resource violations, arrests, citations, and prosecutions.

BLM and FS are in the process of implementing new crime data reporting systems that would include looting incident reports. In a March 1982 report<sup>1</sup>, we recommended that the Secretaries of the Interior and Agriculture establish and effectively implement law information systems that provide management with essential and reliable reporting information on the seriousness and extent of crime on public lands. The system being developed by BLM at the time of our review had been scheduled for completion by the end of fiscal year 1986, but a law enforcement official at BLM headquarters told us that this date was not met because of insufficient funds. However, funds were obtained for fiscal year 1987, and BLM hopes to have the system working by the end of the fiscal year.

In September 1985, FS officials told us that the FS planned to have its new law enforcement management and reporting system completed by June 30, 1986. According to FS officials at the Gila National Forest, however, the system had been changed 4 times in the last 2 years, and consequently, they had a backlog of incident reports at the forest. In December 1986, a law enforcement official at FS headquarters said that FS officials were working to get all the regions inputting their crime data into the system by December 1987.

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## Site Records

We found that site records are sometimes incomplete and are rarely updated; as a result, the agencies do not have accurate documentation regarding the extent of looting. Site records contain information on the condition of archeological sites, including the extent of damage caused by looting; however, as discussed in chapter 3, not all identified sites

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<sup>1</sup>Illegal and Unauthorized Activities on Public Lands — A Problem with Serious Implications (RCED-82-48, dated March 10, 1982.)

have been recorded. Site records may be completed when a site is initially discovered and updated any time thereafter. For example, site records may be updated when a site is revisited, to reflect any changes in site condition and to document the extent of looting.

The field offices we visited used different forms to record site condition. While all the forms used at the time of our review provided space to record site condition, archeologists at two offices said forms used earlier (prior to 1970) did not include this information. As a result, some site records may not reflect initial site condition information, which could prevent archeologists from accurately documenting subsequent looting occurrences.

Field offices we visited rarely updated site records to reflect current site condition. For example, the archeologist at the Coconino National Forest said that 20 to 30 sites (of 2,000 recorded sites) have been revisited to update site condition information. He said that although other sites may be visited, these site forms are updated only if the sites are damaged; consequently, most forms indicate site condition only at the time of the initial site recording.

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## Documentation Constraints

Agency field office personnel said that the incident reports and site records do not reflect the level of looting that has been occurring, and several said that this is due to their inability to monitor sites and prepare incident reports and update site records. Constraints on the agencies' ability to monitor sites is discussed in chapter 3.

One NPS respondent to our questionnaire noted, "We feel that we are in a 'Catch 22' situation—unable to document and/or take action against archeological looting due to lack of personnel and equipment needed to provide frequent patrol and monitoring and unable to fund additional patrol and monitoring activities due to lack of documentation of looting incidents."

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## Conclusions

The extent and type of looting varies by agency. Both federal agency and nonfederal personnel believe that casual looting has declined since ARPA was enacted but that commercial looting continues to be a problem resulting in the destruction of archeological sites on BLM and FS lands in the Four Corners states. On the other hand, they believe that NPS lands experience little commercial looting.

Various factors affect the location and extent of looting. Looting has declined in an area following the publicity of increased law enforcement efforts or the prosecution of looters. However, when this happens, the looters often merely move their activities to other public lands — lands of another agency, another part of the state, or a different state. Other factors affecting the extent of looting include the local public's lenient attitude towards looting on public lands, the minimal threat of being caught and/or prosecuted, and the existence of a market for looted artifacts. The low level of commercial looting on NPS lands was attributed to the presence of a larger number of uniformed agency personnel, better defined boundaries, and the perception that NPS' mission is to preserve the resources on its lands, whereas BLM and FS are primarily concerned with the development of the resources on their lands.

Agency records (incident reports and site records) do not reflect the full extent of looting, either the current level of looting activity or the cumulative effects thereof. None of the agencies had issued directives specifying under what circumstances a report would be prepared on a looting incident. As a result, the agency field offices had been inconsistent as to when they prepared a report, and in many cases no report was prepared. Each agency was developing a computerized agency-wide crime data reporting system that included looting incidents. However, the data in these systems will be of little value in determining the location and extent of looting activity if the agency field offices prepare the incident reports inconsistently.

With regard to site records, many of the records for sites recorded 10 or more years before contained little information on the sites' condition at the time the sites were recorded. The agencies had no requirement for periodically revisiting the sites and updating the site records. In addition, many of the site records at the field offices we visited had never been updated.

Improved documentation of looting activity would provide agency managers better data to use in deciding (1) the amount of funds and staff to request for, and allocate to, the protection of sites and to the apprehension/prosecution of looters and (2) the distribution of such funds and staff between geographical areas. The agencies' site protection and law enforcement efforts are discussed in chapters 3 and 4, respectively.

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## Recommendation

We recommend that the Secretaries of the Interior and Agriculture direct the heads of the respective agencies to develop agency-wide

guidelines that (1) provide field offices criteria on when to prepare looting incident reports—e.g., amount of disturbance and how recently the incident happened—and (2) require field offices to periodically revisit recorded sites to update site records.

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## Agency Comments and Our Response

In its comments on a draft of our report, the Department of the Interior said that it does not believe that it is necessary to develop the guidelines we recommended. Interior said that law enforcement personnel in the Department currently are required to report all incidents of looting and vandalism whenever such incidents are observed or brought to their attention, and the primary reason why incident reports are not always prepared is that archeologists and other non-law enforcement personnel who may observe the incidents do not always notify the law enforcement officer. Interior also said that, as a practical matter, it may be difficult to confidently determine whether or not the less visible or commercially attractive sites have been casually looted. Therefore, rather than revisiting all previously recorded sites to determine site condition, Interior recommended revisiting only the vulnerable sites that are attractive to commercial collectors and hobbyists.

Based on our observations at the agencies' field offices, we do not agree that current guidelines are adequate. Interior's comment on the reporting of looting instances relates only to incidents that are observed. However, in most instances, the looters are not observed in the act of looting a site, and it may be days, weeks, or longer before agency personnel find out that a site has been looted. It is in these instances that the field offices are inconsistent in their reporting and that guidelines are needed. With regard to guidelines for revisiting recorded sites, we believe that all sites should be revisited on a systematic basis. We do, however, agree that the sites most attractive to commercial collectors and hobbyists should be visited more frequently than sites which are less attractive.

The Forest Service did not comment on our recommendation to develop agency-wide guidelines.

# Agencies' Protection of Archeological Resources Affected by Limited Staffing, Funding, and Knowledge of the Resources to Be Protected

Federal agencies are responsible for managing and protecting the archeological resources located on their lands. However, BLM and FS, and to a lesser extent NPS, do not have sufficient staff, funds, and knowledge of the resources they are supposed to protect to effectively carry out this responsibility in the Four Corners states. The agencies' field offices estimate that they have identified a small portion of the archeological sites located on their lands, and they provide physical protection to only a small portion of the known sites. Further, most of the methods used to protect archeological resources are of limited effectiveness in curtailing commercial looting.

BLM, FS, and NPS manage about 104 million acres of land in the Four Corners states, yet the agencies had surveyed less than 6 million acres, or less than 6 percent of these lands, to identify archeological sites. Respondents to our questionnaire estimate that there are nearly 2 million archeological sites in the four states, of which only 7 percent (about 136,000) have been recorded. Further, most of the archeological surveys performed in recent years have been done to obtain clearances for development projects and, therefore, are not necessarily directed at those areas having the greatest archeological resource potential.<sup>1</sup>

The agencies use a variety of methods to protect archeological resources, including ground patrols and public education. However, because of staffing and funding limitations, only a small portion of the known sites are afforded physical protection. Of the three agencies, BLM has the fewest staff in the Four Corners states whose duties include surveillance of archeological sites—63 staff in fiscal year 1985 for about 57 million acres of land. FS had 186 staff for about 42.8 million acres, and NPS had 357 staff for about 4.6 million acres. Further, the agencies' most frequently used methods of protection (i.e., ground patrols and public education) are more effective in deterring casual looters than commercial looters.

Management of archeological resources involves a sequence of (1) inventory (discovering and recording the resources present), (2) evaluation (determining their scientific and public importance), (3) planning (determining how they would be most appropriately used), (4) protection

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<sup>1</sup>The National Historic Preservation Act of 1966. (Public Law 89-665), as amended, requires all federal agencies to determine the effect of any proposed projects on the historical and archeological resources that are included in, or eligible for inclusion, in the National Register of Historic Places. Therefore, in most instances, a survey must be done (or have been done previously) in order to obtain a project clearance.

(safeguarding the resources), and (5) utilization (authorizing or otherwise accommodating their proper use). Thus, to adequately protect their archeological resources, agencies must have not only sufficient staff and funds but also sufficient knowledge of their resources to use available staff and funds effectively.

## Agencies' Knowledge of Their Archeological Resources Is Limited

Federal agencies are required to locate and inventory all significant archeological sites—those eligible for listing on the National Register of Historic Places—located on their lands. This requirement was first contained in Executive Order 11593, dated May 13, 1971, and later affirmed by the Congress in the 1980 Amendments to the National Historic Preservation Act (Public Law 96-515). To meet this requirement, agencies must not only identify sites, but must also evaluate their significance. According to a 1986 FS cultural resource management program review, identifying sites without evaluating their significance places managers in a situation of resource ignorance, hampering their ability to make valid decisions about these resources. Evaluation of sites also provides agencies a better understanding of their archeological resources, as well as a reasonable position for recommending specific management treatments.

The Advisory Council on Historic Preservation, in its comments on a GAO report issued in April 1981,<sup>2</sup> stated that agencies need a comprehensive picture of the resources present on the land they manage in order to intelligently handle the range of activities for which they are responsible. According to the Council, this does not require physical inspection of every acre of ground. However, it does require that field inspections of representative sample tracts be performed as part of archeological overview studies.

Similarly, the Department of the Interior commented that the need for comprehensive cultural resource planning as an ongoing component of agency management is crucial. Interior believed that agencies should conduct surveys, in addition to those surveys related to specific projects, in order to identify the location of sites, determine whether they have been or are being impacted by continued use, and determine whether protection efforts are needed.

<sup>2</sup>Are Agencies Doing Enough or Too Much for Archeological Preservation? Guidance Needed (GAO/RCED-81-61, dated April 22, 1981.)

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**Agency Efforts to Identify Archeological Sites Are Limited and Not Directed at Areas Having Greatest Archeological Potential**

Most archeological sites on federal lands are identified through archeological surveys that are conducted primarily in response to proposed development projects. Because surveys of BLM, FS, and NPS lands have been generally limited to project areas, and because the agencies have surveyed only a small portion of their lands, they have not identified or recorded most of the archeological sites thought to be located on these lands. Some of the unrecorded sites may be of greater archeological significance than the sites that have been identified and recorded.

**Most Archeological Sites Are Not Identified or Recorded**

In total, BLM, FS, and NPS have identified about 7 percent of the archeological sites that they estimate are located on their lands in the Four Corners states. As shown in tables 3.1 and 3.2, these agencies have recorded about 136,000 archeological sites in the four states, but they estimate that almost 2 million sites may be located on these lands.

**Table 3.1: Number of Recorded Archeological Sites**

<b>State</b>	<b>BLM</b>	<b>FS</b>	<b>NPS</b>	<b>Total</b>
Arizona	3,427	16,761	7,655	<b>27,843</b>
Colorado	21,486	5,809	4,970	<b>32,265</b>
New Mexico	18,120	9,207	6,115	<b>33,442</b>
Utah	33,565	5,998	2,702	<b>42,265</b>
<b>Total</b>	<b>76,598</b>	<b>37,775</b>	<b>21,442</b>	<b>135,815</b>

**Table 3.2: Estimated Number of Archeological Sites**

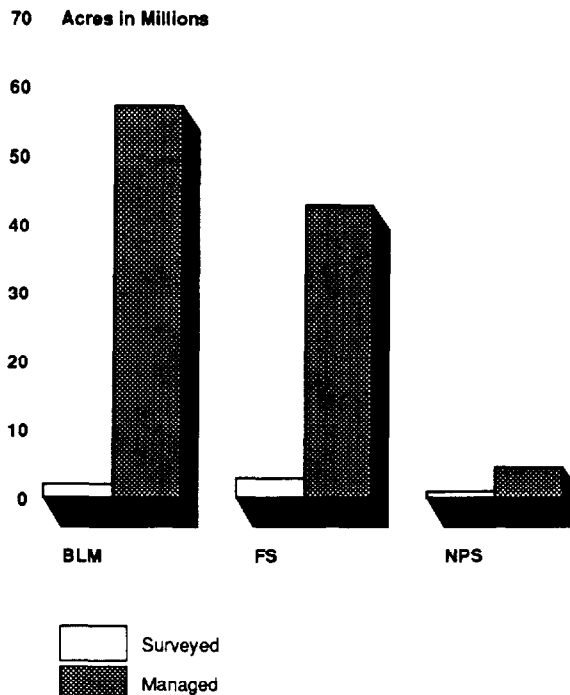
<b>State</b>	<b>BLM</b>	<b>FS</b>	<b>NPS</b>	<b>Total</b>
Arizona	84,430	198,000	34,899	<b>317,329</b>
Colorado	143,432	165,465	6,618	<b>315,515</b>
New Mexico	675,044	143,700	16,323	<b>835,067</b>
Utah	458,680	52,970	4,956	<b>516,606</b>
<b>Total</b>	<b>1,361,586</b>	<b>560,135</b>	<b>62,796</b>	<b>1,984,517</b>

**Most Agency Lands Have Not Been Surveyed**

In total, BLM, FS, and NPS have surveyed about 6 percent of approximately 104 million acres of land they manage in the states of Arizona, Colorado, New Mexico, and Utah, as shown in figure 3.1. BLM, which manages more than one-half of the total acreage, has the lowest percentage of its land surveyed (4 percent); in contrast, NPS, which manages about 4 percent of the total 104 million acres, has the highest percentage of its land surveyed (19 percent).

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**Figure 3.1: Number of Managed and Surveyed Acres**



**Most Surveys Are for Project Clearances, Not for Developing Resource Inventories**

Surveys of the agencies' lands have been limited primarily to areas where land development projects have been proposed, rather than for the purpose of developing resource inventories. The 1986 FS cultural resource management program review found that FS cultural resource surveys are almost exclusively project-oriented, with few non-project surveys being carried out. This review further found that most regions had not developed a schedule for surveying areas not impacted by projects. NPS estimates that about 95 percent of all survey work in its parks is conducted to carry out compliance requirements in connection with either a construction project or routine park operations.

In limiting surveys to project areas, the agencies do not have information on many of the archeological resources located in other areas, which in turn hinders their ability to evaluate and manage their archeological resources overall. For example, according to BLM's state archeologist in New Mexico, most development in New Mexico has occurred in the northwest quarter of the state, where oil and gas reserves are

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located. Little is known about archeology in the southeast corner of the state because very little oil or gas development has been undertaken there. Similarly, the archeologist at BLM's Vermillion Resource Area in Arizona has little information on the locations of archeological sites in this resource area, less than 1 percent of which has been surveyed, because very few development projects have been conducted there.

Agency officials believe that when archeological sites in remote areas become more accessible because of roads built for development projects, the sites become more susceptible to looting. The San Juan Resource Area in Colorado is an example of an office that has attempted to address this concern. In 1985, agency officials recognized that many sites in the San Juan Resource Area were being disturbed or destroyed because of the increased access that resulted from developers constructing roads to test for oil deposits. As a result, developers are now required to use helicopters or to drive over snow to lay the seismic charges used for the testing.

Although most of the agencies' surveys have been done in conjunction with development projects, some have also been identified through land surveys conducted solely for the purpose of recording archeological sites. Six of the eight local agency offices reviewed have surveyed some non-project land areas to identify archeological sites. For example,

- at the San Juan National Forest in Colorado, the archeologist said that during the last couple of years he had been doing planning surveys for strictly archeological purposes and that these surveys accounted for about 2,000 to 3,000 of the 30,000 acres surveyed in the forest;
- at BLM's San Juan Resource Area in Colorado, three non-project related survey efforts covering about 21,000 acres were undertaken during the late 1970s; and
- in BLM's Vermillion Resource Area, the only survey that had been done solely for archeological purpose, done in 1967-68, identified about 400 archeological sites.

Several small sample surveys had been done in BLM's San Juan Resource Area in Utah in the past. However, funds had not been available for this purpose during the last 4 or 5 years.

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## Surveying All Remaining Agency Lands Would Be Costly and Time- Consuming

Executive Order 11593 and the National Historic Preservation Act require agencies to locate and identify archeological sites located on unsurveyed lands and evaluate their significance. However, meeting this requirement will be costly in terms of staff and time, and as yet there are no inexpensive methods of conducting inventories to identify sites. The types of inventories currently used to identify archeological sites include complete surveys of an area to identify all observable sites (referred to as class III surveys), sample surveys of portions of an area to identify some sites and estimate the likelihood of the existence of significant sites throughout the area (class II surveys), and reviews of available literary background on an area's archeological resources (class I surveys).

Partly because of the time and cost to conduct surveys, few surveys have been performed on BLM, FS, and NPS lands not directly impacted by development projects. In other words, few surveys are performed that are not financed by project developers. The FS' 1986 cultural resource management program review concluded that a systematic inventory of sites—one not driven solely by development projects—should be undertaken. The review also concluded, however, that funding would have to be budgeted for this effort as funding was entirely lacking at the time of the FS review.

While officials at the eight local offices we visited believe they need to survey more of their lands to identify archeological resources, funding limitations prevent this. For example, BLM's resource area offices in New Mexico plan to incorporate in their management plans a goal of surveying 10 percent of their lands during the period covered by the plans, i.e., about 10 years. These would be in addition to project-related surveys, but there is no assurance these surveys will be funded. One New Mexico resource area included this goal in its plan for fiscal year 1987; however, funds were not provided and the surveys were not being conducted.

Completing inventories of all unsurveyed federal lands would be cost-prohibitive because of the extensive area involved. Officials at the eight local offices reviewed estimated that survey costs can range from \$4 to \$20 per acre, depending on site density. Using these estimates, a class III survey of all the remaining unsurveyed lands managed by the three agencies in the Four Corners states (about 98 million acres) could cost from \$392 million to \$1.960 billion. If surveys were limited to a 10-percent sample of the remaining acres (class II survey), the cost to survey

98 million acres could range from \$39 million to \$196 million. These estimates represent the potential cost of surveys undertaken to identify the location of archeological sites and do not include the additional work needed to assess their significance. Site identification is only the first step; the costs of surveys to assess site significance would be considerably higher.

Completing these surveys could also be extremely time-consuming. Archeologists estimated that one person could survey a minimum of 10 acres to a maximum of 80 acres per day, depending on the number of sites found per acre. However, even if agencies could survey the maximum number of acres per day, our calculations show that a class III survey could require more than 4,900 staff years for the three agencies to complete; a class II survey of 10 percent of the land could require 490 staff years. In another estimate, archeologists at the San Juan Resource Area in Colorado estimated that, based on the average number of acres that can be surveyed per day in this area, it would take 100 staff years to perform class III surveys of the resource area's 653,000 unsurveyed acres.

In its comments on a draft of our report, the Department of the Interior said that the cost and time estimates presented above are overstated because not all of the unsurveyed lands need to be surveyed. It stated that research designs could be developed that would use regional topographic and geomorphic criteria to identify areas that would not need to be surveyed. For example, an archeological survey in Alaska indicated that it was possible to eliminate between 13 and 60 percent of the area within a given survey locale. Interior also pointed out, however, that the Alaska data were provided for discussion purposes only and the actual amount of land in the Four Corners states that could be eliminated would depend on region-specific data.

Interior added, however, that given existing personnel and funding constraints, it would not be cost-effective for federal agencies to attempt to complete 100-percent inventories and evaluate all archeological sites in the next 5 or 10 years. For example, NPS estimates that it could complete surveys at all units of the park system within 25 years if \$566 million were programmed for survey work annually. However, schedules for surveys usually are not adhered to because of other higher priority needs such as preservation of historic buildings, cataloging collections, or park operational activities.

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## New Technologies for Identifying Archeological Resources

New technologies are being developed which may prove useful in identifying archeological resources. However, these technologies are generally too expensive to use or require further refinement before their usefulness is maximized. In a 1986 report<sup>3</sup>, the Office of Technology Assessment (OTA) discussed two of these technologies—remote sensing and predictive locational modeling.

According to OTA, remote sensing techniques may extend agencies' abilities to identify archeological sites. Yet, high costs of equipment and agencies' lack of familiarity with remote sensing techniques inhibit their use. Examples of the remote sensing methods mentioned by OTA included (1) aircraft and spacecraft methods, such as photography and imaging radar; (2) subsurface methods or geophysical remote sensing, such as ground-penetrating radar, soil resistivity meter, soil conductivity meter, and proton magnetometer; (3) underwater methods; and (4) surface methods, such as video and photographic cameras.

The OTA report further stated that for agencies to make effective use of remote sensing to identify archeological sites, archeologists must first understand the general features of the region's archeology, and then refine their understanding of which of these technologies to apply to a particular geographic area, soil type, or season. It would then be possible to incorporate remote sensing into an identification scheme, keeping in mind the limitations as well as the advantages of the technology.

The OTA report also stated that predictive locational modeling is the general term used for a group of techniques used to predict the distribution of archeologically significant material in a region. While predictive locational modeling may prove useful in determining the likelihood of sites occurring within larger general areas, these techniques are intended to direct rather than substitute for intensive surveys, and are more appropriate to general land use planning than to the prediction of the location or significance of specific sites. Many archeologists have expressed severe reservations about how effective predictive modeling might be as a management tool and fear it might be misused in an effort to avoid—rather than direct—costly ground surveys. According to the OTA report, the models are not likely to tell where all sites are located because the sites were probably established in response to essentially unpredictable historical circumstances as well as more predictable human needs. Even

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<sup>3</sup>U.S. Congress, Office of Technology Assessment, *Technologies for Prehistoric and Historic Preservation*, OTA-E-319 (Washington, DC: U.S. Government Printing Office, September 1986).

highly sophisticated locational models cannot be expected to be completely accurate.

The Department of the Interior agreed with OIA's conclusion that the use of remote sensing techniques might extend the federal agencies' ability to identify archeological sites. It also stated, however, that the use of these techniques has limited application for identification efforts and their use is not a substitute for on-the-ground pedestrian surveys and subsurface testing.

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## Agencies' Protection of Known Archeological Sites Is Limited

The agencies are unable to protect all identified sites on their lands in the Four Corners states, due to staffing and funding constraints. While 5 local agency offices focused their protection efforts on specific sites or areas with numerous sites that were considered particularly vulnerable or significant (generally fewer than 50 sites), personnel from 3 local offices stated that they had no plan for protecting sites and that protection efforts were undertaken only in reaction to specific incidents. Using various protection methods, agencies try to convey "agency presence" to deter casual looters, and emphasize educating visitors who may not know about the laws protecting archeological resources. Although these methods are not aimed at commercial looters, an NPS law enforcement officer noted that public education may encourage citizens to report incidents of looting.

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## Methods of Protection Most Often Used

Protection methods most commonly used include public education programs, ground patrols, fencing or otherwise restricting access to archeological sites, and posting information signs. Public education and ground patrols are the two most relied-upon protection methods.

Protection of archeological resources is generally a responsibility of local agency offices. Only two offices have written plans for protecting archeological sites, although four other offices were developing written plans. Due to the large number of acres and archeological sites they manage, agencies do not try to protect each site physically, but focus on specific sites or archeological areas. For example, staff at BLM's Las Cruces-Lordsburg Resource Area in New Mexico try to regularly patrol and otherwise protect about 25 of the almost 2,500 recorded sites in the area. In another example, officials at BLM's San Juan Resource Area in Utah focus their protection efforts on the Grand Gulch Plateau archeological area which covers 625 square miles and contains from 20 to 200

sites per square mile. Agency officials extend their protection efforts to other sites or areas if looting or other vandalism incidents are identified.

In our questionnaire to local agency offices, we asked how much reliance each office had placed on various protection methods during the 5-year period ending September 30, 1985. The offices' responses showed that public education and ground patrols were the two most frequently used protection methods.

#### Public Education

Of the 118 respondents to our questionnaire, 107 (91 percent) place at least some reliance on public education as a method of protecting archeological resources. Agency officials believe public education is effective in increasing the public's awareness of the need to preserve and protect archeological resources. Examples of public education efforts include programs at local elementary schools, lectures to social and civic organizations, cooperative programs with amateur archeological societies, distributing informational pamphlets, and using local media to publicize the importance of archeological resources and successful looting prosecutions.

#### Ground Patrols

Agency officials also emphasize the importance of ground patrols—surveillance and monitoring of sites, as well as contacting and being seen by visitors—in creating an “agency presence” in the minds of visitors. Of the questionnaire respondents, 81 percent (95 of 118) said that they rely on this method to at least some extent. One reason why NPS is generally believed to have fewer instances of commercial and casual looting, is that NPS rangers and other uniformed agency personnel are usually highly visible to visitors.

#### Other Methods

The local agency offices we visited also used other methods to protect their archeological sites. For example:

- The Coconino National Forest in Arizona had cut and piled tree limbs to block a road leading to one site that was being looted. It also had posted signs at other sites that either indicated the importance of preserving our nation's heritage by preserving its archeological resources or included warnings of the penalties for vandalism and theft of these resources (see figure 3.2).



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Figure 3.2: Signs Posted at Archeological Sites in Coconino National Forest, Arizona



Figure 3.3: Fenced Prehistoric Cave Site  
in BLM's Vermillion Resource Area,  
Arizona



One of the offices visited had used electronic sensors in an effort to detect intruders.

- The San Juan National Forest in Colorado had closed the Chimney Rock Archeological Area to visitors following a looting incident in 1981, and now visitors are allowed to enter the area only in the company of a FS guide.
- The Vermillion Resource Area in Arizona had fenced a cave site (see figure 3.3), but the site continued to be vandalized and a decision had been made to completely close access to the site by piling boulders to block its entrance.

## Staffing and Funding Constraints

Officials at all 8 local agency offices we visited indicated their protection efforts have been limited by staffing or funding constraints. The local agency offices identified 606 full-time and part-time staff whose assigned duties included site surveillance during fiscal year 1985. These staff generally have other duties as their primary responsibility—for example, visitor protection or fire patrol.

Table 3.3 compares the number of surveillance staff with the number of acres managed by each agency in the Four Corners states. BLM has the

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fewest staff available for surveillance (63) but manages the most acres (about 57 million); in contrast, NPS has the most staff available for surveillance (357) and manages the fewest acres (about 4.6 million acres).

**Table 3.3: Number of Staff Employed in Fiscal Year 1985 Whose Duties Include Surveillance of Archeological Sites, Compared With Total Acres Managed by Each Agency**

	BLM		FS		NPS	
	Staff	Acres	Staff	Acres	Staff	Acres
Arizona	9	9,545,706	72	11,299,488	99	2,775,019
Colorado	12	8,188,789	62	14,282,673	125	641,257
New Mexico	24	13,961,746	45	9,098,304	79	298,820
Utah	18	25,316,722	7	8,125,613	54	851,943
<b>Total</b>	<b>63</b>	<b>57,012,963</b>	<b>186</b>	<b>42,806,078</b>	<b>357</b>	<b>4,567,039</b>
Average number acres per staff		905,000		230,000		13,000

Staffing and funding cutbacks have also occurred. For example, in 1986 the San Juan Resource Area in Colorado was unable to rehire a seasonal patrol person employed for the last three summers due to funding cutbacks. Patrol duties had been assumed by other staff but patrols were sporadic and did not cover weekends.

The agencies also use volunteers to patrol or monitor archeological sites. For example, in Arizona BLM and FS are participating in a site stewardship program wherein volunteers monitor certain specified sites. Several field managers questioned the use of private citizens in patrolling because of potential dangers and liability that may exist if a volunteer encounters a hostile visitor. According to Interior's comments on a draft of our report, the role of site stewards is to observe and monitor site conditions, not to confront hostile visitors or armed looters, and they are instructed to anticipate and avoid any situation that may become potentially hostile.

## Conclusions

The agencies are making efforts to protect their known archeological resources, but these efforts are limited by the vastness of their lands and archeological resources, as well as funding and staffing constraints. The agencies could make more efficient and effective use of the funds and staff resources that are available for protecting their archeological sites, if they had more information on the number, location, and relative significance of these sites. Currently, however, most of the surveys being undertaken to identify sites are done for the purpose of obtaining clearances for development projects and, therefore, are not necessarily

directed at those areas having the greatest potential for important archeological resources.

Vast amounts of funds and many staff years would be required to survey all of the agencies' unsurveyed land. Therefore, it may be impractical to require the agencies to survey all their lands. On the other hand, if the agencies do not locate and protect their most important archeological resources, looters may destroy these resources before the agencies identify them. Therefore, the agencies should identify those areas most likely to have important archeological resources and allocate funds for surveys of those areas.

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## Recommendations

We recommend that the Secretaries of the Interior and Agriculture direct the heads of the respective agencies to (1) develop plans for surveying those areas not scheduled for project development, including prioritizing these areas based on their archeological resource potential and then preparing a schedule for surveying those areas having the highest priority, and (2) consistent with other priorities for available funds and staff, insure that a reasonable number of these surveys are carried out each year.

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## Agency Comments and Our Response

The Department of the Interior said that our recommendation that each federal land managing agency develop a plan that examines the archeological potential of its land holdings and then schedule surveys of these holdings in a priority fashion is a good one, and noted that within the Department the existing Interagency Archeological Task Force is available to advise and assist the respective bureaus in developing such plans. Interior said that the agency plans should be guided by research designs that ensure that information is collected first from those locations thought to contain significant archeological sites. This information then can be used to predict, with increasing levels of accuracy, the locations of sites in the unsurveyed areas.

Interior also said that the park units currently submit prioritized requests for surveys during the annual budgeting and planning process. However, some units do not have approved management plans that analyze the need for collecting information on cultural resources and establish resource inventory requirements and schedules. Other units have not updated existing plans to incorporate data collected from past surveys. In addition, schedules for archeological surveys usually are not

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adhered to because of other higher priority needs such as preserving historic buildings, cataloging collections, or park operational activities.

We concur with Interior's comments. However, the current situation is not likely to improve until Interior agencies begin to systematically survey their archeological resources.

The Forest Service made no comment concerning this recommendation.

# Agencies' Law Enforcement Efforts Are Too Limited to Curtail Commercial Looting

Except for two major investigations of artifact looting and selling, efforts by the agencies' law enforcement staffs to apprehend persons violating ARPA in the Four Corners states have been undertaken primarily in response to individual looting incidents. The agencies' law enforcement efforts have deterred looting in the areas in which they were conducted but have been both too limited in scope and insufficiently coordinated to reduce the overall level of commercial looting throughout the Four Corners states.

In the absence of extensive, coordinated law enforcement operations covering broad geographic areas, looters continue their activity with little fear of arrest or penalty. In the event enforcement of ARPA is increased in one location, looters simply move their activity to another location. Moreover, law enforcement operations have not successfully addressed the illegal archeological artifacts market, which provides the profit motive driving commercial looters.

The extent and effectiveness of the agencies' law enforcement efforts have been severely hindered by staffing constraints—BLM and FS in particular do not have enough law enforcement officers to effectively deter commercial looting. While significant staffing increases for the agencies may not be feasible, improved coordination and more emphasis on investigations of the dealers of looted artifacts could improve current enforcement efforts.

Agency law enforcement staff and prosecutors also identified problems in using some of the provisions of ARPA. These problems include the requirement that damages exceed \$5,000 for an offense to be considered a felony and the agencies' inability to use the civil penalty provisions of ARPA because of a delay in issuing regulations covering appeals hearings.

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## Law Enforcement Efforts

As of November 1986, the agencies' law enforcement efforts in the Four Corners states had resulted in 27 convictions for ARPA violations and an unknown number of convictions for violations of other state and federal laws. The agencies' law enforcement efforts were generally undertaken in response to reports of individual looting incidents. However, two special investigations were also undertaken to obtain information on looters and artifact markets operating in parts of Arizona and Utah, respectively.

In Utah, the 3 agencies had law enforcement officers who were deputized as Special Deputy U.S. Marshals and thus were able to enforce provisions of ARPA on the lands of other federal agencies. According to a BLM headquarters law enforcement official, this action was taken in response to a special need and as a means to address the complex federal land ownership pattern that exists in Utah. In the other 3 states, however, the agencies generally saw no need to request authority to enforce federal laws on any other agency's land. The agency law enforcement officers we interviewed had generally attended required law enforcement training, and several had participated in a one-week course on ARPA.

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## Convictions

Of the 27 ARPA convictions in the Four Corners states, 21 were felony convictions and 6 were misdemeanor convictions. Of the 27 convictions, 21 involved looting incidents on FS lands in Arizona and 3 involved looting incidents on BLM lands in Arizona. The remaining 3 convictions involved looting incidents on BLM and FS lands in Utah and BLM lands in Colorado. There had been no convictions under ARPA in New Mexico, and there had been no convictions under ARPA resulting from incidents on NPS lands.

Looting and vandalism of archeological resources can also be prosecuted under statutes prohibiting the theft or destruction of government property, including 18 U.S.C. 641 and 1361. With respect to NPS lands, looting incidents have also been prosecuted under regulations issued pursuant to 16 U.S.C. 3. For example, although there had been no ARPA convictions resulting from incidents on NPS lands in the four states, a law enforcement official in NPS' Southwest Region said they had several 16 U.S.C. 3 violations involving archeological sites. In addition, agency officials cited five instances where ARPA investigations resulted in pre-trial diversions. In these cases, the charges were put aside for a year and if the defendant stayed out of trouble during that year the charges were dismissed.

Data gathered by NPS for the Secretary of the Interior's annual report to the Congress on the federal archeological program for fiscal year 1985, the most current data available, indicate the limited extent to which site vandalism is being discovered and prevented through agency law enforcement. Of the 432 looting incidents reported by all federal agencies for fiscal year 1985, only 15 percent were discovered in time for an arrest to be made or a citation to be issued. Fewer than half of the arrests and citations resulted in any criminal convictions and only about

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a third of the convictions were for felonies. NPS officials also noted that the prosecutions have been made using a variety of statutes in addition to ARPA and, in certain situations, it appears that law enforcement officials have found the other statutes easier to prosecute under than ARPA.

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### Regular Law Enforcement Efforts

Eleven of the 27 ARPA convictions (41 percent) resulted from traditional law enforcement activities undertaken in response to reported looting incidents. An agency's law enforcement staff generally receives a report about an incident—either from agency staff or from persons outside the agency—after it has occurred or while the looting is underway. Local agency staff are not likely to catch a violator in the act of looting because the looters are sophisticated and adept at avoiding detection on large tracts of public lands. That is, they often operate at night, use camouflage, and control access and egress. The law enforcement officer then investigate these reports, and if they believe there is enough evidence to warrant prosecution, the officers work with and obtain advice from the federal prosecutors' offices before referring the case to the United States Attorney's Office. The federal prosecutor then reviews the evidence and decides whether or not to prosecute.

An example of one such enforcement effort involved a looting incident that occurred on the San Juan National Forest in southwestern Colorado beginning in the fall of 1980. San Juan Forest officials first found out about the incident from an anonymous letter received in November 1981. The letter provided the name of a person alleged to have dug for artifacts in the forest and the names of possible witnesses to that activity. Five FS law enforcement officers, and a local law enforcement officer, were involved in developing the case. This required site observation, contacting the potential witnesses both locally and out of state, and obtaining estimates of damage costs to the site and the values of the artifacts removed from the site. Two persons were indicted for this incident in March 1983 and charged with violating ARPA. In June 1983 a judge dismissed the ARPA charges because there were no regulations for implementing ARPA. However, in 1984, the defendants pleaded guilty to a felony charge of destruction of government property.

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### Special Investigations

Two special investigations into artifact looting activities have been conducted in the Four Corners states. The FS led an undercover operation in Arizona in 1982 and 1983, which has resulted in 16 ARPA convictions and information on over 600 persons actively involved as looters or sellers of artifacts. In Utah, BLM, FS, and NPS were involved in a task force



formed by the United States Attorney in 1984. This investigation resulted in one conviction. It was also used by law enforcement personnel as a source of information on looting activities in southeastern Utah.

### The Arizona Investigation

In 1982 and 1983, the FS Southwest Region conducted a series of undercover investigations in Arizona to stop or curtail the destruction of archeological resources located on FS lands and the subsequent sale of artifacts removed from these lands. This project, funded by FS headquarters at a total cost of \$135,000, was the first investigation by a federal agency in the Four Corners states to address the illegal marketing of archeological artifacts. In addition to the 16 convictions for violations of ARPA, several defendants also were convicted of violations of Arizona state law and other federal statutes.

### The Utah Investigation

In 1984, the United States Attorney for Utah established a multi-agency task force, including BLM, FS, and NPS, to focus on looting activities in southeastern Utah. This effort led to 3 ARPA indictments and the development of a pool of information on looters and market activities in that area. As a result of this information, in May 1986 FS and BLM agents obtained warrants to seize prehistoric artifacts—believed to have been taken illegally from federal lands. These artifacts were located in private homes and shops. Due to lack of evidence regarding their origin, in July 1986, 60 of the 325 seized artifacts were returned to the owners.

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## Law Enforcement Authority

Federal law enforcement officers generally have authority to enforce federal laws only on their own agencies' lands, not on other federal lands. Only one federal agency official indicated a need for additional cross-jurisdictional authority. Similarly, state law enforcement officers generally enforce state laws on state lands, but some law enforcement officers have been given additional authority.

Following the formation of the U.S. Attorney's Task Force in Utah, 8 FS, 4 BLM, and 4 NPS law enforcement officers were deputized as Special Deputy U.S. Marshals. This action was taken because of difficulty in determining land ownership while investigating cases on the ground. According to the Department of the Interior, the combined efforts of the members of the Task Force resulted in better coordination.

We also noted instances where federal and state law enforcement officers have cross-jurisdictional authority. Four NPS parks in the four

state area have rangers with county deputization that provides them with limited law enforcement authority in those counties. Seven of the 21 permanent rangers at Glen Canyon National Recreation Area had been deputized in either Kane or San Juan County in Utah, or Coconino County in Arizona. The three other NPS parks with county deputization arrangements are the Sunset Crater and Wupatki National Monuments and the Petrified Forest National Park, all in Arizona. In Arizona, state law enforcement personnel can make arrests on federal land for violations of the Arizona state antiquities law.

One agency official we interviewed indicated a need for additional enforcement authority. According to a resource area chief of recreation, BLM's Utah State Director was trying to obtain additional authority for BLM law enforcement officers so that they could enforce state laws on state lands. BLM state officials believe this is needed because the law enforcement staff cannot always determine if they are on state or BLM lands. BLM and FS headquarters law enforcement officials stated that while U.S. Marshal authority was needed in Utah because of specific conditions there, this added authority was generally not needed elsewhere. The FS officials indicated that FS does not generally want to volunteer to cover other agencies' lands in addition to their own lands.

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## Law Enforcement Training

Law enforcement training consists of initial qualifying classes and annual refresher classes. Officers must attend these courses to be authorized to issue citations, make arrests, conduct investigations, and carry firearms. Most of the law enforcement officers in the Four Corners states had taken the 9-week law enforcement training class at the Federal Law Enforcement Training Center (FLETC) in Glynco, Georgia, but a few of the long-term employees had obtained their law enforcement training through a police academy.

Law enforcement officers and other agency staff, such as archeologists, sometimes participate in a 40-hour course geared specifically to ARPA or attend local presentations that include archeological site protection issues. The ARPA course, which is usually held at either FLETC or FLETC's subcenter training facility in Marana, Arizona, provides background on both the law enforcement side of ARPA and the reasons for preserving archeological resources.

In its comments on a draft of our report, Interior said that archeologists and law enforcement staff desiring to take the ARPA training course sometimes are unable to attend because of limited funding, or because

other higher priority management concerns may preclude their attendance at the course.

## Law Enforcement Impediments

BLM, FS, and NPS law enforcement efforts are impeded primarily by limited staffing. The agencies, particularly BLM and FS, have few law enforcement personnel in the Four Corners states and most of their time is devoted to protecting other resources (e.g., timber) or people. To a lesser extent, law enforcement is also impeded by insufficient coordination between agencies; the general public's lenient attitude towards looting, as demonstrated by judges and juries hearing looting cases; and by certain provisions in ARPA.

## Staffing Limitations

All three agencies have law enforcement officers located at either the state or regional level, and FS and NPS have many more law enforcement officers located at individual forests and parks. In contrast, only 3 of the 44 BLM resource areas in the Four Corners states have local law enforcement personnel. Table 3.1 shows the total number of law enforcement personnel assigned for each agency in the Four Corners states as of November 1986. The table does not include seasonal employees who may also be available to assist in law enforcement efforts but are not fully commissioned officers.

**Table 4.1: Number of Law Enforcement Staff**

State	BLM		FS		NPS	
	State	Local	Region	Local	Region	Local
Arizona	1	2	2	23	2	48
Colorado	1	0	3	21	1	45
New Mexico	2	2	4	13	1	33
Utah	2	2	2	9	1	51
<b>Total</b>	<b>6</b>	<b>6</b>	<b>11</b>	<b>66</b>	<b>5</b>	<b>177</b>
Acres managed	57,012,963		42,806,078		4,567,039	
Identified sites	76,598		37,775		21,442	

As table 4.1 illustrates, BLM has the fewest law enforcement personnel although this agency manages the most acres and most recorded archeological sites within the four states. Two of the local BLM law enforcement officers included in the table were added in fiscal year 1987. Two other BLM officers, not included in the table, were awaiting their final authorization as of November 1986.

Although BLM is increasing its capability, its law enforcement staffing is still minimal. For example, according to BLM archeologists at the San Juan Resource Area in Colorado, BLM's state law enforcement agent has many responsibilities and is not available to respond quickly to incidents in the resource area. The resource area manager agreed that this officer had other priority duties and had requested that an additional law enforcement officer be assigned to the area. However, this request was denied by the State Director. The San Juan Resource Area covers 750,000 acres and BLM has almost 8.4 million acres of land in Colorado, but the agency has only one law enforcement agent for the entire state.

The agencies' law enforcement officers generally are responsible for enforcing all federal laws on their lands. Many FS and NPS officers in fact have duties other than law enforcement. Consequently, the agencies' law enforcement officers devote only a portion of their time to enforcing laws related to archeological resources. The only exceptions to this in the Four Corners states are BLM's San Juan Resource Area in Utah, which has two law enforcement officers whose primary duty is protecting cultural resources and a FS Southwest Region special agent working in Arizona. The two BLM officers are specifically assigned to cover a 400,000 acre area notably rich in archeological resources. The entire resource area has 2.1 million acres.

According to NPS regional law enforcement officers, law enforcement is a collateral duty for NPS rangers in the Rocky Mountain Region, encompassing an estimated 15 to 20 percent of their time; they are also responsible for resource management and general visitor services. The Chief Ranger at Glen Canyon National Recreation Area stated that while the 8 park rangers are responsible for all types of law enforcement activity, their main responsibility is visitor protection. Similarly, local FS law enforcement officers may be district fire marshals or responsible for monitoring timber sales. As a result, these law enforcement officers have limited time to spend time enforcing statutes related to archeological resource violations.

A regional FS law enforcement officer in Utah said that the archeological resource violations workload in southeastern Utah could easily take up 100 percent of his time. However, he is also responsible for other law enforcement needs of 6 national forests.

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## Coordination Limited

Most local agency offices responding to our questionnaire indicated that they have no coordination with the other agencies or with state and

local law enforcement authorities. The agencies have recognized the need for coordination, however, and have undertaken some efforts to improve it. During our visits to regional, state and local offices, we were provided examples of both coordination that has occurred and that which has been recommended but not implemented.

**Existing Coordination**

Our questionnaire asked local agency offices the extent to which they coordinated with other agencies, Indian tribes, and state and local law enforcement agencies, regarding efforts to identify and apprehend looters. As shown in table 4.2, most respondents reported that they had no coordination with the other two agencies. In addition, the table indicates little coordination by the agencies with Indian tribes or state and local law enforcement agencies.

**Table 4.2: Extent of Coordination Local Agency Offices Reported Having With Other Agencies and Entities**

Coordination with:	Extent of Coordination						Total Respondents
	None		Little or Some		Great or Very Great		
	No.	Percent <sup>a</sup>	No.	Percent <sup>a</sup>	No.	Percent <sup>a</sup>	
BLM (by FS and NPS)	36	48	33	44	6	8	<b>75</b>
FS (by BLM and NPS)	58	64	26	29	7	8	<b>91</b>
NPS (by BLM and FS)	50	74	16	24	2	3	<b>68</b>
Indian tribes	88	75	29	25	0	0	<b>117</b>
State law enforcement agencies	81	69	31	26	5	4	<b>117</b>
Local law enforcement agencies	64	55	45	38	8	7	<b>117</b>

<sup>a</sup>Percents may not add to 100 due to rounding

We did find some examples of coordination at the local offices we visited. For example, in southeastern Utah, BLM, NPS, and FS local offices have bimonthly meetings with county law enforcement officers to share information. These meetings began with the joint BLM/FS funding of a position for a deputy sheriff in San Juan County, who assists the agencies with patrol and law enforcement for archeological resources. However, BLM archeologists at another resource area said that their experience with local law enforcement personnel has been negative because these personnel were too politically oriented to provide effective support. In examples of coordination between local agency offices, NPS rangers from both Glen Canyon National Recreation Area and Mesa Verde National Park have assisted nearby BLM resource area staffs in investigating possible looting incidents.

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Proposals for Improved  
Coordination

An interagency meeting was held in November 1979 to discuss ways in which the various federal agencies could cooperate in dealing with mutual problems of archeological site protection, emphasizing the law enforcement aspects. It was attended by law enforcement, legal, and cultural resource specialists from several agencies including FS, BLM, NPS, and the Department of Justice. It was agreed that one of the actions to be initiated to deal with major problems identified in the meeting was the development of a memorandum of understanding for emergency sharing of law enforcement personnel and for information exchange. Aside from local ad hoc coordination arrangements, such as those mentioned above, we identified two proposals for establishing programs to systematically coordinate the agencies' law enforcement investigations and exchange of information. Following is a discussion of these proposals.

FS and NPS jointly funded a \$156,000 contract awarded in June 1985 to develop a "proof of concept" for an automated criminal intelligence information system. The system to be developed was to assist law enforcement officers of both agencies in investigating various crimes, including archeological site violations, by enabling them to consolidate and analyze data gathered by the two agencies. Other agencies could have been included later on. In October 1986, following a review of the contractor's proposal, FS and NPS decided that they would not implement the contractor's proposed system because it would be too costly to operate. As of March 1987, NPS was considering developing an alternative system, but FS was not planning any replacement.

In 1985 officials at NPS' Glen Canyon National Recreation Area spearheaded an effort to coordinate federal, state, and local law enforcement efforts in southern Utah and northern Arizona. Following a September 1985 meeting that included FS, BLM, NPS, and local law enforcement officials, the agencies developed a joint proposal that recommended a 3-year interagency project to carry out education, training, patrol, and investigations to stem the loss of archeological resources. The proposal noted that significant gains in efficiency and effectiveness could be realized through coordinated patrol and surveillance activities, and recommended development of coordinated site monitoring plans and investigative law enforcement activities. According to the Chief of Resource Management and Visitor Protection in NPS' Rocky Mountain Region, the proposal emanating from the September 1985 meeting was not implemented because of concerns raised about its cost. However, officials from the NPS, BLM, and FS regional offices responsible for the agencies' lands in Utah did form a managers' committee task group. Thi

group's purposes are to address ARPA public education and law enforcement issues in Utah and a small area in Colorado. As of June 1987, the group was still in the process of developing management policy and guidance that would include coordinating public education efforts and the sharing of law enforcement intelligence information.

NPS officials at Glen Canyon National Recreation Area stated that individuals involved in other crimes entered the looting scene during the last 5 to 10 years as the value of artifacts increased. This was corroborated by law enforcement personnel from FS, the Fish and Wildlife Service, and the Customs Service. Information developed by several law enforcement officers indicates that commercial diggers may have criminal backgrounds in other fields, such as illegal drug trafficking and burglary, and the Fish and Wildlife Service and Customs Service personnel told us that they are also finding connections between antiquities violations and other criminal activities such as illegal drug trafficking, aliens smuggling, and native plant violations (e.g., stealing cactus).

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## Public Attitude

As discussed in chapter 2, much of the public in the Four Corners states condones the looting of archeological sites on federal lands, both as a means of supplementing personal income and as a personal hobby. Two attorneys we spoke with in Arizona said that before presenting the specific facts of a looting case they must often first convince the judge and jury that looting is indeed a crime and that the provisions of ARPA should be enforced. One of the attorneys contrasted archeological resource violations with heinous crimes such as selling heroin. The judge and jury generally already believe that selling heroin is a crime and should be stopped. In comparison, archeological looting has no identifiable victim, and many do not believe it warrants strong (if any) punishment.

In its comments on a draft of our report, the Department of the Interior stated that to help neutralize the permissive public attitude that enables archeological vandalism on the public lands to thrive and grow, federal agencies should use existing public awareness campaigns to inform the public that hard-core criminals with organized crime connections are involved in archeological vandalism. Interior stated that this would help counteract the mystique often associated with vandals, i.e., that they are simply rebels protesting federal authority, and it also might bolster the agencies' efforts at obtaining jury convictions under ARPA.

## ARPA Limitations and Exclusions

Certain provisions and exclusions of ARPA have frustrated the agencies' attempts to apprehend, prosecute, and obtain judgments against looters. ARPA applies to only those archeological resources that are known to have come from federal lands, it does not prohibit "attempting" to dig or sell artifacts from federal lands, and before a looting incident can be prosecuted as a felony under ARPA the commercial or archeological value of the resources involved and the cost of restoring and repairing such resources must exceed \$5,000. According to federal agency officials and U.S. Attorneys,

- calculating the values of archeological resources is a judgmental process—thus judges and members of juries may view stated values of over \$5,000 as high relative to the perceived significance of the crimes,
- without an attempt provision in the law an investigator must wait until the looter damages the site before the looter can be charged with an ARPA violation, and
- proving that an artifact came from federal land is very difficult unless the looter is caught in the act.

## Requirement for \$5,000 Damages

An Assistant U.S. Attorney in Arizona said that the ARPA provision requiring \$5,000 damages for a felony conviction hampers effective prosecution because (1) cases involving felony offenses are more likely to be accepted by federal prosecutors and (2) cultural resource damage estimates are very judgmental and juries often find it difficult to believe that damage to an archeological site could be worth this amount or more.

Value estimates are based on the commercial or archeological value of the resources involved and the cost of restoration and repair of such resources, including any artifacts that were taken. Estimates of artifact values can vary greatly. For example, the value of a looted bird effigy pot in Arizona was estimated at \$350 by one appraiser (who was told the estimate was needed for law enforcement purposes), and at \$1,800 by another appraiser (who was told the estimate was needed for insurance purposes).

Suggestions for remedying this situation include reducing the felony threshold under ARPA to a smaller figure. For example, \$100 is the threshold for felony prosecutions of thefts of government property. Federal prosecutors may only accept looting cases involving large damages; however, if the threshold were significantly reduced, prosecutors would



not have to provide extensive estimates to show that the case meets this criterion.

#### “Attempt” Provision Lacking

Under ARPA, there is no prohibition against “attempting” to dig or sell artifacts from federal lands. Attorneys in Arizona commented that this exclusion requires investigators to document that the illegal actions took place before they apprehended the violator(s). This requirement, in turn, may place agency law enforcement officers in the position of having to sit and watch looters damage a site before apprehending them. Then, when these cases have come to trial, the defense and jury have questioned whether the archeological resources are really important and valuable, since agents were apparently willing to let them be destroyed.

#### Coverage Limited to Resources on Federal Lands

ARPA’s coverage is limited to archeological resources located on or removed from federal lands. However, it is often difficult or impossible for an investigator to (1) identify the source of an artifact once it has been removed from its original site or (2) prove that subsequent buyers and sellers knew the artifact came off federal lands.

Investigators have their strongest evidence of illegal looting if they catch looters in the act of looting a site, or if they have eyewitnesses to the looting activity. In the absence of these types of evidence, investigators must develop circumstantial evidence connecting the suspected looter with a looted site. For example, partially reconstructed pots in the looter’s possession may be matched with fragments of these pots left at the site, or soil on the artifacts in the looter’s possession may be matched with soil at the site.

Developing the evidence that connects an artifact to a looted site located on federal land is very difficult and time-consuming. One Utah investigator said he spends virtually all of his time in an investigation attempting to prove that allegedly looted artifacts did not come from the 5 to 6 percent of the land in the county that is privately owned. The investigator said that this is a difficult task even though most of the private land is cultivated bean fields that do not contain the dry cave sites that the artifacts likely came from.

Even if an investigator proves that an artifact was looted from federal land, a recent Utah court interpretation of ARPA has made prosecuting persons who buy or sell looted artifacts extremely difficult. Section 6 (d)

of ARPA requires the government to prove that criminal violators "knowingly" violated its provisions. According to a U.S. Attorney in Utah, "knowingly" is used to refer to a violator's "general intent" to commit the prohibited acts voluntarily and intentionally, and not because of mistake, accident, or other innocent reason. "Knowingly" is not used to refer to "specific intent" crimes, which would require that the prosecutor prove beyond a reasonable doubt that the defendant knew he was violating the law. However, in a recent court case in Utah (United States of America v. Alan "Buddy" Black, 86-CR-97J, indicted June 11, 1986, and acquitted September 19, 1986), the defendant was acquitted after the judge instructed the jury that selling artifacts is a specific intent crime. The judge said that while digging for artifacts on federal land is a "general intent" crime because there is something inherently wrong with digging on someone else's property, selling these artifacts must be a "specific intent" crime because otherwise innocent persons may be liable (that is, those who did not know of the illegal origin of the artifacts).

According to the U.S. Attorney in Utah, evidence that a suspected seller of illegal artifacts knew beyond a reasonable doubt that the artifacts were removed from public lands, in most cases, could only be provided by testimony from the looter or a previous seller (who would thereby acknowledge that they had also violated the law). Obtaining such testimony would be difficult, and even if it were obtained, the question of whether a jury would believe such testimony remains. Thus, as a practical matter, this ruling makes it difficult for the government to pursue prosecutions against dealers.

As a result of this case, the U.S. Attorney in a letter to the BLM's State Director in Utah dated October 20, 1986, proposed that documented evidence of origin be required of the sellers of artifacts. Under this proposal, which would require legislation, buying undocumented artifacts would be an offense, as would falsifying the documentation. The proposal would require the development of a certification system that would identify the location of the site from which the artifacts were taken and somehow deal with artifacts that have already been excavated. A more comprehensive discussion of the issues involved in developing a certification system is presented in appendix IV of OTA's report Technologies for Prehistoric and Historic Preservation.

Some artifacts dealers have begun requiring documentation certifying that the artifacts they are buying were not taken from federal lands. (See appendix V for a copy of one such document, obtained from an

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investigative writer for The New York Times Magazine, that was used in the alleged sale of looted artifacts.)

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## Use of Civil Penalty Provisions Limited

Federal land managers may assess civil penalties (e.g., fines) against persons who violate any ARPA prohibition. The amount of the civil penalty to be assessed in any particular case is based on the archeological or commercial value of the archeological resource involved and the cost to restore and repair the resource. This ARPA provision had not been used, however, because of delays in issuing the implementing regulation.

Two FS regions (Intermountain and Southwestern) questioned their ability to use the civil penalty provisions of ARPA because FS did not have an appeal system established. The Department of Agriculture's Office of the General Counsel agreed and in September 1984 contacted the Solicitor's Office at Interior concerning the possible delegation of Agriculture's ARPA appeals hearing responsibility to Interior.

Interior already had a wide variety of administrative hearing and appeal procedures, along with the necessary adjudicatory boards and administrative judges already in place, whereas Agriculture did not. Interior did not have the administrative hearing regulations necessary for ARPA appeals, but the Solicitor's Office said that the regulations would be published in early September 1985. There were delays, however, and the final rule was not published in the Federal Register until March 23, 1987.

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## Conclusions

Agency officials told us that looting activities have been deterred in those areas in which there have been prosecutions of looters and increased law enforcement. However, we believe that the agencies' law enforcement efforts have had little effect on the overall level of looting throughout the Four Corners states. Law enforcement efforts have not been extensive enough to cause commercial looters to fear being caught and therefore cease looting. The agencies' efforts to catch looters have also generally been focused on specific incidents or areas, and most have not been coordinated with other agencies. Consequently, looters are able to move their activity to other areas with less active law enforcement. In addition, law enforcement efforts have typically focused on looters, rather than dealers, so the market for looted artifacts has not been affected.

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The agencies' law enforcement efforts have been severely hampered by lack of staff—particularly BLM's, which manages the most acres in the Four Corners states (57 million) and had the fewest law enforcement officers (6 state agents and 6 local agents as of November 1986). In addition, certain provisions of ARPA have caused difficulties in investigating and prosecuting looting cases. For example:

- ARPA's \$5,000 threshold for felony offenses results in many looting cases being prosecuted under other statutes having lower thresholds because prosecutors are more likely to accept cases involving felony offenses and it is difficult to convince U.S. Attorneys, judges, and juries that a looting incident caused damages exceeding \$5,000.
- The lack of an "attempt clause" results in law enforcement personnel being reluctant to arrest a looter until after the site has been damaged.
- The problem of proving that artifacts were removed from federal lands is made difficult by the lack of a system for identifying artifacts legally removed from private lands.

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## Recommendations

We recommend that the Secretaries of the Interior and Agriculture direct the heads of the major land management agencies in their departments to jointly develop an agreement for funding and staffing an office that would (1) compile and analyze looting incident information submitted by the individual agencies and (2) conduct undercover investigation using its own staff and/or the agencies' law enforcement staffs. Since artifact looters and dealers often are involved in other crimes committed on federal lands (e.g., growing marijuana, stealing cactus, and killing eagles for their feathers), this agreement could address more than the looting of artifacts.

The Secretary of the Interior should direct the Director, National Park Service to study and, if deemed appropriate, develop and submit to the congressional legislative oversight committees proposed legislation that would amend ARPA to improve its effectiveness by

- lowering the \$5,000 threshold for felony prosecutions,
- inserting an "attempt clause" that would prohibit attempts to dig or sell artifacts from federal lands, and
- providing for a system requiring the certification of the origin of artifacts from private lands.

## Agency Comments and Our Response

In commenting on our recommendation that the Departments establish a multi-agency office that would collect and analyze looting information and conduct investigations, the Department of the Interior said that NPS already has offices that collect and analyze information collected from land managing agencies on ARPA violations and that coordinated law enforcement efforts already take place within and between federal land managing agencies. The Forest Service said that it believes the recommendation would tie up too much staff and funds on only one of many law enforcement concerns and that the best allocation of its law enforcement resources is to maximize flexibility at the forest level to deal with the most urgent needs. The Forest Service also referred to the past collaborations with Interior agencies that are discussed in this report.

The ARPA violations data that are currently being compiled and analyzed by NPS are not of the type used in conducting investigations of looting activities, which is the subject of our recommendation. Regarding Forest Service's comments, the multi-agency office we are recommending would not have to limit its investigations to archeological resource violations, but the agencies may need to obtain additional staff and/or funds to operate such an office. As our report states, persons involved in archeological resource violations are often involved in other crimes committed on federal lands. Therefore, the office could address these other crimes as well. While it may be possible to shift some existing agency personnel and/or funds, the agencies may also need to request specific funds to establish and operate the recommended office.

As the Interior and Forest Service comments indicate, we have acknowledged that some coordination already takes place between the agencies' law enforcement staffs. However, the information we obtained indicates that past law enforcement efforts have (1) caused looting activities to move to federal lands of other agencies or in other states but have not caused the level of looting within the entire Four Corners states area to decrease and (2) not been effective in identifying and prosecuting the buyers of looted artifacts. Therefore, we believe that a multi-agency office, with access to information on looting incidents taking place on all agencies' lands throughout the region and with the ability to readily conduct investigations across agency and state borders as necessary, would be more effective in combating illegal artifacts markets. In this connection, we noted that a concept paper prepared by BLM for the Senate Committee on Appropriations, Subcommittee on the Department of the Interior and Related Agencies, in April 1987 took a somewhat similar position. In this paper, entitled Enforcement of the Archeological Resources Protection Act (ARPA), BLM stated that ARPA enforcement

efforts should be focused in regions (i.e., Four Corners) where the problem is most acute and that multi-state cooperation is critical to avoid causing looters to move their operations to adjacent states. BLM recommended pursuing a vigorous enforcement program aimed at stopping the sale and purchase of archeological resources and forming interagency, regional strike forces to pool resources and focus on "hot spots." This is very much in keeping with our recommendation.

The Forest Service did not comment on our recommended changes to ARPA. Interior said that on June 3, 1987, a bill (S.1314) was introduced in the Senate to amend ARPA to prohibit attempted excavation, removal, or defacing of archeological resources and to reduce the felony threshold value of illegally removed artifacts from \$5,000 to \$500. Interior said that it will support these amendments. Interior also agreed that the certification of artifacts is an issue that should be studied further.

# Agency Controls Over Artifacts and Monitoring of Curatorial Facilities Are Inadequate

ARPA and the uniform regulations implementing it require that permittees agree that archeological artifacts removed from federal lands remain the property of the U.S. government and that federal land managers are to ensure that these artifacts are preserved by suitable scientific or educational institutions possessing adequate curatorial capabilities. We found that BLM, FS, and NPS lack adequate internal controls over the artifacts removed from their lands and that their monitoring of curatorial facilities has not been adequate to ensure that federal artifacts are being properly preserved.

Since artifacts removed from federal lands are considered U.S. government property, the federal agencies are responsible for ensuring that the artifacts are not lost, stolen, destroyed, or allowed to deteriorate. However, the agencies' records of the artifacts removed from their lands are incomplete, particularly for artifacts excavated prior to the mid- to late-1970s and the agencies have not required curatorial facilities to notify them when artifacts are received or transferred to another facility.

To ensure that facilities preserving federal artifacts have adequate curatorial capabilities, agencies should assess the capability of a curatorial facility to properly curate artifacts both before artifacts are sent to the facility and then periodically thereafter. In most instances, however, the agencies have relied on the reputation of the facilities and have not performed systematic inspections to determine their adequacy.

## Internal Controls Over Artifacts Are Inadequate

Many artifacts removed from public lands have a monetary value, whereas others are valued primarily for their research potential. In either instance, these artifacts are generally U.S. government property, whether by the terms of an ARPA permit or common law, and therefore subject to GAO's Standards for Internal Controls in the Federal Government. These standards state that agencies should establish internal controls adequate to ensure that all assets are to be safeguarded against waste, loss, unauthorized use, and misappropriation.

We found that the agencies lacked information on many of the artifacts removed during excavations by permittees and generally lacked procedures for maintaining accountability over the artifacts curated at nonfederal facilities. NPS also has a very sizeable backlog of archeological objects that have not been cataloged (recorded), estimated to be 15.5 million servicewide, many of which are located in its own facilities.

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## Agencies Lack Records and Systems for Maintaining Accountability Over Artifacts

None of the three agencies have complete records for all of the archeological artifacts removed from their lands. Further, all three agencies lacked procedures for verifying that the artifacts removed by permittees were received by the designated curatorial facility and for documenting transfers of the artifacts by the curatorial facilities.

## Records of Artifacts Removed by Permittees Are Incomplete and Are Not Verified

Although the 121 questionnaire respondents estimated that about 2,600 archeological sites located on their lands had been legally excavated prior to 1986, they did not have records of all the excavations conducted on these sites. For example, the archeologist for BLM's San Juan Resource Area in Utah said that the district office has little information either on excavations conducted prior to 1982 or on the present location of the collections resulting from these excavations. He estimated that 200 sites in the district had been legally excavated but also noted that this estimate was probably very low and that the actual number could be as high as 500 sites. Similarly, the archeologist for the Coconino National Forest in Arizona stated that until he was hired in 1975, the forest had no formal or systematic procedures for recording excavations. Although he reported 334 legally excavated sites, he compiled the number using old records and other available documentation.

Uniform rules and regulations associated with the 1906 Antiquities Act required permittees to provide a listing of artifacts removed during an excavation to the Smithsonian Institution. The passage of ARPA in 1979 removed the Smithsonian Institution from the permit approval process but it continued to receive copies of the permittees' final reports. In 1984, Interior decentralized the issuing of permits from NPS to the individual land management agencies.

Although all three agencies now require permittees to provide listings of artifacts removed during excavations, this was not always a requirement and it is not always complied with. Further, Smithsonian officials said that the quality and content of reports submitted by permittees varies greatly, from comprehensive reports with appended lists of artifacts, to summary reports of only 1 to 3 pages. NPS headquarters officials said that reports were not always submitted by the permittees, and some that were submitted did not include detailed lists of the artifacts removed.

BLM and FS headquarters officials said that many of the older reports, even if received, have been discarded. FS headquarters officials said that it was 1981 before that agency's records retention procedures were



amended to exempt records of archeological excavations from the provision allowing agency records to be discarded after 5 years, and they have few records from excavations prior to 1975. BLM headquarters officials said that records of excavations prior to 1968 are essentially absent.

We also found that the agencies generally do not attempt to verify the permittees' listings of artifacts removed during excavations. The agencies had not established verification procedures, and archeologists at 7 of the 8 local agency offices we visited stated they did not verify these listings.

#### Initial Receipts and Subsequent Transfers of Artifacts by Curatorial Facilities Are Not Recorded

None of the agencies require curatorial facilities to send them documents acknowledging receipt of the artifacts from the permittee. As a result, existing agency records are sometimes inaccurate. For example, the local agency offices responding to our questionnaire identified 66 nonfederal curatorial facilities as having artifacts removed from the lands they manage. However, 9 of 53 facilities responding to our questionnaire stated that they had not received federal artifacts,<sup>1</sup> indicating errors either in the agencies' and/or facilities' records.

In another example, BLM's San Juan Resource Area Office in Colorado attempted to identify artifacts that had been excavated from 787 of its sites prior to January 1, 1983. Office records did not include lists identifying the individual artifacts, but the records did indicate the facility that was to curate the artifacts. Four of the facilities stated that they had collections from 233 sites whereas BLM's records indicated that they had collections from 770 sites.

Even though not required, some curatorial facilities acknowledge receipt of artifacts by providing the agencies a list of artifacts received from permittees. For example, 8 of the 37 nonfederal facilities responding to our questionnaire stated that they always provide a listing of the artifacts received to the federal agency from whose land the artifacts came. Seventeen stated that they sometimes provide lists, while 12 stated that they never provide such lists.

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<sup>1</sup>We sent questionnaires to the 66 facilities the field offices of the three agencies identified as artifacts removed from their lands. Of the 53 facilities that responded, 37 said that they were currently curating federal artifacts and completed the questionnaire, the other 16 facilities do not currently curate federal artifacts—9 said they had not received federal artifacts, 5 transferred the artifacts to other facilities, and 2 said that they store the artifacts but not them.

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**Chapter 5**  
**Agency Controls Over Artifacts and**  
**Monitoring of Curatorial Facilities**  
**Are Inadequate**

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In addition, since the agencies generally do not require that curatorial facilities contact them when transferring a collection, some facilities do not. For example, of the 53 facilities responding to our questionnaire, 5 indicated they had transferred the collections without notifying the federal agency. Consequently, agencies do not know where all their artifacts are and so are unable to account for them.

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**NPS Lacks Accountability**  
**Over Artifacts Curated at**  
**Agency Facilities**

In November 1985 the Department of the Interior's Office of Inspector General reported that only about 10 percent of NPS' property had been recorded in its manually-prepared National Catalog of Museum Objects—a centralized inventory of all museum collections owned by NPS.<sup>2</sup> In fiscal year 1987, NPS began implementing an Automated National Catalog System to facilitate accountability and internal control for park museum collections. As of December 31, 1986, however, its estimated backlog of uncataloged museum objects numbered about 22.6 million. This number included an estimated 15.5 million archeological objects, some of which are held in universities and other centers. According to NPS, the number of objects in its museum collections has grown rapidly during the last 25 years due to the addition of over 140 new areas to the National Park System and legislation which resulted in an increased number of archeological excavations (e.g., the Reservoir Salvage Act of 1960 and the Archeological and Historic Preservation Act of 1974). NPS stated that the rapid growth of the collections has far outpaced the staff and resources assigned to their care.

NPS estimated it would require \$33.3 million to catalog all 22.6 million museum objects. For archeological objects alone, NPS estimated it would require \$19.7 million. In fiscal year 1987, NPS is devoting \$1.1 million to cataloging museum objects. At this level of funding, NPS estimated that the backlog of uncataloged museum objects would be fully cataloged in 30 years. However, NPS believes this time frame is excessive and unacceptable because the agency would have less than full accountability of its objects and would be unable to accomplish adequate annual inventories on its uncataloged objects during this period.

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Archeological Resources

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<sup>2</sup>Audit of Museum Collection Management, National Park Service (E-FW-NPS-10-85), issued in November 1985. The primary objectives of this audit were to review the adequacy of NPS' (1) accounting controls, security procedures, and storage facilities for museum property, and (2) procedures for the disposition of surplus museum property. The audit was conducted at NPS' Washington Office, 2 regional offices, 7 parks, and the Harpers Ferry Center, which provides conservation and preservation services for museum objects.

NPS believes that by the year 2000 it can eliminate the cataloging backlog. However, to reach this target, NPS estimates that it would require \$15.3 million more than the \$18 million that would be available if funding were to continue at the level requested for fiscal year 1988 (\$1,382,000).

In its comments on a draft of our report, the Department of the Interior said that while NPS has had procedures for inventorying its collections since the 1930s, insufficient staff and other priorities have precluded the agency from cataloging and performing annual inventories of all objects in its collections. According to the Department, NPS recently tested new inventorying procedures that require repositories with NPS collections to annually conduct 100-percent inventories of all objects valued over \$1,000 and randomly sample all other objects. These new procedures are to be issued as an amendment to NPS' Museum Handbook.

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## **Agencies Lack Procedures for Determining the Suitability of Curatorial Facilities**

Although ARPA requires that federal land managers determine that artifacts removed from federal lands under permit will be preserved by facilities possessing adequate curatorial capabilities, procedures for making this determination have not been issued. In the absence of such procedures and staff, agencies generally have not attempted to assess the adequacy of nonfederal curatorial facilities prior to allowing artifacts to be deposited with them, nor have they systematically monitored nonfederal facilities curating artifacts that were removed from the agencies' lands in the past. Without such assessments and monitoring, agencies cannot ensure that facilities are adequate or that their archeological artifacts are being properly preserved. This is important because storage, funding, and staffing problems exist at many of these facilities (see ch. 6).

Since neither BLM nor FS has agency-wide procedures to use in determining the adequacy of curatorial facilities, the BLM state and FS regional office staff who approve applications for excavation permits generally use their personal judgement and knowledge and will accept the suggested curatorial facility if it is a well-known institution. Two of the offices we visited had developed minimum requirements for curatorial facilities—BLM's New Mexico State Office (in draft form) and FS' Rocky Mountain Regional Office—but the staffs at these offices said that they still generally approve a facility, if it is well-known, without actually assessing it.

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**Chapter 5**  
**Agency Controls Over Artifacts and**  
**Monitoring of Curatorial Facilities**  
**Are Inadequate**

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One local FS office we visited—the Gila National Forest—was asked to advise its regional office on the adequacy of one facility. Although the Forest recommended that the Southwest Regional Office approve the facility as an acceptable repository for FS artifacts, and this approval was given in 1981, the local office staff could not recall the basis on which their recommendation was made.

In 1983, the Secretary of the Interior issued general guidelines for the federal agencies' use in determining the adequacy of curation facilities. However, these guidelines were not binding on the agencies and did not include criteria or procedures for determining whether a facility is adequate. According to these guidelines, satisfactory curation occurs when

- curation facilities have adequate space, facilities, and professional personnel;
- archeological specimens are maintained so that their information values are not lost through deterioration, and records are maintained to a professional archival standard;
- curated collections are accessible to qualified researchers within a reasonable time of having been requested; and
- collections are available for interpretive purposes, subject to reasonable security precautions.

NPS also issued more detailed guidelines for assessing its own curatorial facilities, but these do not apply to other agencies or nonfederal facilities.

BLM state office and FS regional office officials said that their agencies do not formally monitor facilities where artifacts removed from their lands are deposited. However, several local agency office archeologists said that they informally evaluate a facility if they happen to be visiting it. This was confirmed in our questionnaire to local agency offices, in which we asked the extent of reliance placed on periodically assessing facilities. As shown in table 5.1, of the 86 local agency offices that had excavations by permittees, 46 (53 percent) said they placed no reliance on periodically assessing facilities' capabilities to properly curate items.

Chapter 5  
 Agency Controls Over Artifacts and  
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**Table 5.1: Extent of Local Agency Offices' Reliance on Assessing Curatorial Facilities** (Fiscal Year 1981 Through Fiscal Year 1985)

Method and Level of Reliance	BLM	FS	NPS	Total
Periodically assessing facilities' capabilities to properly curate items				
—no reliance	20	16	10	<b>46</b>
—little/some reliance	16	8	6	<b>30</b>
—great/very great reliance	2	1	7	<b>10</b>
<b>Total</b>	<b>38</b>	<b>25</b>	<b>23</b>	<b>86</b>

## NPS' Proposed Curation Regulations May Not Fully Address Existing Problems

The National Historic Preservation Act of 1966, as amended, directed the Secretary of the Interior to issue regulations for the curation of archeological collections recovered under section 110 of that act, ARPA, and two other statutes.<sup>3</sup> Copies of a draft regulation were circulated for comment in December 1981, but the final regulation was not issued because the NPS staff working on this regulation was needed to work on the implementation of higher priority regulatory initiatives. NPS renewed its curation regulation effort in 1984 and, in September 1986, a pre-publication review draft of the regulation was sent to selected individuals for comment. The proposed rule was published in the Federal Register for public comment on August 28, 1987.

We reviewed the September 1986 draft regulation and comments that had been submitted by various units in NPS and by BLM, the Smithsonian Institution, archeological societies, and others. These comments and our review of the draft regulation indicated that the draft regulation contained much needed guidance in many areas of artifact curation. However, this draft regulation does not adequately address certain existing or potential problems. Specifically,

- the draft regulation does not address the need for agency internal controls over artifacts,
- federal agencies outside the Department of the Interior may not adopt the Interior regulation, and
- a single curation facility could be subjected to monitoring by several federal agencies applying differing criteria.

<sup>3</sup>Antiquities Act of 1906 (16 U.S.C. 431-433) and Reservoir Salvage Act of 1960, as amended (16 U.S.C. 469c).

In response to GAO suggestions, sections were added to the August 1987 proposed curation rule to address both the need for agency internal controls over artifacts and the coordination of federal agencies' monitoring of curation facilities.

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Agency Internal Controls  
Over Artifacts Not  
Addressed

Although the draft regulation would strengthen the curatorial facilities' internal controls over federal collections, it does not address internal control records requirements of the federal agencies. Unless the regulation is changed to incorporate agency internal control requirements, agencies may still not know what their artifact collections consist of, or where they are located. NPS officials agreed with our observation and said that they would revise the draft regulation to include agency internal control records requirements.

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Potential Problems  
Enforcing Regulation

Two potential problems involve the enforcement of the regulation after it is issued. The first involves the possibility that agencies outside the Department of the Interior will not adopt the regulation as agency requirements. The FS' Chief Archeologist said that while FS would consider the curation regulation as guidelines, they would not be legally binding on FS. If this happens at FS and other non-Interior agencies, such as the Corps of Engineers, the curatorial facilities could be faced with requirements that differ between agencies.

We reported a similar problem with another Interior regulation previously. In an April 1981 report, we recommended that the Secretary of the Interior seek an amendment to the Archeological and Historic Preservation Act of 1974 clarifying Interior's authority to issue regulations legally binding on non-Interior agencies.<sup>4</sup> At that time, Interior believed it had this authority, but some non-Interior agencies did not agree. In a May 1984 follow-up report, we stated that Interior intended to issue revised regulations that would result in procedural guidelines whose implementation would be left up to the respective agencies.<sup>5</sup> In addition, Interior officials believed that amendments made to the National Historic Preservation Act in 1980 provided them additional authority for promulgating standards and guidelines and that any subsequent disputes could be submitted to the Department of Justice for resolution.

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<sup>4</sup>Are Agencies Doing Enough or Too Much for Archeological Preservation? Guidance Needed (GAO/RCED-81-61 dated April 22, 1981).

<sup>5</sup>Federal Government's Progress in Implementing a National Archeological and Historical Preservation Program (GAO/RCED-84-114 dated May 30, 1984).

The second potential enforcement problem is that a single nonfederal curation facility could be subjected to monitoring by several federal agencies. After reviewing the September 1986 draft regulation, we met with NPS headquarters officials. We pointed out that some curatorial facilities maintain collections that come from several federal agencies' lands and that this could (1) result in redundant and possibly inconsistent monitoring by federal agencies, and (2) present an unnecessary burden on the curatorial facilities. The NPS officials agreed and added a section to the preamble of the draft rule to address this problem. The preamble of the draft rule published in August 1987 states that federal agency officials should cooperate among themselves by designating one or more qualified individuals to (1) conduct inspections on behalf of all the agencies, and (2) prepare and distribute to each federal agency a written report of findings and recommendations to correct or resolve any problems identified.

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**Implementing the  
Regulation Will Require  
Funds and Staff Not  
Currently Available**

Both the curatorial facilities and the federal agencies could have problems obtaining the funds and staff necessary to fully comply with the proposed regulation. For example, NPS has estimated that it will cost \$28.5 million to correct deficiencies at its own curatorial facilities and \$19.7 million to eliminate its backlog of uncataloged archeological artifacts. In chapter 6, we discuss some of the deficiencies and funding problems that exist at the curatorial facilities. The federal agencies may also require additional funds and staff to carry out their responsibilities and possibly to reimburse the curatorial facilities for some of their costs of complying with the regulation.

One commenter on the September 1986 draft regulation said that few existing NPS storage facilities would meet all of the proposed requirements. The preamble to the August 1987 proposed rule also acknowledged that many curatorial facilities, including some federal facilities, do not comply and stated that the federal agencies should work with those facilities to make a concerted, systematic effort toward eliminating any deficiencies over a period of several years. The proposed rule suggested that an agency might contract with a facility to improve the facility's capability to conserve the agency's collections. Or, a facility might apply for grant funds from the Institute of Museum Services, an independent agency within the National Foundation on the Arts and the Humanities, to modernize its facilities.

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## Conclusions

Archeological artifacts removed from federal lands are U.S. government property. Therefore, federal agencies should maintain proper accountability over these artifacts. However, none of the agencies have a system of internal controls adequate to provide such accountability. Agency records of the artifacts removed from their lands are incomplete, and most agency field offices do not document the initial receipt or subsequent transfers of artifacts sent to nonfederal curatorial facilities. The agencies also lack procedures for determining the adequacy of facilities to curate archeological artifacts, and the agencies generally do not systematically inspect a facility, either before the agencies start using a facility or afterwards.

Accountability for artifacts has been poor, in part, because regulations to guide the agencies in the monitoring of artifact collections have not been issued. The National Historic Preservation Act of 1966 and ARPA (1979) both directed the Secretary of the Interior to issue regulations for the curation and exchange of archeological collections recovered under these and two other statutes. A draft of the proposed regulation, dated September 1986, addresses both the accountability for artifacts by curatorial facilities and agency inspections of the curatorial facilities. NPS officials said that they would also add a section addressing agency internal control records requirements for artifacts.

FS officials said that they may not adopt the Interior regulation into their regulations. As a result, the implementing instructions issued by FS and the Interior agencies could differ. This could cause a problem if a curatorial facility has artifact collections from both FS and an Interior agency and they impose differing requirements on the facility. At our suggestion, the draft regulation was revised to suggest that one federal agency be designated responsibility for inspections of a curatorial facility having collections from more than one agency. The agencies will need to work out arrangements for implementing this suggestion once the regulation is issued.

The agencies' records of existing artifacts collections are incomplete, and the agencies are currently doing few of the inspections called for in the draft regulation. Therefore, the agencies will require additional funds and staff if these problems are to be corrected. Additional federal funds are also needed to correct deficiencies at NPS curatorial facilities and may be needed to assist nonfederal curatorial facilities in meeting requirements of the draft regulation.



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## Recommendations

To improve the agencies' internal controls over artifacts removed from their lands and to ensure that the artifacts are being properly preserved, we recommend that

- the Secretary of the Interior direct the Director, National Park Service, to finalize and issue the proposed regulation on curation and exchange of archeological collections promptly and ensure that it contain sections addressing agency internal controls over artifacts and combined or single agency inspections of curatorial facilities having artifact collections from more than one federal agency, and
- the Secretary of Agriculture direct the Chief, Forest Service, to adopt Interior's curation regulation when it is issued.

The Secretaries of the Interior and Agriculture should also direct the heads of their respective agencies to

- coordinate to ensure that the curation regulation is implemented consistently with regard to requirements placed on nonfederal curatorial facilities;
- enter into an agreement whereby one or more qualified individuals are designated to conduct inspections of nonfederal curatorial facilities on behalf of the other agencies;
- ascertain and request the funds and staff needed to establish complete and accurate records of artifacts removed from their lands and to inspect curatorial facilities in accordance with the regulation and implementing instructions; and
- using information contained in the facilities' plans for correcting deficiencies noted during the agencies' initial inspections of these facilities, summarize and report to the Congress (1) the magnitude of the deficiencies at nonfederal curatorial facilities and (2) both the total cost and federal share of the cost of correcting these deficiencies.

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## Agency Comments and Our Response

The Department of the Interior said that the proposed curation regulation would be published in the Federal Register for public comment during the last week of August 1987 and that the proposed regulation contains sections addressing agency internal controls over artifacts and coordinated inspections of nonfederal curatorial facilities. The proposed regulation was included in the August 28, 1987, Federal Register.

Both Interior and the Forest Service disagreed with the recommendation that the Forest Service adopt Interior's curation regulation when it is issued, but for different reasons. The Forest Service said that, while it

foresees no problem with Interior's regulation, the Forest Service should have the opportunity to review Interior's regulation after it is published and then determine if the regulation, which was addressed to national parks, is totally applicable to national forests. Interior, however, said that federal agencies are congressionally mandated (by the National Historic Preservation Act) to follow Interior's regulation. Therefore, agencies outside the Department do not have the option of not adopting the regulation. After reviewing the statute cited by Interior as its authority for the proposed curation regulation, we agree that the statute clearly permits Interior to issue regulations governing the activities of other agencies. However, because of the position taken by the Forest Service, we have retained our recommendation that the Secretary of Agriculture direct the Forest Service to adopt Interior's regulation when it is issued.

With respect to the other recommendations, Interior said that

- because of the detailed guidance provided in the proposed curation regulation, it is unsure of the need to prepare agency-by-agency instructions to implement the regulation;
- it would recommend that the federal agencies enter into interagency agreements to designate the federal officials who are to conduct inspections of nonfederal repositories on behalf of all federal agencies, and that those agreements be entered into on a repository-by-repository basis by federal officials at the region, state, district, park, forest, or refuge levels; and
- requests of funds and staff needed to implement the curation regulations, including correcting deficiencies at repositories currently caring for federal collections, should be part of each federal agency's routine, annual request for appropriations.

The purpose of our draft recommendation on the preparation of consistent agency-by-agency instructions was to insure consistency in the implementation of the regulation. Therefore, we have reworded the recommendation to clarify its purpose. If the federal agencies enter into interagency agreements for individual nonfederal repositories, as Interior is proposing, our concern is that the federal officials designated inspection responsibilities impose similar requirements on the repositories regardless of the agency they work for.

We agree that the agencies' funding and staffing requirements should be included in their annual request for appropriations. However, because of the potential magnitude of the deficiencies at the nonfederal facilities

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we believe that the congressional appropriations and legislative oversight committees should be given a report that specifically addresses these deficiencies.

# Conditions at Curatorial Facilities Are Not Always Adequate to Ensure Collections Are Curated Properly

Facilities curating archeological collections from federal lands have considerable problems relating to collections management and care. These problems include (1) inadequate records of artifact collections, (2) limited and/or inadequate storage facilities, and (3) inadequate care of the collections. As a result, an unknown number of federal collections cannot be readily identified or located, and an unknown number of artifacts have deteriorated or have been misplaced, stolen, or destroyed. Nine of 37 respondents to a questionnaire we sent to facilities curating federal collections from the Four Corners states acknowledged that such incidents had occurred at their facilities. In 1985, the Department of the Interior's Office of Inspector General reported similar problems at NPS curation facilities.

With the passage of several laws protecting archeological resources located on federal lands, there has been a large increase in the number of archeological surveys and excavations conducted on federal lands and a resulting increase in the quantity of archeological materials collected and curated. Funds for curation programs, however, have not kept pace with the increasing number of collections. The federal government has funded only a relatively small portion of the costs associated with the long-term care of artifacts removed from federal land that are curated at nonfederal facilities. For example, for the 22 questionnaire respondents who estimated their costs for curating artifacts removed from federal land, federal funding amounted to only 38 percent of these curation costs for their most recent fiscal year. Some of these facilities are now planning to implement or increase fees to more fully recover the costs of curating collections removed from federal lands. While the fees being considered vary greatly and the total amount the federal agencies might be assessed is not known, the assessment of such fees would clearly impact agencies' budgets.

A self-assessment conducted by NPS park units in 1986 identified 6,522 deficiencies in curation facilities at 294 park units. Pending the completion of architectural and engineering studies on how to correct these deficiencies, NPS tentatively estimates it will require \$28.5 million to correct these deficiencies. If funding is limited to current levels, NPS estimates it will take 70 years to correct the identified deficiencies.

Thirty-seven of the 53 nonfederal facilities responding to our questionnaire stated that they had received artifacts from federal lands and were currently curating them. Thirty of these facilities estimated that they had a total of about 6 million artifacts from federal lands. The

other 7 facilities, which include the Smithsonian Institution, did not provide an estimate. Both NPS' WACC and BLM'S AHC curate over 1 million artifacts each.

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## Accountability for Artifacts Is Not Always Adequate

It is important that curation facilities be able to identify and locate artifacts and associated documentation (e.g., archeologists' field notes and reports) for two reasons: (1) so that the artifacts and documents can be used for research, exhibit, or other purposes, and (2) to verify that the artifacts are accounted for and are being adequately cared for. However, to identify and locate archeological artifacts in their possession, facilities need to have accurate and complete cataloging records of the artifact collections and conduct periodic inventories.

According to a 1984 report on a study conducted by the American Association of Museums:<sup>1</sup>

“While some major collections are adequately cataloged and organized, most are in need of massive reorganization. Many small museums are without even a basic inventory. Almost all museums need to make an increased commitment to a comprehensive collections management program involving inventorying, cataloging, photographing and storing collections data in some retrievable form.”

We found that although most of the 37 curatorial facilities responding to our questionnaire had records of their collections, these records are not always complete—i.e., not all collections are cataloged, and some records have been lost or misfiled. Further, while 76 percent of the respondents inventoried their collections, 24 percent do not, and the frequency of inventories varies among the facilities that perform them.

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## Records Are Sometimes Inadequate

Facilities do not have complete and accurate records of their collections and, as a result, cannot readily identify or locate all federal artifacts in their possession. Problems identified by questionnaire respondents include artifacts that have been received but not cataloged, and instances of misfiled, lost, or incomplete records.

Cataloging is an element of artifact documentation that provides the curation facility a record of significant facts regarding the physical

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<sup>1</sup>Caring for Collections. 1984. American Association of Museums. The objective of this study funded by National Endowment for the Humanities was to encourage the museum community and its supporters to assume full responsibility for the obligations imposed by the possession of its collections. The American Association of Museums is a professional organization which, through accreditation, seeks to define and promote standards of operation and ethical conduct in museums.

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**Chapter 6**  
**Conditions at Curatorial Facilities Are Not**  
**Always Adequate to Ensure Collections Are**  
**Curated Properly**

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appearance and history of each object in a collection. Until artifacts are cataloged, facilities are unable to readily identify and locate them.

In a 1984-85 nationwide survey of museums conducted by the American Association of Museums,<sup>2</sup> 364 respondents indicated that they had cataloged 68 percent of their estimated 134 million museum objects. However, only 23 percent of the collection objects' cataloging was considered to be current by the respondents as of the survey period, February 1984 through June 1985.

In responding to our questionnaire, 17 nonfederal curatorial facilities indicated that cataloging artifacts requires less than one month's time, the other 20 respondents said that cataloging requires a longer period. For 10 of these 20 respondents, it takes less than 3 months to catalog federal artifacts once they are received. For the other 10 respondents, it takes from 3 months to 36 months to catalog artifacts.

Misfiled, lost, or incomplete records undermine facilities' ability to account for their collections, and facilities provided several examples of this. For example, one New Mexico facility loaned out an artifact but misfiled the loan form. Facility staff were unaware the artifact was located outside the facility until about 5 years later when they inadvertently found the loan form. Upon investigation, the facility staff discovered the artifact had been loaned to a professor who had subsequently terminated his employment with a university without returning the artifact. Eventually, the artifact was returned to the facility. In another example, a Utah facility recovered a collection from a person whose Colorado address was found on a note in the facility's collections records. The facility contacted the person and discovered that about 10 years earlier the collection had been loaned to the person for research purposes. When the facility retrieved the artifacts, they were stored in the basement of the researcher's present residence in Wyoming.

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<sup>2</sup>Collections Management, Maintenance and Conservation, 1985, American Association of Museums, Washington, D.C., under contract to the Institute of Museum Services. The objective was to report to the U.S. Congress on the nation's ability to care for museum collections. The study was composed of projects examining collections care issues. Two projects were of national scope: Survey of Museums, questionnaire sent to 716 museums (364 responses tabulated); and Surveys of Conservation Resources, a questionnaire sent to 298 conservation facilities (120 responses tabulated) and a questionnaire sent to 1,879 conservation professionals (589 responses tabulated).

## Inventories Are Not Always Conducted

While most curatorial facilities inventory their collections, some do not, and those that do conduct inventories do not always conduct them routinely. Because artifacts may deteriorate if exposed to improper conditions or if treated inappropriately, and because they may be stolen or lost, facilities need to periodically inventory their collections.

In the 1984-85 study conducted by the American Association of Museums, 77 percent of the collections managed by 364 museums had been inventoried while 23 percent had not, but only 53 percent of the collections' inventories were considered to be current. The responses to the questionnaire we sent to facilities curating artifacts from federal lands in the Four Corners States also indicated that inventories are not always conducted, see table 6.1.

**Table 6.1: Extent to Which Collections Are Inventoried**

	Number	Percent
Do not inventory collections	9	24
Inventory collections routinely	12	32
Inventory collections as needed	4	11
Inventory collections, frequency not specified	12	32
<b>Total</b>	<b>37</b>	<b>100<sup>a</sup></b>

<sup>a</sup>Figures do not add to 100 percent due to rounding

## Physical Conditions at Facilities Are Not Always Adequate

There are serious problems relating to the adequacy of storage, environmental controls, and physical security and fire protection systems at curatorial facilities. These conditions may allow archeological collections to deteriorate, suffer damage, or become lost. While we identified these problems at nonfederal curatorial facilities through responses to our questionnaire and site visits to 4 of these facilities, Interior's Office of Inspector General and a subsequent NPS self-assessment also identified similar problems at NPS facilities.

## Nonfederal Facilities

Most of the nonfederal curatorial facilities responding to our questionnaire reported having available storage space and some systems to provide security, environmental control, and fire protection. However, many facilities indicated that the adequacy or availability of storage space is a problem, and several facilities reported that artifacts have been lost or damaged as a result of inadequate security and environmental controls.

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Storage

According to the American Association of Museums, adequate storage space is needed for objects to assure their proper care and artifacts stored in inadequate conditions may be vulnerable to destruction and deterioration. In response to our questionnaire, some facilities said their available storage space is filled, while others said that they expect their space to be filled within a few years and they may not be able to accept artifacts removed from federal lands much longer. Other curatorial facility officials said their storage areas are often crowded and structurally poor.

In response to our questionnaire, 11 of 37 curatorial facilities (30 percent) said they had reached their physical capacity to store or exhibit archeological artifacts. Of the remaining 26 respondents who had not yet reached their storage capacity, 11 (30 percent) estimated they would reach their storage capacity by 1990, 4 (11 percent) estimated they would reach their storage capacity by 1999, 3 (8 percent) estimated they would reach their storage capacity by 2010, and 8 (22 percent) did not estimate when they expect to reach storage capacity. Of the 11 respondents who stated they had reached capacity, 6 said they no longer accepted federal artifacts due to space or other problems, while 5 said they continued to accept some or all federal artifacts in spite of their space limitations.

During our facility visits, the following instances of crowded and structurally poor storage areas were related to us by facility officials.

- The curator of a Utah facility said that all available storage space is presently in use, and this facility no longer accepts federal artifacts. The critical need for storage space necessitated placing artifacts in a barracks building constructed during World War II. (See figure 6.1.) This building has structural problems. For example, in a hallway, the ceiling has partially collapsed and mortar and wood supports are exposed or have fallen to the floor. Also, artifacts are stacked in cardboard boxes that almost reach the ceiling. Because of the weight of these stacked boxes, some are beginning to collapse and, as a result, artifacts could be damaged.
- A Colorado facility's self-assessment dated December 1984 reported that the storage space in which its collections are housed is inadequate in one building and of very poor quality in another building, and that large backlogs of materials await cataloging due to lack of storage space and insufficient staff. In addition, a graduate student curator assistant stated that facility officials are dismantling the present exhibit area because it needs to be upgraded to incorporate present technology (the



exhibit has been in existence for 20 years), but they have no place to store these collections until a new exhibit area is built. This facility currently stores artifacts in a 1930s building which has a leaky basement, and in a pre-World War I building which has a leaky roof. The curator of this facility told us they are unable to meet museum accreditation standards partly because of these storage problems.

- A curatorial facility in New Mexico is considered by the facility's archeologists to have poor drainage. For several years, flooding of this facility's basement storage area has occurred because of faulty roof drains and ponding near the building.

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**Figure 6.1: World War II Barracks Building Used to Store Artifacts at University of Utah**



## Other Problems

In addition to problems identified in storage conditions, some facilities have identified problems in their physical security, environmental controls, and fire protection measures.

- Questionnaire results show that 29 of the 37 (78 percent) facilities have secured exhibit cases, while 8 (22 percent) do not. Additionally, 31 of the facilities (84 percent) use security personnel or electronic security systems, while 6 (16 percent) do not. All four of the facilities we visited had strict key control procedures in place as a security measure. Five

facilities reported that thefts or destruction of artifacts have occurred, although the magnitude is not known. For example, a Colorado facility official said that artifacts had been stolen just before their security system was installed about 5 years ago and a Utah facility official said that some artifacts were stolen before key controls were instituted at that facility.

- In response to our questionnaire, 29 of 37 respondents (78 percent) said they either had air conditioning, humidity controls, or air filtration systems; the remaining 8 facilities (22 percent) do not. Also, 21 facilities (57 percent) said they monitor air temperature and relative humidity, while 16 (43 percent) do not. Officials at 3 facilities we visited said they do not have adequate environmental conditions, and two said that deterioration and loss of archeological materials had occurred. For example, officials at a Utah facility said that some seeds recovered from an archeological site had been totally destroyed due to poor environmental controls and/or overcrowded conditions.
- Responses to our questionnaire show that 35 of 37 facilities (95 percent) had either fire extinguishers, fire detection equipment, or fire suppression systems. Specifically, 33 had fire extinguishers, 27 had fire detection equipment, and 11 had fire suppression systems. Only 2 of the 37 facilities (5 percent) had no form of fire protection. At an Arizona facility, we observed that boxes and other materials obstructed fire hoses and extinguishers, making access to this equipment difficult.

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## NPS Facilities

The Department of the Interior Office of Inspector General's 1985 report identified adverse storage conditions, inadequate fire suppression/detection or intrusion alarm systems, and uncontrolled temperature and humidity environments in NPS facilities. As a result of these conditions, museum objects were found to be susceptible to damage from improper storage and fire, or loss by theft. For example, actual instances of theft were reported, as well as unauthorized entry into a park building. The report also noted that only one park area had proper environmental controls for all its museum objects, and that objects at two parks had been damaged because they were stored in cluttered areas.

NPS responded to these findings by issuing an instruction (Special Directive 80-1) that (1) outlines specific requirements for and provides technical information on security and fire protection for museum collections and (2) specifies curatorial requirements for museum storage, including the requirement that all museum collections must be housed in a space used exclusively for storing museum objects. In addition, NPS asked each park to assess its conditions relative to these standards and identify a

program to correct deficiencies. NPS completed its self-evaluation in November 1986. Overall, 294 park units reported 6,522 deficiencies in the following categories: museum storage (1,756 deficiencies), museum environmental controls (1,907 deficiencies), security (1,178 deficiencies), fire protection (606 deficiencies), and general management of collections (1,075 deficiencies). NPS noted that while some deficiencies are being corrected immediately, others (such as inadequate environmental controls) require year-long monitoring before corrective actions can be taken. Further, many deficiencies, such as installation of fire protection systems or structural improvements, require substantial expenditures and additional time for correction.

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## Care Provided Artifacts Is Sometimes Limited

To ensure that archeological collections are properly preserved, curatorial facilities need to provide conservation care to the artifacts. This requires periodic inspections of the artifacts and actions to prevent or mitigate any problems identified. However, curatorial facilities do not always inspect their collections to assess the need for conservation care, they do not always know the condition of their collections, and they are sometimes unable to provide conservation care to their collections due to lack of funds and staff.

In a survey of conservation facilities conducted by the American Association of Museums in 1984-85, 30 percent of the 120 respondents said they had not surveyed any of the collections for conservation care purposes, 36 percent had surveyed up to one-half of their collections, and 34 percent had surveyed more than one-half of their holdings. Respondents to the Association survey indicated that they did not know the condition of 40 percent of their collections. For the 60 percent of the collections they did know about, however, they reported that 5 percent were in serious need of conservation care. 33 percent required routine treatment, and 22 percent did not require any treatment.

Respondents to our questionnaire also indicated that some facilities do not (1) survey their collections for conservation care purposes, (2) know the conditions of their collections, and (3) provide needed conservation care. Eleven of 37 respondents (30 percent) do not inspect their collections to determine their conservation needs. If conservation care is needed, 30 of 37 respondents (81 percent) said they provided such care through in-house staff and/or outside professionals; however, 7 respondents (19 percent) said they did not provide needed conservation care because they lacked professional conservators or other staff and funds, or because their collections did not require such care.

Of the 37 questionnaire respondents, 31 estimated the size of their federal archeological collections. These estimates totalled 5,743,000 artifacts. These 31 facilities were unable to identify the treatment needs of 124,000 artifacts, which represent 2.2 percent of the total federal collections identified by these facilities. The facilities estimated a total of 316,000 artifacts (5.5 percent) required general maintenance, more serious conservation care, or other care. The remaining 5,303,000 artifacts (92.3 percent) were evaluated by facilities as requiring no special conservation treatment. The curators at two facilities said that most excavated artifacts are made of stable materials, such as stone, rock, or soil and do not need special care to ensure preservation and that this probably accounts for the large number of artifacts the respondents said did not require any special conservation treatment.

NPS estimates the condition of its archeological collections as follows: 11 percent are in excellent condition (no damage or deterioration), 22 percent are in good condition (minor damage and no active deterioration), 34 percent are in fair condition (some damage and/or slow but active deterioration) and 15 percent are in poor condition (significant damage and/or active deterioration). The condition of 18 percent are unknown. In addition, 181 collection condition surveys are needed to further assess the condition of collections.

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## **Agencies' Funding Needs Are Increasing**

Correcting existing problems at both the federal and nonfederal curatorial facilities will require additional funds, as will complying with certain requirements contained in NPS' draft curation regulation and keeping up with advances in curation technology. NPS estimates, pending architectural and engineering studies, that an additional \$28.5 million will be required to correct deficiencies in its own facilities, and at least some of the nonfederal facilities are planning to initiate or increase fees charged the federal agencies for curating artifacts removed from their lands.

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## **Nonfederal Facilities Increasing Curation Fees**

During our site visits, the nonfederal curatorial facility personnel told us that their problems are mainly attributable to a lack of sufficient funds and staff to fully accomplish the professional job they would like to do. Most facilities have not charged the federal agencies for costs related to the long-term care of the artifacts removed from the agencies' lands. However, because of their own budget constraints, at least some of the nonfederal facilities are planning to initiate or increase fees for curating federal artifacts.

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Facilities' Resource Constraints

The four facilities we visited all face funding and staffing constraints. For example, a curator at the Arizona facility told us that between 1977 and 1981 it had been necessary for them to use \$2 million of the principal of a \$3 million endowment fund to continue the museum's operations because government scientific research funds expired. This facility had also reduced staff levels in 1978 and relies heavily on volunteers to perform collections management activities such as records documentation.

In another example, a curator at the Utah facility told us they had never been fully funded, and that the museum was able to continue operations only through the staff's personal efforts in obtaining competitive federal grant awards and private donations and endowments. The curator said that a part-time collections manager cared for the collections through the 1960s, and a secretary had this responsibility from 1970 to 1978, when the curator was hired. The curator managed the collections alone until 1983 when a temporary assistant was hired with funds provided by a National Science Foundation grant. However, these grant funds are no longer available, and this temporary position may not be extended beyond the summer of 1987.

New technologies may also increase costs of long-term care of artifacts. For example, according to an Arizona facility official, it is known that certain types of artifacts may deteriorate when stored in wooden drawers and cabinets because of the acid in wood. The official estimates it may take 9 years to replace all the wooden storage containers used by the facility, and stated that the equipment and staff needed to accomplish such storage changes will be costly.

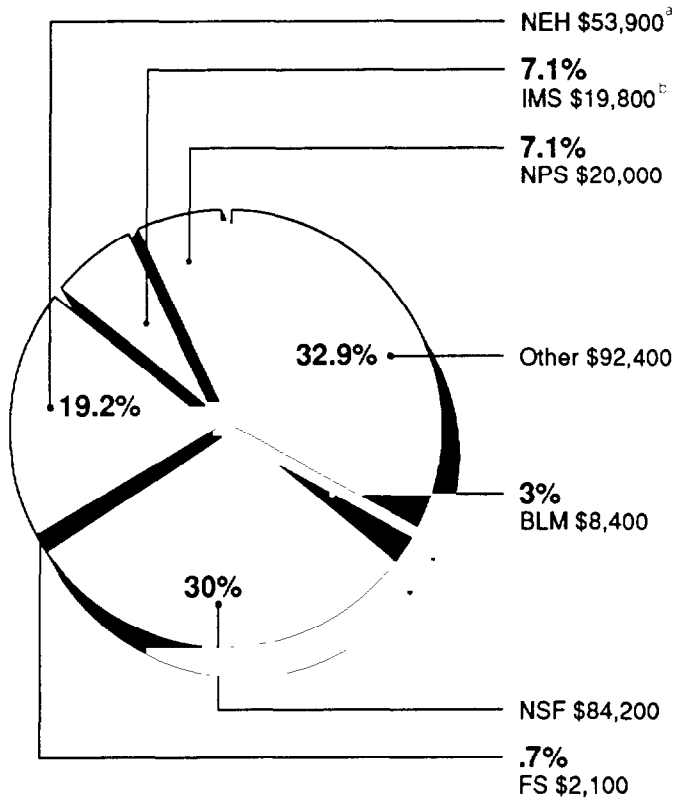
Current Federal Funding Is Limited

Federal funds for curation have been limited. Of the 37 nonfederal facilities responding to our questionnaire that acknowledged having federal artifacts, 25 facilities (68 percent) did not receive any federal funds for curation during their most recent fiscal year. Thirteen of these facilities estimated that it cost them about \$140,000 to curate federal artifacts that same year; the other 12 facilities did not provide a cost estimate.

The 12 nonfederal facilities (32 percent) that received federal funds stated that they received a total of \$281,000. Nine of these facilities, accounting for a total of \$156,000, estimated that it cost them \$607,000 to curate federal artifacts that year. The other three facilities received a total of \$125,000 but did not provide an estimate of their costs. Figure 6.2 shows the sources and amounts of federal funds received by the 12 facilities.

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 Curated Properly**

**Figure 6.2: Federal Funding Sources**



<sup>a</sup>National Endowment for the Humanities  
<sup>b</sup>Institute of Museum Services

**Curation Fees Increasing**

Although most nonfederal curatorial facilities have not traditionally charged the government for the long-term care of artifacts removed from federal lands, this situation is now beginning to change as facilities face the need for funds to hire additional staff, to provide additional or upgraded storage, and to buy necessary equipment.

While some facilities already charge curation fees, there is no standard method for determining these fees. As a result, fees vary and facilities that were considering instituting fees did not know what level of fees would be reasonable. The status of curation fees at the four nonfederal facilities we visited during our review follows.

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- The Arizona facility did not charge the federal agencies an annual curation fee. Facility officials said they realized that a one-time curation fee is insufficient for long-term care and therefore they had contacted other facilities to determine what curation fees are being charged. They estimated that it would take them several months to develop a fee schedule to cover the annual cost of curating existing federal collections. The facility's anthropology collections supervisor said, however, that she believes the federal government should contribute at least \$30,000 annually to pay for 2 staff members' salaries, and \$10,000 to purchase new storage cabinets.
- The Colorado facility charged the federal government a one-time curation fee of \$15 per drawer and \$45 per shelf. However, the facility curator did not consider this fee sufficient for long-term care and believed the federal government should pay for all the costs of curating federal artifacts. Although this curator was aware of other facilities that charge higher fees, the curator said there is no firm basis for determining fees for long-term care.
- The New Mexico facility charged the government a one-time curation fee of \$63 per cubic foot. This facility was contemplating a new fee schedule, with an annual fee added to pay for a storage building. The facility's archeologist believes that consideration should be given to negotiating a 10-year "space charge," with federal funds held in a restricted account to provide for additional storage space when the present building reaches capacity.
- The Utah curatorial facility did not charge the federal government a curation fee, but it was developing a curation fee schedule. This facility is no longer accepting federal artifacts due to a shortage of storage space, but a facility official hoped that income from the proposed curation fees will help alleviate this problem. (BLM and FS archeologists in Utah said their agencies do not have funds available to pay annual curation costs, so those facilities charging fees will not be available to them for curation. According to the BLM state archeologist, the alternative will be using federal facilities located in another state, an action not favored by local researchers.)

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**Correcting Deficiencies at**  
**NPS Facilities Will Require**  
**Additional Funding**

NPS officials estimate, pending completion of architectural and engineering studies, that \$28.5 million is required to correct the 6,522 deficiencies identified at its facilities during NPS' self-assessment in 1986. In addition, the costs of installing environmental control equipment (such as heating, ventilating, and air conditioning equipment) cannot be estimated until year-long environmental records have been kept and the environmental control needs are specifically identified. Currently, NPS

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commits an annual average of \$416,000 to the correction of such deficiencies. At this funding level, the NPS officials estimate the deficiencies would be corrected in 70 years, a time frame that is unacceptable to them because, in the meanwhile, innumerable objects could be lost through theft, fire, and deterioration.

NPS officials believe that the year 2000 is a reasonable target date to correct the deficiencies. To meet this target, however, NPS estimates that an additional \$23.1 million would be needed to supplement the \$5.4 million in funds projected for fiscal years 1988 through 2000. Table 6.2 summarizes the findings of the NPS self-assessment.

**Table 6.2: Summary of NPS Findings Regarding the Preservation and Protection of Museum Collections at 294 NPS Facilities**

<b>Category of deficiency</b>	<b>Number of deficiencies</b>	<b>Estimated cost to correct deficiency</b>
Museum storage facility	1,756	\$22,486.00
Environmental monitoring equipment	1,907	335.00
Security	1,178	1,864.00
Fire protection	606	2,422.00
Collection management and housekeeping plans	1,075	1,374.00
<b>Totals</b>	<b>6,522</b>	<b>\$28,481.00</b>
Projected NPS funding for fiscal years 1988-2000		- 5,408.00
Additional funding required		\$23,073.00

## Conclusions

Because artifact accountability and storage conditions at facilities where federal artifacts are curated are sometimes inadequate, federal artifacts have deteriorated and been misplaced, stolen, and destroyed. In addition, some curatorial facilities are providing limited conservation care to artifacts.

Additional federal and/or private funds will be needed to provide the facilities and staff needed to ensure adequate management and care of federal collections. Officials at the nonfederal curatorial facilities stated that funding and staffing constraints restrict their ability to obtain or enhance storage areas and equipment and to provide sufficient staff to manage and care for collections. In addition, actions to correct recognized deficiencies, comply with proposed NPS standards, and use new technologies are likely to be costly. As a result, some nonfederal facilities are instituting or increasing fees for curating federal artifacts. NPS



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estimated that it would require \$23.1 million more than the projected funding for fiscal years 1988 through 2000 to correct similar deficiencies at its own curatorial facilities.

Although we are making no recommendations, we believe the recommendations we made in chapter 5, if fully implemented, will correct many of the problems discussed in this chapter.

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**Comments From**  
**Curatorial Facilities**

The four nonfederal curatorial facilities visited during our review were provided an opportunity to comment on those portions of the draft report that discussed their facilities. Two of the facilities responded. One facility agreed with the information presented on it. The other facility provided additional information about two items, which we have included in the final report. It added that, in its opinion, the preservation of valuable federal archeological collections has been woefully underfunded and often largely ignored by the federal agencies.

# Selected Legal Requirements for Archeological Resources on Federal Lands

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Historic Sites Act of 1935 (Public Law 74-292)

Established a policy of preserving historical resources of national significance for public use and inspiration.

Reservoir Salvage Act of 1960 (Public Law 86-523)

Established the Department of the Interior as responsible for preserving archeological data that might be lost through federal dam construction.

National Historic Preservation Act of 1966 (Public Law 89-665)

Expanded the National Register of Historic Places to include properties of state and local significance, as well as national significance; it also required federal agencies to take into account the effects of their projects on historical and archeological resources that are included in the National Register. Amendments to this act in 1976 (PL 94-422) expanded this protection to properties that are eligible for inclusion in the National Register.

National Environmental Policy Act of 1969 (Public Law 91-190)

Required federal agencies to assess the environmental aspects of major federal actions, including their effect on cultural resources.

Executive Order 11593 (May 13, 1971)

Designed to ensure that federal agencies record, preserve, and maintain historical and archeological resources on federal land. Federal agencies are required to locate, inventory, and nominate all sites, buildings, districts, and objects under their jurisdiction or control that appear to qualify for listing in the National Register of Historic Places; these actions were to be completed by July 1, 1973. The Secretary of the Interior is required to coordinate these federal efforts.

Archeological and Historic Preservation Act of 1974 (Public Law 93-291)

Amended and significantly expanded the scope of the 1960 Reservoir Salvage Act by requiring preservation of archeological data affected as a result of any (emphasis added) federal or federally related land modification program. Agencies are authorized to undertake archeological excavations, if site avoidance or protection is not possible in project

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**Appendix I  
Selected Legal Requirements for  
Archeological Resources on Federal Lands**

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implementation. The Secretary of the Interior is responsible for coordinating and administering the federal program for the recovery, protection, and preservation of archeological data which would otherwise be damaged or destroyed through federal action.

National Historic Preservation Act Amendments of 1980 (Public Law 96-515)

Provided additional guidance and clarification to the federal historical preservation program. The act also incorporated most key provisions of Executive Order 11593, thereby affirming that federal agencies have a continuing responsibility under this order even though the planned completion date had passed.

# Information on the Eight Local Agency Offices Selected for Visits

Agency/Local office	State	Acres	Records archeological sites
<b>Bureau of Land Management</b>			
Vermillion Resource Area	AZ	1,407,500	1,000
San Juan Resource Area	CO	750,000	11,000
Las Cruces-Lordsburg Resource Area	NM	3,420,000	2,000
San Juan Resource Area	UT	2,100,000	15,000
<b>Forest Service</b>			
Coconino National Forest	AZ	1,835,913	6,000
San Juan National Forest	CO	1,865,000	2,000
Gila National Forest	NM	3,321,101	1,000
<b>National Park Service</b>			
Glen Canyon National Recreation Area	UT	1,255,000	1,000

# Curatorial Facilities That Local Agency Offices Identified as Having Archeological Artifacts From Their Lands

Curatorial facility	Location	Responded to questionnaire	Currently curates artifacts
American Museum of Natural History	NY	Yes	Yes
Amerind Foundation	AZ	Yes	Yes
Anadarko Museum of Natural History	OK	Yes	Yes
Arapahoe Community College	CO	Yes	Yes
Arizona State Museum	AZ	Yes	Yes
Arizona State University	AZ	Yes	Yes
Brigham Young University	UT	Yes	Yes
Colorado College	CO	Yes	Yes
Colorado State Historical Society	CO	Yes	Yes
Dinosaur National Historical Park	UT	Yes	Yes
Edge of the Cedars State Museum	UT	Yes	Yes
Field Museum of Natural History	IL	Yes	Yes
Fort Lewis College	CO	Yes	Yes
Logan Museum of Anthropology, Beloit College	WI	Yes	Yes
Maxwell Museum, University of New Mexico	NM	Yes	Yes
Mesa College	CO	Yes	Yes
Moab Museum	UT	Yes	Yes
Museum of the American Indian	NY	Yes	Yes
Museum of New Mexico	NM	Yes	Yes
Museum of Northern Arizona	AZ	Yes	Yes
National Geographic Society	DC	Yes	Yes
Pioneers' Museum	CO	Yes	Yes
San Jose State College	CA	Yes	Yes
San Juan County Museum at Salmon Ruins	NM	Yes	Yes
School of American Research	NM	Yes	Yes
Smithsonian Institution	DC	Yes	Yes
Southern Utah State	UT	Yes	Yes
U.C.L.A.	CA	Yes	Yes
University of Colorado Museum	CO	Yes	Yes
University of Denver	CO	Yes	Yes
University of Iowa	IA	Yes	Yes
University of Michigan	MI	Yes	Yes
University of Southern Colorado	CO	Yes	Yes
University of Texas	TX	Yes	Yes
University of Utah	UT	Yes	Yes
Washington State University	WA	Yes	Yes
Western New Mexico University Museum	NM	Yes	Yes

(continued)

**Appendix III  
Curatorial Facilities That Local Agency  
Offices Identified as Having Archeological  
Artifacts From Their Lands**

<b>Curatorial facility</b>	<b>Location</b>	<b>Responded to questionnaire</b>	<b>Current artifact</b>
Adams State College	CO	Yes	No
Arizona State Capital Museum	AZ	Yes	No
Centuries Research	CO	Yes	No
Denver Museum of Natural History	CO	Yes	No
Grand County Museum	CO	Yes	No
Incarinate Word College	TX	Yes	No
Indian Pueblo Cultural Center, Jonson Gallery, University of New Mexico	NM	Yes	No
Navajo Tribal Museum	AZ	Yes	No
Peabody Museum	MA	Yes	No
Phillips Andover Academy	MA	Yes	No
Phillips Exeter Academy	NH	Yes	No
San Diego Museum of Man	CA	Yes	No
San Juan College	NM	Yes	No
Tulane University	LA	Yes	No
Utah Division of State History	UT	Yes	No
Weber State College	UT	Yes	No
Carlsbad Museum	NM	No	Unknow
Colorado State University	CO	No	Unknow
Eastern New Mexico University	NM	No	Unknow
Ghost Ranch	NM	No	Unknow
Kit Carson Memorial Foundation	NM	No	Unknow
Museum of Western Colorado	CO	No	Unknow
New Mexico State	NM	No	Unknow
Occidental College	CA	No	Unknow
Royal Ontario Museum	Canada	No	Unknow
Southwest Museum	CA	No	Unknow
University of Northern Colorado	CO	No	Unknow
University of Wyoming	WY	No	Unknow
Western State College	CO	No	Unknow

# Extent and Types of Looting Activity

Following is a discussion of the extent and types of looting activity in each of the Four Corners states.

## Arizona

Federal and state officials generally believed that looting occurs throughout Arizona but noted that the level of activity varies between different areas. The Deputy State Historic Preservation Officer stated that looting of artifacts is rampant throughout the state, and federal agency officials generally believed that looting activity and damage to sites on or near federal lands is extensive. While three agency officials believed that casual looting decreased following the passage of ARPA, they think commercial looting has continued undeterred or has increased. A FS special agent estimated that 40 percent of looting done prior to ARPA was commercial, but 95 percent of looting occurring now is commercial.

During a FS Southwest Region undercover project in Arizona in 1982 and 1983 (see ch. 3), FS law enforcement personnel developed detailed information about looting activity in Arizona. As a result of the project, FS agents

- developed a file containing the names of over 600 looters or dealers in the artifacts market;
- determined that over \$2.7 million in artifacts were sold in Arizona in 1982, 95 percent of which had been removed from federal lands; and
- estimated that at least \$9 million worth of damage was done to archeological sites on public lands in Arizona in 1982.

Federal agency officials believed that the level of looting activity varied among the agencies and specific areas. The FS regional special agent believed that, overall, looting of FS lands has decreased considerably over the past few years due to increased law enforcement activity and the publicity this activity has received. However, he noted that looting activity on specific forests may have increased or decreased. Another special agent and the regional archeologist believed that the Tonto and Coconino National Forests had the most illegal activity due to their relatively high concentration of sites.

On the other hand, the BLM state archeologist said that the Vermillion Resource Area in northwestern Arizona was having significant illegal activity, and area officials noted that the number of reported looting incidents increased during the winter of 1984-85. However, they said

looting declined in the spring of 1985, following increased law enforcement efforts in that area.

According to the NPS regional archeologist, three national parks in Arizona are susceptible to looting because looting is known to be a problem in the areas surrounding them. However, although some looting has occurred in these parks, the items taken generally were not archeological artifacts.

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## Colorado

The Colorado state archeologist stated that the primary area of looting activity is the southwestern corner of Colorado, where the remains of the Anasazi culture are concentrated—specifically, the San Juan Resource Area and the San Juan National Forest.<sup>1</sup> While BLM and FS officials agreed that looting occurs throughout Colorado and in these areas several believed that the extent of illegal activity on their lands had declined following law enforcement activity. NPS regional officials state that they did not think that commercial looting was a problem in national parks in Colorado because there has been no documented proof of its occurrence. However, they noted that looting has been known to occur on both BLM and FS land bordering park boundaries.

The BLM special agent said that he believed that looting in 1985 was probably only 10 percent of what it had been in prior years. San Juan Resource Area personnel also noted that looting appeared to drop significantly in 1985, following extensive media coverage given to three 1985 ARPA indictments and convictions in Colorado. San Juan Resource Area archeologists stated that casual looting in the area had also decreased after 1981, following publicity concerning law enforcement activity and public education efforts. Resource area officials said that they did not know the extent of looting that had occurred during 1986 because they had lost funding for a seasonal patrol person, whose duties included gathering information on the extent and location of archeological site violations. This position had been funded for 4 of the previous 10 years. Other agency staff did not have the time to fully assume these functions.

A 1981 BLM study, entitled A Survey of Vandalism to Archaeological Resources in Southwestern Colorado, examined site vandalism, one aspect of which is looting, in the San Juan Resource Area. The study

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<sup>1</sup>We visited two BLM San Juan Resource Areas, one located in Colorado and one in Utah.



found that out of 61 sites that had been in pristine condition when initially recorded, 20 had been vandalized. Although 14 of the 20 vandalized sites had been recorded prior to 1971, 6 were recorded after 1970, indicating that they had been vandalized between 1970 and 1981.

The FS special agent stated that theft of archeological artifacts did not appear to be a problem in Colorado, based on incident reports and other reported information; however, he sensed that there is more illegal activity occurring than is being reported. The San Juan National Forest archeologist felt that there has not been much looting on the forest since 1981, following two convictions for looting, although he noted that casual looting of surface artifacts remains a problem.

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## New Mexico

New Mexico state officials stated that most looting occurs in the southwestern corner of the state, where Mimbres culture sites are located. The state historic preservation officer believed that looting is so severe in this area, that all traces of the Mimbres culture will probably be destroyed within the next few years. State officials specified the Gila National Forest as the single worst area for looting in the state.

FS officials also stated that looting was occurring on the Gila National Forest. The regional archeologist noted that the Gila has a high concentration of sites, and the forest archeologist stated that the Mimbres District of the forest has been particularly impacted by looting. One forest official thought that looting has increased as the artifact values have increased. Although the special agent attached to the regional office believed that overall looting on FS lands in New Mexico has decreased considerably due to the increased law enforcement activity and the publicity this has received, he thought it has remained at a consistently high level on the Gila.

The BLM state archeologist stated that looting is a particular problem in the Las Cruces area in southern New Mexico, where Mimbres culture sites are also found. The Las Cruces-Lordsburg Resource Area archeologist stated that commercial looting was a big problem in the mid-1970s and has stayed at a constant level. According to this archeologist, mechanized equipment has been used in looting sites in this area.

NPS regional officials generally believed that looting is not a problem on park lands in New Mexico although there have been isolated incidents of casual looting.

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Utah

Both federal and state officials believed that looting in Utah is a continuing problem although several officials stated that looters may have relocated following increased law enforcement efforts in southeastern Utah. The state archeologist said that looting for artifacts is a problem throughout the state; however, it is particularly severe in southeastern Utah because in that area there are more and bigger sites, the sites are more accessible to the public, and there are more artifacts in the sites. Specifically, he identified BLM's San Juan Resource Area, the Manti-LaSal National Forest, Canyonlands National Park, and Glen Canyon National Recreation Area. He noted that although looting appears to have decreased lately, he believes that looters have temporarily left southeastern Utah as a result of increased law enforcement efforts in that area and relocated to less-protected areas such as Indian reservations.

BLM's state archeologist and special agent also stated that looting occurs throughout much of Utah, and especially in southeastern Utah. They both believed that when law enforcement activities increased in southeastern Utah, looters simply moved to other locations such as southwestern Utah and northwestern Arizona. Officials from BLM's San Juan Resource Area in southeastern Utah believed that while commercial looting in this area was rampant in the early 1980s, it decreased following a law enforcement investigation (and subsequent indictment) of a local looter in 1984. They believed that although looting still occurs in this area, ongoing law enforcement efforts in this area and increased job opportunities in southwestern Utah have caused many looters to leave southeastern Utah.

According to the San Juan Resource Area's September 1985 Resource Management Plan, the cumulative impact of surface collecting within the resource area has been significant. The San Juan Resource Area archeologist said that casual looting is still an ongoing problem. He believed that surface collecting could possibly deplete the Resource Area's surface resource within another 5 to 10 years. Archeologists are able to date a site or tell what function it had by examining surface artifacts; however, extensive surface collecting at a site makes these analyses impossible.

A FS special agent stated that the southeastern part of the state had the highest concentration of sites and looting activity, and the regional archeologist stated that the Manti-LaSal National Forest (located in southeastern Utah) was the only forest in Utah experiencing much looting activity. They stated that due to increased law enforcement efforts,

looting activity had decreased dramatically and was now virtually stopped. However, the regional archeologist believed that looters had simply left southeastern Utah for other areas with less active law enforcement.

A May 1986 FS report entitled Cultural Resource Investigations in Southeastern Utah to Aid in the Assessment of Archaeological Vandalism documented a field study of site destruction in the Allen Canyon and Butler Wash areas of southeastern Utah. The study area, located in the Manti-LaSal National Forest and on adjacent BLM land, was essentially pristine in the early 1970s when a university began documenting the condition of archeological resources in it. The report stated that of 74 recorded sites in the study area, 35 sites had some evidence of illegal digging and about 15 were nearly destroyed. Sixty-five were either likely or clearly subjected to surface collecting.

Regional NPS officials stated that they do not think that commercial looting is a problem in national parks in Utah because there has been no documented proof of its occurrence. However, they noted that looting has been known to occur on both BLM and FS lands that border parks. The chief ranger and the archeologist for Glen Canyon National Recreation Area believed that commercial looting is occurring in the park, but they do not know the extent due to lack of a monitoring system. Park personnel said that more sites are damaged from visitor impacts (resulting from recreational activities, building campfires, and surface collecting) than from commercial looting. However, the park archeologist noted that there has definitely been an increase in looting in areas where new roads have been put in for activities such as oil and gas development.

# Form Used to Certify That Artifacts Are Not From Federal Lands

## Statement of Release and Disclosure

After specific inquiry and discussion, the person acquiring the property described below specifically requests that the seller or consignor state and affirm and the seller/consignor does hereby specifically state and affirm that the following-described property:

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has not been stolen, falsified, forged, or restored (without being so stated) and further that this item or items have not been taken illegally from Federal lands, public lands, state lands, or Indian lands in violation of the Archeological Resources Protection Act of 1979, and further that the seller or consignor of the above-described property has legal title to the property such that legal title can pass to and vest in the ultimate purchaser of the property.

The undersigned seller or consignor further promises and agrees to reimburse, indemnify, and hold harmless the person or persons acquiring the above-described property for any expense or loss which such person or persons may incur, sustain, or suffer, if the property described above is ever determined to be other than as represented above.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

\_\_\_\_\_  
SELLER and/or CONSIGNOR

The above-described item or items of property have been acquired by:  
\_\_\_\_\_

Source: Derek Goodwin, investigative writer for The New York Times Magazine

# Request Letter

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**United States Senate**  
 COMMITTEE ON  
 ENERGY AND NATURAL RESOURCES  
 WASHINGTON, DC 20510

December 19, 1985

The Honorable Charles A. Bowsher  
 Comptroller General of the United States  
 441 G Street, N.W.  
 Washington, D.C. 20548

Dear Mr. Bowsher:

The price of historical artifacts has risen sharply in recent years and this reportedly has resulted in an increase in the looting of archaeological sites located on federal and Indian lands. There are also indications that artifacts legally removed from federal lands are not being curated properly because the facilities at the repositories where those artifacts are located are inadequate. On October 14, 1985, the Subcommittee on Public Lands, Reserved Water and Resource Conservation of the Senate Energy and Natural Resources Committee conducted an oversight hearing in Albuquerque, New Mexico, to obtain testimony from expert witnesses, including archaeologists, curators, and federal/state/local/tribal officials responsible for protecting and curating historical artifacts. Those testifying acknowledged that problems exist but there was no consensus as to the extent of the problems.

To complete the record in this matter we are requesting that GAO conduct a review to determine the extent to which organized looting and inadequate artifact curation are problems. Although these problems appear to be nationwide in scope and apparently involve all major federal land management agencies, we ask that you concentrate your efforts on the Southwest. As discussed with members of your office, the review should address the following areas.

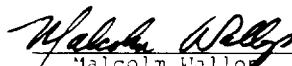
- The agencies protection of archeological sites. This would include determining whether the organized looting of artifacts for sale is a problem, whether the agencies have enough adequately trained personnel to protect their archaeological sites from looting, and how the agencies' authority to cite violations of historic preservation laws varies between agencies.
- The curation of artifacts taken from the agencies' lands during the last 5 years. This would include determining whether the repositories where the artifacts are being curated are able to properly curate all the artifacts being removed from the agencies' lands and whether the agencies are following up to determine whether repositories are complying with the terms of the curation contracts.

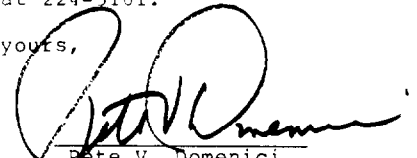
Appendix VI  
Request Letter

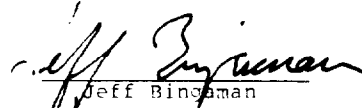
- 2 -

If you have any questions concerning this request, you may contact Tony Bevinetto of the Public Lands, Reserved Water and Resource Conservation Subcommittee at 224-5161.

Sincerely yours,

  
Malcolm Wallop

  
Bete V. Domenici

  
Jeff Bingaman

# Comments From the Forest Service



United States  
Department of  
Agriculture

Forest  
Service

Washington  
Office

12th & Independence SW  
P.O. Box 96090  
Washington, DC 20090-6090

Reply To: 1420  
(F&PS)

Date: SEP 28 1987

Mr. J. Dexter Peach  
Assistant Comptroller General  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Peach:

Thank you for the opportunity to review and comment on the draft report. Although the report is critical, we believe it is accurate.

We do have the following comments related to the draft report:

See comment 1.

1. On pages 90 and 93 you pointed out problems that would exist if the Forest Service had curation regulations that differed from the Department of Interior's (DOI) regulations. We have reviewed DOI's proposed regulations. From our standpoint, these would be guidelines and not regulations. We do not foresee any reason that our demands for a proper curatorial facility would be any different from those of any other agency charged with preservation of collections.


See comment 1.

2. However, we believe it is improper to require the Forest Service to adopt DOI's curation regulations when issued, as you stated on page 94. Although, we do not foresee a problem, we believe we should have the opportunity to review the DOI regulations when published and then determine if the regulations addressed to the National Parks are totally applicable to National Forests.

See comment 2.

3. We have concerns about your recommendation on page 77 that would direct us to enter into an agreement to fund and staff an office to collect and analyze information and conduct investigations. The report itself notes a number of our successful collaborations with Department of Interior Agencies and with U.S. Attorneys' Offices. It also notes that after initial study, implementation of an automated criminal intelligence information system was rejected as too costly. We continue to believe that the best allocation of our law enforcement resources is to maximize flexibility at the forest level to deal with the most urgent needs. The recommendation would tie up too much staff and funding dealing with only one of many law enforcement concerns.

Sincerely,

  
Associate Chief, Forest Service



FS-6200-28b (7/86)

Note: Page references have changed due to typesetting.

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The following are GAO's comments on the Forest Service's letter dated September 8, 1987.

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## GAO Comments

1. In commenting on our draft report, the Department of the Interior cited statutes which it said authorized Interior to issue regulations governing the activities of other agencies. Based on our review of these statutes, we agree that Interior has such authority. Therefore, if the Forest Service had any concerns with the applicability of the proposed regulation to National Forests, these concerns should have been expressed in its comments on the proposed regulation, rather than waiting until the final regulation is published and then determining the extent to which the regulation applies to National Forests.
2. While the report discusses coordinated law enforcement efforts, these have been limited and conducted on an ad hoc basis in reaction to specific situations. We believe that a multi-agency law enforcement effort, organized to address artifact looting and marketing (as well as other associated crimes) throughout the region, on a continuing basis, would be a more effective use of federal agencies' limited law enforcement staff.



# Comments From the Department of the Interior



## United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

3 SEP 1987.

Mr. J. Dexter Peach  
Assistant Comptroller General  
General Accounting Office  
Washington, D.C. 20548

Dear Mr. Peach:

This is in reply to your July 22, 1987, letter to Assistant Secretary Gorrell asking for comments on the General Accounting Office's proposed report, Cultural Resources: Problems Protecting and Preserving Federal Archeological Resources. As the official responsible for overseeing archeological matters in the Department of the Interior, I am responding for Mr. Gorrell.

The report presents a good summary of two major problems that confront all Federal land managing agencies as well as non-land managing agencies which own or administer archeological collections. Protection of the archeological sites on public and Indian lands is a large task. Currently, each Federal land managing agency is attempting to combat problems of looting of and vandalism to archeological sites as best they can. Agencies need to develop and implement plans to systematically identify, evaluate and protect important archeological sites under their control or jurisdiction. Finally, agencies also need to develop more effective controls to keep track of and care for archeological collections.

I assure you that the Department of the Interior takes seriously our responsibilities to protect archeological and historic sites on lands under our control or jurisdiction and to care for collections of artifacts recovered from those sites. However, in my opinion, it would be impossible for one agency alone to rectify the vandalism and curatorial problems. We recommend that a joint approach, among the various land managing agencies, be used when it would more effectively combat the problems associated with thefts and vandalism, and facilitate surveys and care for collections.

The National Park Service and the Bureau of Land Management prepared the enclosed comments on specific sections of the proposed report. Any questions should be directed to Dr. Bennie C. Keel, the Departmental Consulting Archeologist, at 343-1876.

Sincerely,

Assistant Secretary for Fish  
and Wildlife and Parks

Appendix VIII  
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the Interior

Comments on General Accounting Office's Proposed Report Entitled  
Cultural Resources: Problems Protecting and Preserving  
Federal Archeological Resources

Page 5, paragraph 2.

See comment 1

The fifth sentence states that about 15.5 million artifacts belonging to the National Park Service have not been "recorded." The term "recorded" is most often used in reference to completing site record forms rather than cataloging artifacts in collections. The term should be replaced with the word "cataloged."

See comment 2

The last sentence states that inventories are not performed on federally owned artifacts stored in non-Federal facilities. Such inventories are required for National Park Service collections (ref. chapter 8 of the Manual for Museums and chapter 4 of the Museum Handbook, Part II, which is currently being revised and tested).

Page 6, paragraph 1.

See comment 3.

The General Accounting Office (GAO) should present statistics on the number or percentage of artifacts from the Four Corners area that have deteriorated, been destroyed or stolen, or are missing. Without presenting such statistics, the importance of the problem cannot be properly assessed. In addition, GAO should include a brief discussion of how the National Park Service, the Bureau of Land Management and the Forest Service care for and manage collections in Federal facilities.

See comment 4

Page 10, abbreviations.

See comment 1.

The National Park Service's Western Archeological and Conservation Center and the Bureau of Land Management's Anasazi Heritage Center should be added to the list of abbreviations.

Page 11, paragraph 1.

See comment 1.

Archeological collections include material remains such as artifacts, environmental specimens and debris as well as records such as field notes, artifact inventories and historical maps which document the resources (ref. definitions in the proposed rule (36 CFR Part 79) on the curation of federally owned and administered archeological collections).

Page 11, paragraph 2.

See comment 5.

The report discusses the activities of commercial and casual collectors, but fails to distinguish another group that is responsible for a significant level of vandalism and site destruction, namely hobbyists. This is inconsistent with Forest Service data cited on pages 24-25 of GAO's report. Here, reference is made to a 1978 Forest Service study, entitled Vandalism to Cultural Resources of the Rocky Mountain West, that identifies motives for collectors. The GAO report acknowledges that personal acquisition of artifacts, rather than profit, was the motive most often identified as the reason that archeological resources are vandalized. It logically follows that hobbyists, motivated by the desire for personal acquisition, should be distinguished from commercial collectors who are motivated by a desire for profit. If, on the other hand, GAO has elected to include hobbyists as casual collectors, it

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stretches credibility to conclude that casual collecting has decreased since passage of the Archaeological Resources Protection Act of 1979 (ARPA). As GAO's own findings indicate, Federal agency reports on incidences of looting and vandalism are incomplete. Thus, it is not possible to conclude that casual collecting has decreased when no hard data to support this claim is available.

Page 14, paragraph 2.

See comment 1.

The term excavation denotes using systematic, scientific techniques, which usually are not used by private landowners. We recommend revising the last sentence of this paragraph to read: "Generally, private landowners control the removal and disposition of archeological resources on their lands."

Page 18, paragraph 1.

See comment 6.

The estimate of 2 million archeological sites in the Four Corners area seems inflated. Is the estimate a straight-line projection based on the acreage examined and the number of sites recorded to date, or is it an outcome of some other calculation? Is the estimate for the four States as a whole or for only certain Federal lands?

Page 18, paragraph 2.

See comment 7.

How do the figures of 583 permitted or contracted excavations and 177 in-house excavations breakdown by agency?

Page 22, paragraph 2.

See comment 1.

The "Association of American Museums" should read "American Association of Museums."

Pages 24-40a.

See comment 8.

There is a tendency throughout the discussion on looting in chapter 2 to treat all archeological sites as equal. Looters usually do not bother with a majority of sites, but focus their energies on looting those sites which they believe will yield commercially valuable artifacts or aesthetically fine specimens for their personal collections. For example, it would be more important to know the percentage of the more prominent and visible sites, such as those with structural features or caves, in the Four Corners area that have been looted or vandalized than to simply know that 32 percent of all recorded sites in the Four Corners area have been vandalized (ref. Table 2.1 on page 26). The latter figure tends to mask the dimensions of the problem. One serious outcome of the vandalism and looting problem is that sites with stratified deposits capable of providing data on a wide range of research questions are systematically being destroyed.

Page 24, paragraph 1.

See comment 1.

The figure of 44,000 should read 136,000.

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See comment 9

Page 24, paragraph 2.

General economic conditions also play an important role in influencing the level of commercial and hobby collecting. The Bureau of Land Management has observed that looting and vandalism seem to increase during recessionary periods.

See comment 10.

Page 35, paragraph 2.

Although it is true that Federal agencies have no objective way of knowing the extent of disturbance to previously recorded archeological sites, most Bureau of Land Management district and resource area archeologists have a subjective feel for the level of disturbance to these sites. They also have a good idea of the extent of disturbance to sites that are attractive to commercial collectors and hobbyists. Since Congress acknowledged that GAO's study would primarily be based on testimonial data, it would be worthwhile including some of the statements that were provided by those individuals who were interviewed, indicating the magnitude of the vandalism problem as perceived at the field level.

See comment 11.

Page 36, paragraph following Figure 2.6.

The National Park Service has issued policies and guidelines to its law enforcement personnel on reporting crime incidents. Copies of the policies and guidelines, issued as Chapter 21 of NPS Guideline No. 9, and the appropriate reporting forms are attached to these comments. Other factors that may influence whether or not looting incidents are reported include the level of previous site disturbance and the estimated length of time since the archeological resource was vandalized. In the former instance, sites that have been extensively vandalized over a prolonged period are less likely to have ongoing incidents reported. In the latter instance, the more time that has elapsed since the damage was perpetrated, the less likely that an agency employee will complete an incident report.

See comment 12.

Page 36, last paragraph.

The National Park Service's Ranger Activities Division in Washington, D.C., annually collects and analyzes information on all crimes, including ARPA violations, that were committed within the units of the Service. When information is collected for crimes committed during the 1987 calendar year, information on looting incidents will be broken out separately. The Service's Archeological Assistance Division in Washington, D.C., also annually collects and analyzes information on archeological activities conducted by or authorized by Federal agencies, including ARPA violations, prosecutions and convictions.

See comment 13.

Page 40a.

The GAO report recommends that Interior and Agriculture bureaus develop guidelines that would (1) provide field offices with criteria on when to prepare looting incident reports and (2) require field offices to periodically revisit recorded sites to update site records. In regard to the first point, law enforcement personnel in the Department of the Interior currently are required to report all incidents of looting and vandalism when ever such incidents are observed or brought to their attention. The primary reason why incident reports are not always prepared is that archeologists and other non-law enforcement personnel who may observe the incident do not always notify the law enforcement officer of such incidents for investigation.

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In regard to the second point, archeologists in the Department of the Interior generally know what types of sites are being vandalized and looted. Rather than revisit all previously recorded sites to determine current site conditions, we recommend revisiting the vulnerable sites that are attractive to commercial collectors and hobbyists. Also, as a practical matter, it may be difficult to confidently determine whether or not the less visible or commercially attractive sites have been casually collected. Consequently, it would not be cost effective to revisit most of those types of sites. For these reasons, we do not believe that it is necessary to develop guidelines recommended by GAO.

Page 41, chapter title.

See comment 14.

We recommend inserting the word "insufficient" between the words "and knowledge" in the chapter title.

Page 43, last paragraph.

See comment 1

We recommend combining and rephrasing the first two sentences of this paragraph to read: "Most archeological sites on Federal lands are identified through archeological surveys conducted primarily in response to proposed development projects."

Page 44, paragraph 1.

See comment 15.

We agree that all significant sites located on public lands have not yet been identified and that "...some of the unrecorded sites may be of greater archeological significance than the sites that have been identified and recorded." The implication here is that Federal agencies may be spending monies to manage and protect less significant sites. It is worth noting, however, that many significant resource areas, which may contain as yet unidentified but individually significant archeological sites, have been identified and are being protected. For example, while few units of the national park system have been surveyed to identify all significant sites, all known and as yet unidentified sites within each unit are protected by virtue of being located within the park unit's boundaries.

Pages 47-49.

See comment 16.

The discussion of the tremendous amounts of time and funding requirements for the identification and evaluation of archeological sites on all Federal lands presents a daunting picture of the task. The discussion should mention that, because the majority of public lands are likely to continue to be controlled by Federal agencies for the foreseeable future, long-term programs for inventorying and evaluating archeological sites are appropriate. Given personnel and funding constraints, it would not be cost-effective for Federal agencies to attempt to complete 100 percent inventories and evaluate all archeological sites in the next five or ten years. These long-term programs should be guided by research designs that ensure that information is collected first from those locations thought to contain significant archeological sites. This information then can be used to predict, with increasing levels of accuracy, the locations of sites in the uninvestigated areas.

Page 48, paragraph 3.

See comment 17.

The figures \$394 million and \$39 million on page 48 should read as \$490 million and \$49 million, respectively.

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See comment 16.

GAO has correctly identified the fact that the cost of inventorying archeological sites on Federal lands is commensurate with the amount of land remaining to be examined. GAO's estimates for this inventory are based on the total number of acres administered by Federal agencies in the Four Corners area. However, this approach does not take into consideration the fact that research designs could be developed that might identify areas that could be eliminated from survey, based on regional topographic and geomorphic criteria. Thus, the cost estimates presented in GAO's report for archeological survey are unnecessarily inflated, even when sampling is taken into consideration.

The amount of land that could be eliminated from survey will vary with respect to specific geographical locations. For example, data from an archeological survey in Alaska indicated that it was possible to eliminate between 13 and 60 percent of the area within a given survey locale. When the total amount of land to be surveyed decreases, the cost decreases accordingly, as does the amount and cost based on sampling any portion of that land. It is important to note that eliminating areas from survey must be based on regional criteria. Alaska data is used for discussion purposes only to demonstrate the use of a research design that allows portions of an area to be eliminated from survey and the effect this would have on cost. The actual amount of land that may be eliminated will depend on regional specific data.

Using the figure of 42 percent (the average from the Alaskan data) as an example of the portion of land that might be eliminated from survey, the figures used in the GAO report would change dramatically. By eliminating 42 percent of 98 million acres as unsurveyable, the revised estimated cost to survey the remaining 56.8 million acres would range from \$284 million to \$1.136 billion. If a 10 percent sample area were surveyed, the revised estimated cost to survey 5.68 million acres would range from \$28 million to \$113.6 million.

Pages 49-50.

See comment 18.

We agree with the Office of Technology Assessment's conclusion that use of remote sensing techniques may extend the abilities of Federal agencies to identify archeological sites. Some of the methods mentioned would be useful for the identification of substantial numbers of terrestrial archeological sites while others would be useful for the identification of subsurface features at known archeological sites. However, even those methods have limited applications for identification efforts. In addition, use of remote sensing techniques is not a substitute for conducting on the ground pedestrian surveys and subsurface testing. For example, aircraft and spacecraft methods such as photography and imaging radar are useful for identifying large archeological sites, located in areas where there is little vegetation, that contain surface structures. These methods also are useful for directing on the ground pedestrian inventory efforts to specific areas that have been predicted to have greater potential to contain archeological sites. Other subsurface methods such as ground penetrating radar and proton magnetometers are more useful for locating subsurface features at known sites. A detailed discussion of remote sensing techniques is contained in the attached article entitled "Discovering Sites Unseen."

Page 50, paragraph 2.

See comment 18.

Predictive modeling typically is not sensitive enough or useful for the identification of specific archeological sites. Rather, it can be a useful method for describing the likelihood of sites occurring within larger general areas. On the ground pedestrian

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surveys would then be conducted to locate and evaluate specific sites. Predictive modeling is a method more appropriate to general land use planning than to the prediction of the location or significance of specific sites.

Page 55, paragraph 1.

See comment 19.

Within the Bureau of Land Management, the role of site stewards is to observe and monitor site conditions, not to confront hostile visitors or armed looters. Site stewards are instructed to anticipate and avoid any situation that may become potentially hostile.

Pages 55-56, recommendations 1-2.

See comment 16.

Within the National Park Service, each unit of the park system is required to have General Management Plans and Cultural Resource Management Plans that analyze the need for collecting information on cultural resources and identify requirements and schedules for conducting inventories. The Service has estimated that it could complete inventories at all units of the park system within 25 years if \$5-6 million of each year's existing funds were programmed for survey work. However, some units do not have approved plans while others have not updated existing plans to incorporate data collected from past surveys. In addition, schedules for inventories usually are not adhered to because of other higher priority needs such as preservation of historic buildings, cataloging collections or park operational activities. In fact, about 95 percent of all survey work is conducted to carry out compliance requirements in connection with either a construction project or routine park operations.

During the annual budgeting and planning process, park units submit prioritized requests for inventories to their respective regional offices. The regional offices evaluate the requests, reprioritize them according to the overall needs of the region, and submit them to the Washington, D.C., office. Headquarters evaluates the requests and allocates monies based on the cultural resources priorities of the Service as a whole. Decisions are made using existing policies, guidelines and, beginning in fiscal year 1988, on the Cultural Resources Summary and Action Program. The Program presents a means for determining priorities for the competing needs to identify, evaluate and protect historic sites and buildings, museum collections and archeological sites. There is no separate nationwide plan for inventorying archeological sites.

See comment 20.

GAO's recommendation that each Federal land managing agency develop a plan that examines the archeological potential on its land holdings and identifies a schedule for inventory in a priority fashion is a good one. Within the Department of the Interior, the Department's existing Interagency Archeological Task Force is available to advise and assist the respective bureaus in developing such plans. GAO should make the same recommendation to the Department of the Defense since it also controls substantial Federal lands.

Pages 58-78.

See comment 21.

Throughout Chapter 4, the broad meaning term "looting" is used and applied to a variety of criminal activities. The term does not appear in ARPA and does not accurately depict a very specific set of prohibited criminal activities enforced by Federal land managers. We recommend that the appropriate terminology be used to describe specific criminal activities.

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See comment 22.

The emphasis in Chapter 4 is on commercial looting, and does not seem to recognize the positive efforts of Federal land managing agencies in enforcing ARPA. Specifically, the document should recognize that ARPA investigations are very time consuming, costly and involve detailed investigations of individuals who actually commit the initial crime and then sell or otherwise dispose of the artifacts. Such investigations may well lead to a buyer and then into the commercial market. The report leaves the impression that an investigator walks into a commercial looting operation and begins an investigation from that point. Sadly, investigations involve considerably more effort than that.

Page 58, paragraph 2.

See comment 23.

We agree that looters and vandals often move from one geographic location to another when law enforcement activities such as surveillance, detection and apprehension efforts increase. Unfortunately, nothing short of deploying law enforcement officers and Federal agency employees on every acre of public land could stop such vandal migration.

Page 59, paragraph 1.

See comment 24.

When individual incidents of looting and vandalism have been reported to law enforcement officers in the Bureau of Land Management, the Bureau has responded and investigated the alleged violation. The Department requires that its law enforcement officers conduct such investigations and views such actions in a positive light. The GAO report, on the other hand, appears to be criticizing agencies for investigating individual incidents rather than undertaking special investigations.

Page 59, paragraph 2.

See comment 1.

In Utah, the Bureau of Land Management's law enforcement officers were deputized as Special Deputy U.S. Marshals to enforce only provisions of ARPA, not all Federal laws, on Federal lands other than those of the Bureau. A special need was recognized by the Bureau and the U.S. Attorney, and a means to address the complex Federal land ownership pattern in Utah was found by so deputizing law enforcement officers from several agencies.

Page 60, paragraph 2.

See comment 25.

This paragraph suggests that the agencies involved could somehow influence the outcome of the court cases. Prosecutors present cases to the court, and it is the judges and juries who determine guilt or innocence and convict for misdemeanor or felony. The role of Federal agencies is to ensure that its personnel receive the necessary training to collect and present sufficient evidence to the courts for prosecution.

Page 60, last paragraph.

See comment 1.

Local Federal agency staff are not likely to catch violators in the act of looting because the violators are sophisticated and adept at avoiding detection on the large tracts of public lands. That is, they often operate at night, use camouflage and control access and egress.

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See comment 1.

Page 61, paragraph 1.

Most cases also involve continuous interaction with and advice from prosecutors' offices.

See comment 1.

Page 63, paragraph 2.

Deputation as Special Deputy U.S. Marshals was done because of difficulty in determining land status while investigating cases on the ground. Better coordination, not deputation, was the result of the combined efforts of the U.S. Attorney's Task Force.

See comment 1.

Page 64, paragraph 4.

The ARPA training course is usually held at FLETC in Glynco, Georgia and at FLETF in Marana, Arizona.

See comment 1.

Page 64, paragraph 5.

As noted in paragraph 5, archeologists and law enforcement staff desiring to take the ARPA training course sometimes are unable to attend because of limited funding. Other higher priority management concerns also may preclude attendance at the course.

See comment 26.

Page 65, paragraph 1.

It is difficult to believe that any Bureau of Land Management manager would fail to see how an archeologist would not be involved in developing an ARPA prosecution case and how ARPA training would not be useful. GAO investigators should check their facts in this instance.

See comment 27.

Page 65, paragraph 2.

Although limited, law enforcement cooperation between the National Park Service, the Bureau of Land Management and the Forest Service has occurred and will continue to occur at the headquarters offices and the field offices.

See comment 1.

Page 66, Table 4.1.

The column headings for the Bureau of Land Management should be shown as "State" and "Local" while the headings for the National Park Service should be shown as "Region" and "Local."

See comment 28.

Page 67, last paragraph.

Which local agency offices "...have no coordination with the other agencies' law enforcement authorities"? If the emphasis is placed on law enforcement coordination, the statement is not true as it relates to the Bureau of Land Management. If the emphasis is placed on field employees coordinating with law enforcement officers of other agencies, it should be noted that the Bureau requires its employees to report suspected or known violations on any public land to the law enforcement officers of the appropriate agency.

Note: Page references have changed due to typesetting.

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See comment 29.

Page 69, paragraph 2, last sentence.

Law enforcement agreements for emergency assistance and exchange of information do exist between the Bureau of Land Management and the National Park Service as well as between the Bureau and the Fish and Wildlife Service.

See comment 30.

Pages 70-1.

To help neutralize the permissive public attitude that enables archeological vandalism on the public lands to thrive and grow, it would be useful to recommend that Federal agencies use existing public awareness campaigns to inform the public that hard-core criminals with organized crime connections are involved in archeological vandalism. This would help counteract the mystique often associated with vandals that they are simply rebels protesting Federal authority. This also might bolster the agencies' efforts at obtaining jury convictions under ARPA.

See comment 31

Page 75, last paragraph.

The issues involved in certifying artifacts recovered from private lands are more complex than that presented in GAO's report. For a more comprehensive discussion of those issues, we refer you to Appendix IV in the 1986 report prepared by the Office of Technology Assessment, entitled Technologies for Prehistoric and Historic Preservation.

See comment 32.

Page 77, paragraph 1.

Focusing law enforcement efforts on individuals is an effective enforcement method since individuals commit crimes and are very good sources of information about dealers. The cases in Utah and Arizona were coordinated and future cases will continue to be coordinated among the various Federal agencies.

See comment 33.

Pages 77-78.

With regard to the recommendation to establish an office that would compile and analyze looting incident information, the Department of the Interior's Departmental Consulting Archeologist and the National Park Service's Archeological Assistance Division already compile and analyze information collected from Federal land managing agencies on ARPA violations. Those offices are responsible for overseeing and coordinating ARPA law enforcement and permitting activities, and reporting annually to the Congress on activities under ARPA. In addition, a clearinghouse has been established to collect specific information about prosecutions of looting and vandalism.

See comment 34.

With regard to the recommendation to establish an office that would conduct undercover investigations, coordinated law enforcement efforts already take place within and between Federal land managing agencies. At the request of the Society for American Archaeology, Congressmen Udall and Richardson introduced a proposal to appropriate \$5 million during fiscal year 1988 to improve the efforts of the Departments of the Interior and Agriculture for ARPA law enforcement, criminal investigation and prosecution.

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See comment 35

Page 78, last paragraph.

On June 3, 1987, Senator Domenici introduced a bill (S. 1314) to amend ARPA to prohibit attempted excavation, removal or defacing of archeological resources, and to reduce the felony threshold value of illegally removed artifacts from \$5000 to \$500. When asked to testify, the Department will support those amendments. We also will consider making additional amendments such as increasing the amount of rewards provided to informants for information leading to the arrest and conviction of vandals and looters. We agree that certification of artifacts is an issue that should be studied further, in conjunction with trafficking in illegally obtained artifacts.

See comment 2.

Page 79, paragraph 2.

The National Park Service recently tested new procedures for inventorying the Service's collections. These changes will be issued as an amendment to chapter 4 of the Museum Handbook, Part II. The procedures have been reviewed by the Office of the Inspector General in the Department of the Interior. The proposed procedures require repositories that care for the Service's collections to annually conduct 100 percent inventories of all objects valued over \$1000 and random sample inventories of all other objects.

See comment 1.

Page 80, paragraph 1, lines 1-2.

Rewrite the first sentence to read as follows: "Many artifacts removed from public lands have monetary value whereas others are valued primarily for their research potential."

See comment 36.

Page 80, paragraph 2, line 5.

Delete the word "unrecorded" that appears in parentheses after the word "uncataloged."

See comment 1.

Page 80, last paragraph, line 1.

Rewrite the first sentence to read: "...complete records for all of the...."

See comment 37.

Page 80, last paragraph; page 81, paragraph 1; and page 83, paragraph 1.

The National Park Service does have procedures for loaning artifacts in its collections. The problem may be that non-Federal and Service repositories alike are not using the loan procedures. The Department of the Interior would appreciate being informed of specific instances uncovered by GAO in regard to collections belonging to the National Park Service and the Bureau of Land Management.

See comment 1.

Page 85, paragraph 2, lines 4-5.

Delete the words "...and storing...."

See comment 1.

Page 85, paragraph 2, and page 91, paragraph 2.

The National Park Service estimate for cataloging its archeological collections is \$19.7 million.

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See comment 38.

Page 87, last paragraph, lines 7 and 10, and page 88, Table 5.1.

What is the meaning of the word "reliance"? Also, does Table 5.1 refer only to non-Federal repositories? The National Park Service periodically does assess its own facilities.

Page 88, last paragraph.

See comment 1.

Technically, the National Historic Preservation Act of 1966 (as amended) directs the Secretary of the Interior to issue regulations for the curation and exchange of archeological collections recovered under section 110 of the statute as well as under the Antiquities Act of 1906, the Reservoir Salvage Act of 1960 (as amended), and ARPA. The proposed regulation (36 CFR Part 79) was approved by the Department on June 1, 1987, and sent to the Office of Management and Budget for clearance. The Office of Management and Budget cleared the proposed rule on July 28, at which time the Department sent the rule to the Congress for a 30 day period legislatively mandated under the 1966 statute. The rule will be published in the Federal Register for public comment during the last week of August 1987.

See comment 39.

Page 89.

See comment 39.

The Department revised the draft curation rule to include suggestions made by GAO reviewers. Specifically, sections were added in the preamble and in the rule to address (1) the need for agency internal controls over artifacts and (2) coordinating inspections by Federal agencies of collections being cared for by the same repositories.

See comment 40.

We disagree with GAO's statement that Federal agencies outside of the Department of the Interior may not adopt the regulation when it is published as a final rulemaking. Agencies outside of the Department do not have the choice of not adopting the regulation. The Congressional mandate is clear that the rule pertains to all Federal collections recovered under certain statutes, cited above. The mandate does not distinguish or differentiate between collections that are owned or under the jurisdiction of different Federal agencies, or require that only the bureaus within the Department of the Interior abide by the rule.

See comment 40.

Page 90, paragraph 1.

As noted in the preceding comment, Federal agencies are Congressionally mandated to follow the regulations to be promulgated on the curation of federally owned and administered archeological collections.

See comment 39.

Page 91, paragraph 1.

As noted above, both the preamble and the rule were revised to include suggestions made by GAO reviewers in regard to coordinating inspections of repositories and to appointing one Federal agency official to conduct inspections for other Federal agencies.

See comment 26.

Page 92, paragraphs 2-3.

While the National Park Service has had procedures since the 1930s for inventorying its collections, insufficient staff and other priorities have precluded the agency from cataloging and annually conducting inventories of all objects in its collections.

Note: Page references have changed due to typesetting.

**Appendix VIII  
Comments From the Department of  
the Interior**

Revised procedures recently have been drafted to conduct annual inventories of objects valued at \$1000 or over and to random sample the remaining objects.

Page 93, last paragraph, recommendation 1.

See comment 39.

As noted above, the proposed rule, which was revised to include GAO's suggestions, will be published during the last week of August 1987, following the mandated 30 day Congressional review period.

Page 94, second paragraph, recommendations 1-4.

See comment 40.

We are unsure of the need to prepare agency-by-agency instructions to implement the curation regulations. The regulation contains a section recommending that Federal agencies coordinate inspections and inventories at non-Federal repositories. We would recommend that agencies enter into Interagency Agreements to designate Federal officials to conduct inspections of non-Federal repositories on behalf of other Federal agencies. Those agreements should be entered into on a repository-by-repository basis, by Federal officials at the State, region, district, park, forest or refuge level. Requests for funds and staff to implement the curation regulations, including correcting deficiencies at repositories currently caring for Federal collections, should be part of each Federal agency's routine, annual requests for appropriations.

Page 96, paragraph 1.

See comment 3.

GAO should present statistics on the number or percentage of artifacts from the Four Corners area that have deteriorated, been destroyed or stolen, or are missing. Without presenting such statistics, the importance of the problem cannot be properly assessed. In addition, GAO should include a discussion of how the National Park Service, the Bureau of Land Management and the Forest Service care for and manage collections in Federal facilities.

See comment 4.

Page 97, paragraph 2.

See comment 41.

The estimates provided by the National Park Service are tentative, pending the completion of architectural and engineering studies on how to correct deficiencies in curation facilities.

Page 98, footnote.

See comment 1.

Rewrite as follows: "...The American Association of Museums is a professional organization which, through accreditation, seeks..."

Page 99, paragraph 3.

See comment 42.

The data presented on cataloging is not meaningful unless the volume of items in each collection being processed and the number of staff available to process the collection also are presented.

Page 105, last paragraph.

See comment 1.

The standards issued by the National Park Service are contained in Special Directive 80-1, not the Museum Handbook.

Note: Page references have changed due to typesetting.

**Appendix VIII  
Comments From the Department of  
the Interior**

See comment 1.  
See comment 41.  
See comment 43.

Page 107, last paragraph.

The figure \$25 million should read \$28.5 million. Also, the estimate is tentative, pending the completion of architectural and engineering studies on how to correct deficiencies in the Service's repositories. The Service estimates the condition of its archeological collections as follows: 11 percent are in excellent condition (no damage or deterioration), 22 percent are in good condition (minor damage and no active deterioration), 34 percent are in fair condition (some damage and/or slow but active deterioration) and 15 percent are in poor condition (significant damage and/or active deterioration). The condition of 18 percent are unknown. In addition, 181 Collection Condition Surveys are needed to further assess the condition of collections.

See comment 1.

Page 109, paragraph 1.

Certainly there are some classes of artifacts such as those made out of stone, ceramics or glass that continue to be safely stored in wooden cabinets.

See comment 1.

Page 109, paragraph 3 and Figure 6.2.

It should be clarified that Figure 6.2 pertains to sources and amounts of Federal funds for curating Federal collections at the non-Federal repositories that were surveyed by the GAO.

See comment 41.

Page 111, last paragraph and page 112, Table 6.2.

Again, the estimates by the National Park Service are tentative pending architectural and engineering studies. In addition, the costs for installing environmental control equipment such as heating, ventilating and air conditioning cannot be estimated until year long environmental records have been kept and the environmental control needs are specifically identified.

See comment 1.

In Table 6.2, "museum storage" should read "museum storage facility" and "Museum environment" should be changed to "environmental monitoring equipment."

See comment 1.

Page 113, paragraph 1.

The figure \$23 million should read \$23.1 million.

See comment 44.

Pages 114-115, Appendix I.

A brief description of the Antiquities Act of 1906 and the Archaeological Resources Protection Act of 1979 should be added to the appendix citing legal requirements for archeological resources on Federal lands.

Note: Page references have changed due to typesetting.

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The following are GAO's comments on the Department of the Interior's letter dated September 3, 1987.

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## GAO Comments

1. We have made the suggested change.
2. The sentence referred to in this comment was deleted.
3. Records regarding this information are not available.
4. We focused our review on nonfederal curatorial facilities because BLM and FS reported that these were the facilities they most often used, and because NPS' curatorial facilities had been recently reviewed by Interior's Office of Inspector General.
5. We have used the term "casual looters" to include hobbyists who are motivated by the desire for personal acquisition. Our conclusions in chapter 2 are based primarily on testimonial evidence, which is presented in more detail in appendix IV (pp. 101-105).
6. This estimate is a compilation of estimates provided to us, in response to our questionnaire, by the local agency offices responsible for managing BLM, FS, and NPS lands in the Four Corners states.
7. Of 583 permitted or contracted excavations, 310 were authorized by BLM, 241 were authorized by FS, and 32 were authorized by NPS. Of 177 in-house excavations, 42 were conducted by BLM, 42 were conducted by FS, and 93 were conducted by NPS.
8. We have added a discussion of commercial looters' preference for sites that are expected to yield commercially valuable artifacts in chapter 2.
9. The report discusses the effect of economic conditions on looting activity in chapter 2.
10. The testimonial data we obtained in the Four Corners states are presented in appendix IV.
11. We have revised our discussion of the factors that may influence whether looting incidents are reported in chapter 2.

12. The agencies' systems for maintaining crime statistics are discussed in chapter 2, and the annual report on archeological activities is discussed in chapter 4.

13. We have added a discussion of the Department's comments on our recommendations at the end of chapter 2.

14. We did not make this suggested change, because the title refers to limited staffing, funding, and knowledge of the resources to be protected. Adding the word "insufficient" would be redundant.

15. The report acknowledges the greater protection afforded sites located within NPS boundaries, in chapter 2 and appendix IV.

16. We have added discussions of NPS' long-term program for inventorying cultural resources and the use of research designs to reduce survey requirements in chapter 3.

17. The figures on page 48 (now p. 42) should be \$392 million and \$39 million, based on survey costs ranging upward from \$4 per acre.

18. We have added a discussion of the use of remote sensing techniques to direct on-the-ground pedestrian surveys in chapter 3.

19. We have clarified the role of site stewards in BLM (p. 49).

20. Our review did not include the Department of Defense; therefore, we are unable to expand our recommendation as suggested.

21. We used the term "looting" because (1) we were specifically asked to determine the extent of organized looting, and (2) because looting is a term commonly used by the federal agencies and news media when referring to the unauthorized excavation, damage, or removal of archeological resources, terms which are used in ARPA.

22. Chapter 4 of the report acknowledges the positive law enforcement efforts undertaken by the agencies, and the time involved in these investigations.

23. We believe that increased coordination of law enforcement efforts throughout the four states could reduce the problem of vandal migration.



24. We believe that increased emphasis on special investigations would enhance traditional law enforcement methods, not replace them.

25. We are reporting these data to indicate that few reported looting incidents result in arrests, citations, and convictions. Chapter 4 of the report acknowledges that agencies' law enforcement efforts are sometimes frustrated by legal requirements of ARPA and the judicial process.

26. The section of the report referred to in this comment was deleted.

27. The report acknowledges that limited law enforcement cooperation has occurred between the three agencies.

28. The report presents information that was obtained from respondents to our questionnaire to local agency offices, concerning their coordination with other agencies and law enforcement agencies for the purposes of identifying and apprehending looters.

29. The memorandum of understanding between BLM and NPS, dated January 29, 1983, sets forth "policies for coordinating BLM and NPS planning and other programs on a continuing basis," and it establishes "a coordinating philosophy and policy framework under which more specific program or operational agreements may be developed." However, agency headquarters officials were not aware of any more specific agreements on the sharing of BLM and NPS law enforcement personnel or the exchange of information on looting incidents. The Fish and Wildlife Service was not included in our review.

30. We have added a discussion of the possible use of public awareness campaigns to inform the public of looters' other criminal activities in chapter 4.

31. We have added a reference to the OTA report in chapter 4.

32. Chapter 4 of the report acknowledges that there has been a limited amount of coordination of law enforcement efforts.

33. The annual NPS report on archeological activities presents summary statistical information. However, we believe agencies should also be collecting and analyzing intelligence information on current illegal activities, that could be used in ongoing law enforcement investigations. We have added a discussion of the Department's comments on our recommendations at the end of chapter 4.

34. While the report discusses coordinated law enforcement efforts, these have been limited and conducted on an ad hoc basis in reaction to specific situations. We believe that a multi-agency law enforcement effort, organized to address artifact looting and marketing (as well as other associated crimes) throughout the region, on a continuing basis, would be a more effective use of federal agencies' limited law enforcement staff.

35. We have added a discussion of the proposed bill at the end of chapter 4.

36. We believe "recorded" is a non-technical term that clarifies the meaning of the term "cataloged."

37. The report discusses permanent transfers of artifacts, not temporary loans of artifacts.

38. The word "reliance" is defined as "confidence." This information is based on the responses from local agency offices to our questionnaire, and these offices identified both federal and nonfederal facilities as curating artifacts removed from their lands. To the extent that local agency offices use federal facilities, their responses include federal facilities.

39. We have updated the status of the proposed rule in chapter 4.

40. We have added a discussion of the Department's comments on our recommendations at the end of chapter 5.

41. We have clarified in chapter 6 that the NPS estimates are tentative.

42. Data on the volume of artifacts and number of facility staff would have been included if we had been evaluating the facilities' ability to catalog collections. However, our presentation is solely for the purpose of pointing out that it takes some facilities a long time to catalog collections and in the meantime the facilities do not have accountability over the individual artifacts within the collections.

43. We have added a discussion on the estimated condition of NPS collections in chapter 6.

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44. We have clarified the report to indicate that the Antiquities Act and ARPA are discussed in chapter 1 and that appendix I contains a discussion of other selected laws.

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# Related GAO Products

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**Cultural Resources: Results of Questionnaire on State Historic Preservation Activities,**  
GAO/RCED-86-60FS, December 1985.

**Cultural Resources: Results of Questionnaire on Federal Agency Historic Preservation Activities,**  
GAO/RCED-86-45FS, December 1985.

**Federal Government's Progress in Implementing a National Archeological and Historic Preservation Program,**  
GAO/RCED-84-114, May 30, 1984.

**Archeological Studies at New Melones Dam in California,**  
GAO/RCED-84-4, October 25, 1983.

**Are Agencies Doing Enough or Too Much For Archeological Preservation,**  
CEd-81-61, April 22, 1981.

**Uncertainties over Federal Requirements For Archeological Preservation at New Melones Dam in California,**  
CEd-80-29, December 21, 1979.



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