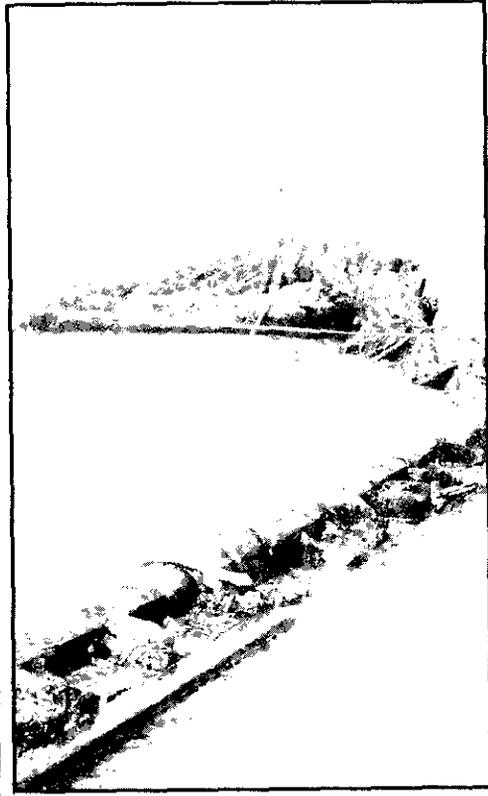
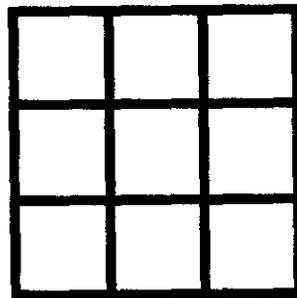
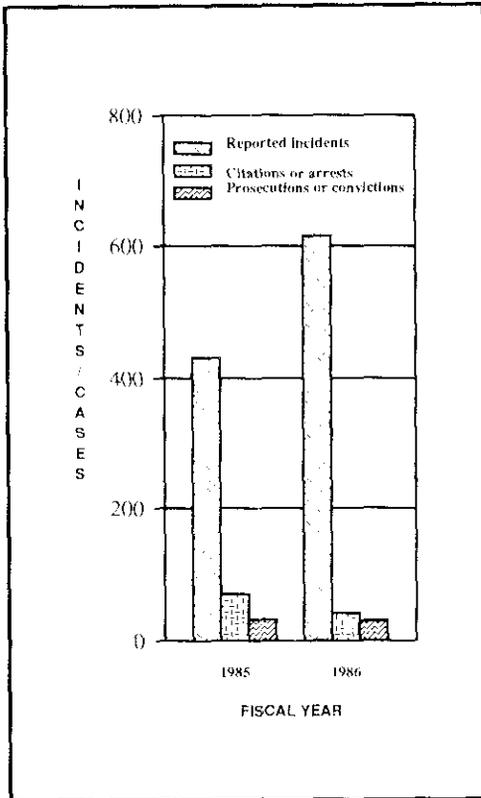


# FEDERAL ARCHEOLOGY

## The Current Program

D-534  
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General



Department of the Interior  
National Park Service

1989

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**Cover illustrations**

**Top row, left to right:**

*Vandalism and looting statistics, FY 1985 and FY 1986.*

*Megalithic architecture in Alaska: A prehistoric karigi (men's meeting house), north slope of the Brooks Range.*

**Bottom row, left to right:**

*Archeological excavations at Harmony Hall, Prince George's County, Maryland.*

*Mapping structural elements of the King Philip wreck, San Francisco Ocean Beach.*

**Photos courtesy of NPS.**



THE SECRETARY OF THE INTERIOR

WASHINGTON

October 18, 1989

Honorable J. Bennett Johnston  
Chairman, Committee on Energy  
and Natural Resources  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

It is my pleasure to provide you with a copy of Federal Archeology: The Current Program which is the annual report on Federal archeological activities during fiscal years 1985 and 1986. This report was prepared to fulfill my reporting responsibilities under Section 13 of the Archaeological Resources Protection Act and Section 5(c) of the Archeological Recovery Act. It also is presented to enhance information exchange in the area of archeological preservation and improve the coordination of Federal archeology as directed by Sections 2 and 101(h) of the National Historic Preservation Act.

We have produced a much more comprehensive description of Federal archeological activities for this report. A more detailed and analytical report is consistent with the greater interest in the preservation of Federal archeological resources that we have seen in the Congress, most recently expressed by the 1987 hearings on archeological looting and the 1988 amendments to the Archaeological Resources Protection Act.

This change from a more limited focus was supported by Bureau and Departmental archeologists and Federal Historic Preservation Officers throughout the Federal Government. Indeed, it would have been impossible to collect the data used in the report without their cooperation.

We hope for a very positive response to this approach and are planning for a similar broad focus in the FY 1987 report which we plan to complete and distribute this year and the FY 1988 report that we plan to have drafted for review by the end of FY 1989.

A similar letter is being sent to Honorable Morris K. Udall, Chairman of the Committee on Interior and Insular Affairs, House of Representatives.

Thank you for your continued support of the Federal archeological and historic preservation programs.

Sincerely,

*Manuel Lujan Jr.*

Enclosure



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WASHINGTON

October 18, 1989

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Sincerely,

*Manuel Lujan Jr.*

Enclosure

# FEDERAL ARCHEOLOGY: THE CURRENT PROGRAM

ANNUAL REPORT TO CONGRESS ON THE  
FEDERAL ARCHEOLOGY PROGRAM  
FY 1985 and FY 1986



COMPILED BY

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1989

## ACKNOWLEDGEMENTS

The content, scope, and quality of this report was made possible through interagency cooperation. The departments and agencies that contributed by providing data made it possible, for the first time, to describe and evaluate the wide range of archeological activities carried out as part of the Federal Archeology Program. Without their cooperation this level of reporting would not have been possible. A special note of appreciation is extended to all those individuals who collected and compiled data for the FY 1985 and FY 1986 questionnaires. Their time and efforts provided the foundations for this report.

The staff of the Archeological Assistance Division (WASO) was responsible for compiling and evaluating data provided by 42 departments and agencies. The task set before them was to write the first report documenting Federal archeological activities on the national level based on data provided by individual departments and agencies. Their collective experience, dedication, persistence, and ability to work well with colleagues in various departments and agencies made this report possible. A special note of appreciation goes to Jane R. Caulton, Robin K. Coates, Patricia C. Knoll, Susan D. Morton, Juliette G. Tahar, and Richard C. Waldbauer for their valuable input and assistance in producing this report.

## EXECUTIVE SUMMARY

This report is prepared by the National Park Service (NPS) at the direction of the Secretary of the Interior for the Senate Energy and Natural Resources Committee and the House Interior and Insular Affairs Committee of the United States Congress, pursuant to Section 5(c) of the Archeological and Historic Preservation Act of 1974 (AHPA) and Section 13 of the Archaeological Resources Protection Act of 1979 (ARPA). In addition the report provides information about the wide range of Federal archeological activities in order to provide assistance with professional methods and techniques for archeological preservation and for the administration of historic preservation programs as directed by Sections 2 and 101(h) of the National Historic Preservation Act (as amended). Under these Acts the Secretary of the Interior is directed to report on the scope and effectiveness of various aspects of Federal archeological activities and to provide information about such activities and programs to Federal agencies, State and local governments, private organizations and individuals, other nations, and international organizations. The Secretary can also recommend changes or improvements needed and report on communication and information exchange activities.

### Goals

This report contains more extensive and detailed information about Federal archeological activities than past reports. This is consistent with the increased concern in Congress, among archeologists and preservationists, and in the general public for the preservation of America's archeological heritage. Such concern was expressed, for example, by recent Congressional hearings on archeological looting, by the 1988 amendments to the Archaeological Resources Protection Act and by frequent reports in the news media from across the country of sites damaged by looting or modern development. This recognition also leads to a greater cooperative spirit among agency staffs to provide detailed information for compilation and analysis by the Park Service.

This report has five general goals:

1. To describe as accurately as possible the types and frequencies of various activities related to Federal archeological programs.
2. To determine as accurately as possible the cost, results, and benefits of Federal archeological activities.
3. To estimate as accurately as possible the extent of Federal archeological resources and their condition.
4. To identify and describe the existing and potential threats to the preservation and wise use of the nation's archeological heritage.
5. To provide recommendations or alternatives to Congress for improving the Federal Archeology Program.

### Organization of the Report

The complexity of the Federal government is reflected in the diversity of the departments, individual agencies, and missions represented in this report. These missions span a range of responsibility from land management to resource development to defense. Departments and agencies carry out their responsibilities with various types of

organization, funding, and personnel levels. Due to this variability consistent data collection was not totally possible with respect to all questions asked on the questionnaire used to collect data for this report, because some questions did not apply to some departments or agencies. Steps, described in later chapters, have been taken to modify raw data so that they are more directly comparable.

Data in this report comes from questionnaires described in Chapter 1. This information is the latest available governmentwide. It covers Federal archeological activities for FY 1985 and FY 1986 (October 1984 through September 1986).

All of the major land or resource managing agencies (e.g., BLM, FS, NPS), as well as the major development agencies (e.g., COE, EPA, FHWA) provided data. In some instances these data were incomplete. However, attempts have been made to point out in the following description and analysis where data are incomplete and what adjustments have been made to account for this. For future reports, work will continue to improve the accuracy, detail, and completeness of agency data.

The report is divided into seven chapters and two appendices. Chapter 1 describes the authority and goals of the report, reporting history, the general method followed in collecting the data and assembling it, and report organization. Chapter 2 describes the Federal Archeology Program and the legislation upon which it is based. Chapters 3 through 6 describe and analyze Federal archeological activities for FY 1985 and FY 1986. Data collected for both fiscal years is organized under four headings: Chapter 3, archeological investigations; Chapter 4, the Federal archeological resource base; Chapter 5, the problem of archeological looting; and Chapter 6, Federal efforts at improving public awareness, education, and involvement in archeology. Costs associated with specific activities are discussed in the appropriate section, and summarized and compared in the final section of Chapter 3 entitled "Cost Summary and Comparison - FY 1985 and FY 1986." Chapter 7 contains recommendations on improving the Federal efforts in archeology and the preservation of archeological resources. Departmental/agency responses to the questionnaire are included as an appendix.

### **Maintaining Effectiveness and Improving Federal Archeology**

The body of this report documents and analyzes the efforts of Federal agencies to preserve archeological properties on Federal lands and those that will be affected by federally sponsored or licensed activities. Many Federal archeological projects and some entire archeological preservation programs are exemplary. Yet, generally there is room for improvement in important aspects of archeological preservation. In the report, four general program areas that could be improved are identified.

**1. Give more attention to the inventory and evaluation of archeological properties on Federal lands and to the curation of archeological records and collections.** The archeological record is irreplaceable, often it is easily disturbed or destroyed, and frequently hidden from sight. As our only source of much of what we would like to know about the past, the long term preservation of America's archeological heritage should be given substantial attention and concern by Federal agencies.

By improving their knowledge about archeological site locations and significance, Federal managers also will be better able to fight looting and vandalism of these sites through more focused law enforcement efforts. Archeological collections and records often are all that remains for future generations of the archeological record. Their existence is evidence of our belief that data recovery and curation of remains and records are essential to our ability to understand what happened in the past. More attention is needed for curation of archeological collections and records if the data gathered at a substantial cost is to be preserved effectively.

**2. Cooperate in the sharing of information about archeological properties, reports, projects, and other kinds of activities.** As this report demonstrates, Federal agencies undertake, fund, or require a large amount of

archeological work. This work is organized and directed by each individual agency rather than by a central organization, as in some other countries, particularly in Europe. This is effective because it makes each agency responsible for archeological preservation in its own activities, but it also means that without coordination and interagency cooperation, important information may not be consistently recorded or may not be easily available to those who need it. Three specific actions that would aid in this area are continued cooperation by Federal agencies in contributing information for reports like this one in future years, more active contributions to and use of the LEAP and LOOT clearinghouses (see chapters 5 and 6), and the acceptance, by Federal and related State agencies, of the data standards for the Reports and Project portions of the National Archeological Database for use in their own computer systems.

**3. Cooperation in efforts to apprehend those who loot Federal, State, local, and private protected archeological properties.** Amendments to ARPA made by the 100th Congress (P.L. 100-555 and P.L. 100-588) will increase the effective enforcement of the anti-looting sections of ARPA substantially. It is acknowledged, however, that some individuals will continue to loot sites for profit and can only be stopped by more effective law enforcement. Interagency cooperation has proven to be an important tool in this effort and should be encouraged at the local, State, regional, and national levels. More specialized training in archeological resource protection also is needed for law enforcement personnel, resource and program managers, and Federal, State, and local prosecutors.

**4. Provide more public education, outreach, and involvement activities as part of Federal archeological projects and programs.** Most individuals will support archeological preservation if they learn about it in a positive way. This is not difficult because many people have an inherent interest in archeology and its interpretation. Education efforts should be targeted at some special populations as well, including Federal judges and United States Attorneys and their staffs. Public involvement in archeological projects might help, in some circumstances, to provide an important source of labor for some necessary surveys, tests, excavations, or laboratory work.

These topics are general areas that the Congressional Committees with responsibilities for Federal archeological activities and heritage management should see as important for an effective Federal archeological program.

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## CHAPTER 1. INTRODUCTION

### Authority

This report is prepared by the National Park Service (NPS) at the direction of the Secretary of the Interior for the Senate Energy and Natural Resources Committee and the House Interior and Insular Affairs Committee of the United States Congress, pursuant to Section 5(c) of the Archeological and Historic Preservation Act of 1974 (AHPA) and Section 13 of the Archaeological Resources Protection Act of 1979 (ARPA). In addition the report provides information about the wide range of Federal archeological activities in order to provide assistance with professional methods and techniques for archeological preservation and for the administration of historic preservation programs as directed by Sections 2 and 101(h) of the National Historic Preservation Act (as amended). Under these Acts the Secretary of the Interior is directed to report on the scope and effectiveness of various aspects of Federal archeological activities and to provide information about such activities and programs to Federal agencies, State and local governments, private organizations and individuals, other nations, and international organizations. The Secretary can also recommend changes or improvements needed and report on communication and information exchange activities.

### Report Goals

This report contains more extensive and detailed information about Federal archeological activities than past reports. The expansion reflects recognition by archeologists and other historic preservation officials in various Federal agencies that a more comprehensive description of the overall scope, cost, and results of Federal archeology would be valuable for Congress, Federal agencies, State and local governments and others concerned about archeological preservation. This recognition led to a greater cooperative spirit among agency staffs to provide detailed information for compilation and analysis by the Park Service. The report was prepared by the Archeological Assistance Division (AAD) under the supervision of the Departmental Consulting Archeologist (DCA).

This report has five general goals:

1. To describe as accurately as possible the types and frequencies of various activities related to Federal archeological programs.
2. To determine as accurately as possible the cost, results, and benefits of Federal archeological activities.
3. To estimate as accurately as possible the extent of Federal archeological resources and their condition.
4. To identify and describe the existing and potential threats to the preservation and wise use of the nation's archeological heritage.
5. To provide recommendations or alternatives to Congress for improving the Federal Archeology Program.

### Reporting History

After passage of the Archeological and Historical Preservation Act in 1974, the Secretary of the Interior began reporting to Congress on the Federal Archeology Program; the first report described FY 1975 activities. From FY 1975 through FY 1978 reports consisted primarily of information on archeological investigations conducted by the National Park Service's Interagency Archeological Services program. These investigations were funded either by appropriations made to NPS under the 1974 Act or with funds transferred to NPS from other Federal agencies. In order to collect information on federally - authorized archeological projects that were not conducted by NPS, all Federal agencies were requested to provide NPS information concerning archeological projects related to their programs for the reports between FY 1976 and 1978. The information provided was largely incomplete, however, and the reports for these fiscal years were not able to assess reliably the cost, scope, and effectiveness of Federal archeological activities.

## Data Collection and Analysis - FY 1985 and FY 1986

Since FY 1979, NPS has used a questionnaire to collect information from Federal agencies about their archeological activities. Initially the questionnaire was designed to collect information on individual archeological projects. However, because many agencies were not able to provide the level of detail requested on individual projects, the questionnaire was revised to collect summary information. Since 1979 the questionnaire has been revised periodically based on department/agency evaluation and input. Responses to the questionnaire were mixed and coverage of Federal activities inconsistent until planning began for the present report.

In August 1985, the National Park Service sponsored an interagency meeting to discuss the preparation of the report to Congress. The generally recognized interrelatedness and common goals of Federal archeological activities, lead the participants to conclude that future reports, of which this report is the first, should contain information on all Federal archeological activities. The participants in the meeting agreed to work together with NPS to gather consistent information governmentwide. A new questionnaire was developed covering a variety of topics including: types of activities and costs; the archeological resource base; vandalism and looting; and cooperation and public awareness. Categories of data collection are listed on Table 1.1.

The questionnaire developed for collecting FY 1985 information was reviewed by all concerned agencies. After its use for the FY 1985 data collection, it was modified substantially to improve collection of FY 1986 information. Questionnaires were sent to all departments and agencies having archeological responsibilities. With few exceptions, department and agencies provided information on their activities for inclusion in the report to Congress for both FY 1985 and FY 1986 (Table 1.1). Not all agencies provided the full range of information requested. Variation occurred because of differences in agency function, organization, and record keeping procedures.

This attempt to address the entire Federal Archeology Program is only possible due to substantial progress made through interagency cooperation in collecting and organizing data from the wide variety of departments and agencies that have archeological responsibilities. Future reports will continue this level of detail in description and analysis.

The complexity of the Federal government is reflected in the diversity of the departments, individual agencies, and missions represented in this report. These missions span a range of responsibility from land management to resource development to defense. Departments and agencies carry out their responsibilities with various types of organization, funding, and personnel levels. Due to this variability consistent data collection was not totally possible with respect to all questions asked, because some questions did not apply to some departments or agencies. Steps, described in later chapters, have been taken to modify raw data so that they are more directly comparable.

Data in this report comes from questionnaires described in this chapter, filled out and submitted by Federal agencies. This information is the latest governmentwide information available. It covers Federal archeological activities for FY 1985 and FY 1986 (October 1984 through September 1986).

Copies of both the FY 1985 and FY 1986 questionnaires are included in Appendix B. Table 1.2 lists agencies queried for FY 1985 and FY 1986 and their response. Agency abbreviations/acronyms used in this report are listed in Table 1.3. Over 98% (41) of the 42 agencies queried responded to the FY 1985 questionnaire, a substantial increase in response over previous years. Of the agencies that responded, 79% (33) provided data, 14% (6) said that the questionnaire did not apply, 5% (2) indicated that they had no data to report, and 2% (1) did not respond to the questionnaire (Figure 1.1).

All agencies queried in FY 1986 responded to the questionnaire. Data were provided by 79% (32) agencies, while 14% (6) indicated that data requested was not applicable. Ten percent (4) of the agencies indicated that they did not have any data to report for FY 1986 (Figure 1.2).

Data collected from individual agencies for FY 1985 and FY 1986 are organized in a spreadsheet format and included in Appendix A, Tables A.1 - A.13. Because agencies provided specific and general explanations regarding their responses, footnotes are included following the spreadsheets.

**TABLE 1.1**  
**DESCRIPTION OF DATA CATEGORIES**

CATEGORY	DESCRIPTION
<b>Permitting</b>	This information aims to summarize the amount of archeological activity undertaken using various legal authorities.
<b>Enforcement</b>	This information aims to summarize the amount and extent of destruction of archeological properties due to looting and vandalism, and prosecutions related to these activities.
<b>Personnel Education</b>	This information aims to establish the extent to which agencies are providing training for law enforcement and archeological personnel with respect to <i>cultural resource</i> laws and enforcement.
<b>Identification and Evaluation Investigations</b>	This information aims to estimate the level of effort put into identification and evaluation of archeological investigations by agency personnel or contractors working for agencies or other parties.
<b>Data Recovery</b>	This information aims to estimate the level of effort being devoted to data recovery projects and the kinds of research topics being investigated.
<b>Unanticipated Discoveries</b>	This information aims to estimate the extent to which archeological properties are discovered during the implementation of an agency undertaking subsequent to completion of the Section 106 review and compliance process.
<b>Estimating the Archeological Resource Base (FY 1986 only)</b>	This information aims to provide baseline data about the extent of archeological resources within the lands managed by Federal agencies and the quality of our knowledge about them.
<b>Narrative Questions (FY 1986 only)</b>	<p>These questions contain information that cannot be answered with a number, dollar figure or percentage. Topics include:</p> <ul style="list-style-type: none"> <li>a. Computerized systems used to record and monitor ARPA, Antiquities Act, and/or other permits for archeological activities.</li> <li>b. Training courses used for law enforcement training or general training in archeology for cultural resource specialists or program or land managers.</li> <li>c. Cooperative projects, methods, and/or techniques used to improve ARPA enforcement.</li> <li>d. Methods and techniques to improve archeological resource preservation.</li> <li>e. Systems for sharing archeological information with other agencies, SHPO's, and other archeological groups or specialists.</li> <li>f. Systems developed for coordinating ARPA permits with Section 106 compliance and SHPO surveys and planning.</li> <li>g. Communication, cooperation, and exchange between private individuals having collections of archeological resources and data, obtained before enactment of ARPA, professional archeologists, and associations of professional archeologists.</li> </ul>

**TABLE 1.2**  
**RESPONSE TO FY 1985 AND FY 1986 QUESTIONNAIRE**

DEPARTMENTS/AGENCIES	FY 1985	FY 1986
<b>Department of Agriculture</b>		
Agriculture Stabilization and Conservation Service	ND	NA
Farmers Home Administration	DP	DP
Forest Service	DP	DP
Rural Electrification Administration	DP	DP
Soil Conservation Service	DP	DP
<b>Department of Commerce</b>		
Economic Development	NA	NA
National Oceanic and Atmospheric Administration	DP	DP
<b>Department of Defense</b>		
Air Force	DP	DP
Army	DP	DP
Army Corps of Engineers	DP	DP
Marines	DP	DP
Navy	DP	DP
<b>Department of Education</b>	DP	DP
<b>Department of Energy</b>	DP	DP
Federal Energy Regulatory Commission	NA	NA
<b>Nuclear Regulatory Commission</b>	DP	DP
<b>Environmental Protection Agency</b>	DP	DP
<b>Federal Communication Commission</b>	ND	ND
<b>General Services Administration</b>	DP	DP
<b>Department of Health and Human Services</b>	DP	DP
<b>Department of Housing and Urban Development</b>	NA	NA
<b>Department of Interior</b>		
Bureau of Indian Affairs	DP	DP
Bureau of Land Management	DP	DP
Bureau of Reclamation	DP	DP
Fish and Wildlife Service	DP	DP
Minerals Management Service Outer Continental Shelf	DP	DP
National Park Service	DP	DP
Office of Surface Mining	DP	DP
U.S. Geological Survey	DP	DP
<b>Department of Justice</b>	DP	DP
<b>Department of Labor</b>	NA	ND
<b>National Aeronautic and Space Administration</b>	DP	DP
<b>National Capital Planning Commission</b>	NA	NA
<b>Pennsylvania Ave. Development Corporation</b>	NR	ND
<b>Postal Service</b>	DP	DP
<b>Small Business Administration</b>	NA	NA
<b>Tennessee Valley Authority</b>	DP	DP
<b>Department of Transportation</b>		
Federal Aviation Administration	DP	DP
Federal Highway Administration	DP	DP
Federal Railroad Administration	DP	ND
Urban Mass Transportation Administration	DP	DP
<b>Veterans Administration</b>	DP	DP

DP = Data Provided  
 NA = Indicated that data requested was Not Applicable  
 ND = No Data to report  
 NR = No Response to questionnaire

TABLE 1.3

## DEPARTMENT/AGENCY ABBREVIATIONS USED IN REPORT

DEPARTMENTS/AGENCIES	ABBREVIATION
Agriculture Stabilization and Conservation Service	ASCS
Farmers Home Administration	FmHA
Forest Service	FS
Rural Electrification Administration	REA
Soil Conservation Service	SCS
Economic Development	Econ Devel
National Oceanic and Atmospheric Administration	NOAA
Air Force	Air Force
Army	Army
Army Corps of Engineers	COE
Marines	Marines
Navy	Navy
Department of Education	Education
Department of Energy	Energy
Federal Energy Regulatory Commission	FERC
Nuclear Regulatory Commission	NRC
Environmental Protection Agency	EPA
Federal Communication Commission	FCC
General Services Administration	GSA
Department of Health and Human Services	H&HS
Department of Housing and Urban Development	HUD
Bureau of Indian Affairs	BIA
Bureau of Land Management	BLM
Bureau of Reclamation	BOR
Fish and Wildlife Service	FWS
Minerals Management Service	MMS
National Park Service	NPS
Office of Surface Mining	OSM
U.S. Geological Survey	USGS
Department of Justice	Justice
Department of Labor	Labor
National Aeronautic and Space Administration	NASA
National Capital Planning Commission	Nat Cap Plan
Pennsylvania Avenue Development Corporation	PADC
Postal Service	Postal Service
Small Business Administration	SBA
Tennessee Valley Authority	TVA
Federal Aviation Administration	FAA
Federal Highway Administration	FHWA
Federal Railroad Administration	FRA
Urban Mass Transportation Administration	UMTA
Veterans Administration	VA

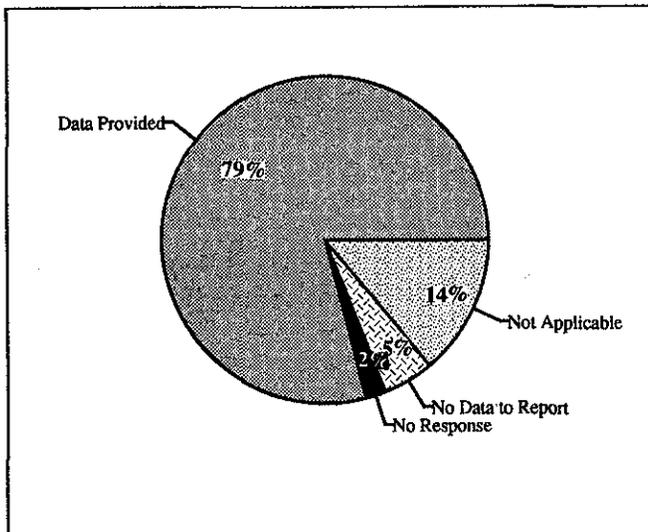


Figure 1.1. Percent of response to FY 1985 questionnaire

All of the major land or resource managing agencies (e.g., BLM, FS, NPS), as well as the major development agencies (e.g., COE, EPA, FHWA) provided data. In some instances these data were incomplete. However, attempts have been made to point out in the following description and analysis where data are incomplete and what adjustments have been made to account for this. For future reports, work will continue to improve the accuracy, detail, and completeness of agency data.

### Report Organization

The report is divided into seven chapters and two appendices. Chapter 1 has described the authority and goals of the report, reporting history, the general method followed in collecting the data and assembling it, and report organization. Chapter 2 describes the Federal Archeology Program and the legislation upon which it is based. Chapters 3 through 6 describe and analyze Federal archeological activities for FY 1985 and FY 1986. Data collected for both fiscal years is

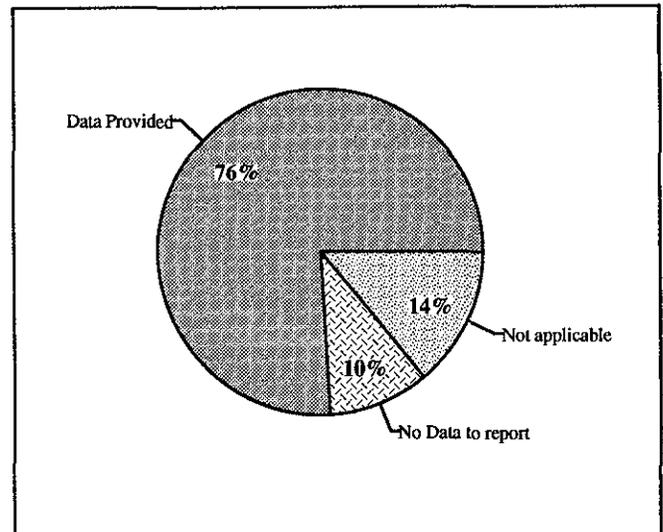


Figure 1.2. Percent of response to FY 1986 questionnaire

organized under four headings: Chapter 3, archeological investigations; Chapter 4, the Federal archeological resource base; Chapter 5, the problem of archeological looting; and Chapter 6, Federal efforts at improving public awareness, education, and involvement in archeology. Costs associated with specific activities are discussed in the appropriate section, and summarized and compared in the final section of Chapter 3 entitled "Cost Summary and Comparison - FY 1985 and FY 1986." Chapter 7 contains recommendations on improving the Federal efforts in archeology and the preservation of archeological resources. Appendix A contains spreadsheets with the agency specific responses to the FY 1985 and FY 1986 questionnaires. These spreadsheets, Tables A.1 - A.13, are referred to throughout the report as they relate to the topics dealt with. Appendix B contains the questionnaires used for collecting FY 1985 and FY 1986 data.

In the report text and tables, Federal agencies are referred to in alphabetical order by major departments and alphabetically within these departments. The order used is shown in Table 1.2.

## CHAPTER 2. THE FEDERAL ARCHEOLOGY PROGRAM

### Introduction

Official concern by the Federal government for the preservation of important archeological properties began during the 19th century in response to the destruction and looting of Indian ruins in the West. Since then, the breadth of this concern has grown to include the consideration of impacts to archeological properties, as well as other kinds of cultural resources by most Federal activities. As this report illustrates, a very wide range of agencies and activities at the national, state, and local levels are involved in Federal archeology. All of the archeological work that this encompasses is referred to as the Federal Archeology Program. It is part of the larger National Historic Preservation Program which operates by authority of various statutes, central among them the National Historic Preservation Act. The Federal Archeology Program involves several additional statutes that are specific to archeological properties and activities: the Antiquities Act of 1906 (P.L. 59-209), the Archeological and Historic Preservation Act of 1974 (P.L. 93-291), and the Archaeological Resources Protection Act of 1979 (P.L. 96-95).

In this chapter the historical development of Federal archeology, the statutes upon which it is based (including changes that occurred during FY 1985 and FY 1986), and program function and responsibilities are summarized.

### Historical Background and Development

It is interesting to note that some of the first archeological investigations in this country were conducted by individuals and private organizations that were more interested in knowing something about the people who lived in America before European contact than in recovering artifacts as art objects. This is considerably different from what was happening at the same time in other parts of the world. In Greece, Italy and Egypt, for example, many archeological sites were being looted for the valuable objects they contained, with little or no effort to learn about the people who made them.

The early interest in excavating sites for scientific reasons and publishing the results had a major influence on the development of archeology in this country and Federal involvement in archeology.

In 1784, Thomas Jefferson excavated an Indian mound on his Monticello plantation in order to determine its construction and use; his description of the work and analysis are published in the *Notes on the State of Virginia*. The importance of Jefferson's work was that it was undertaken to answer research questions, used careful excavation techniques to recover data, drew conclusions, and was published, all of which were to become part of modern archeology (Willey and Sabloff 1974: 36-38). From this and other early beginnings, interest in understanding and preserving archeological sites grew, archeology developed as an academic discipline and science, and efforts to preserve American archeological resources resulted in a body of Federal legislation which today guides many archeological activities conducted in this country.

In addition to Jefferson's early work, mounds near Cincinnati were examined in 1793, and the results were published by the Historical Society of Ohio. During the mid-1800s public concern for historic sites, such as Mount Vernon, stimulated movements to preserve sites associated with individuals and events important to the Country's short but dynamic history. During the late 1800s there was a similar concern for Revolutionary and Civil War battlefields. Private organizations and individuals were the primary sponsors of archeological activities in this country through most of the 19th century, but this was to change as a result of the Federal government's efforts to map the West.

In the late 1800s the Federal government sent expeditions to map the West. As a result, numerous spectacular archeological sites were documented in the American Southwest. In addition to reporting the ruins, note was also made of the extensive amount of looting that already had taken place at prominent sites such as Pecos, Mesa Verde, and Casa Grande. Expeditions organized by the U.S. Geological Survey and the Smithsonian Institution's Bureau of Ethnology,

both established in 1879, and private expeditions such as the Hemmenway Southwest Archeological Expedition (1886-1888), collected an enormous amount of archeological data (Hinsley 1981). Increasing research by academic institutions and museums added to this. Using this information, influential citizens and members of Congress were able to establish legislation and funding in 1889 to protect and repair Casa Grande. In 1892 Casa Grande was set aside as the first national archeological reservation in U.S. history (Lee 1970:20).

During the late 1800s and early 1900s concern for American antiquities grew in both private and governmental sectors. Reports and warnings from individuals and professional organizations, such as the American Association for the Advancement of Science, the Anthropological Society of Washington, and the Archaeological Institute of America, increased public awareness of the destruction of archeological sites, which contributed to the passage in 1906 of the Antiquities Act (Lee 1970). This far-reaching statute makes Federal officials responsible for protecting archeological sites on public lands. It designates these archeological sites as public resources and prohibits looting and vandalism. With passage of this Act, archeological sites on approximately one-third of the country's land are afforded protection. The 1906 Act also gives the President the power to establish National Monuments in areas of outstanding scientific and historical value.

The Antiquities Act provides a mandate for Federal agencies that administered public lands to preserve archeological sites on those lands. During the 20th century, the concern for the preservation of all kinds of archeological and historic properties produced many statutes that affect the treatment of archeological sites. The scope of Federal involvement in archeology and the effects of Federal activities beyond public lands increased substantially after the massive public works programs of the 1930s. The majority of legislation addressing archeological concerns has been enacted since this time. Interested readers will find more detailed accounts of the development of Federal archeology and historic preservation in Hosmer (1965, 1981), King, *et al.* (1977), and King and Lyneis (1978).

Increased public awareness and concern for conservation of the nation's natural and cultural heritage lead to the creation of the National Park Service in 1916. Further legislation followed throughout the 20th century. The Historic Sites Act of 1935 establishes a broad Federal mandate to preserve historic sites,

buildings, and objects of national significance. The Federal-Aid Highway Act of 1956 prohibits the use of historic properties including archeological sites for highways, unless there is no feasible alternative. This was the first statute protecting archeological resources on nonfederal lands from impacts of federally financed construction projects. The Reservoir Salvage Act of 1960 requires Federal agencies building or permitting the building of reservoirs to consider archeological, historic, and scientific data that might be destroyed by such projects. This was the first act to recognize that archeological sites are important for their data, and to provide a source of funding to collect archeological data. The National Historic Preservation Act of 1966 (as amended) establishes the National Register of Historic Places as a listing of properties of national, state, or local significance, establishes the President's Advisory Council on Historic Preservation, designates State Historic Preservation Officers to administer state programs, and provides regulations and procedures that are followed by most Federal agencies in meeting their historic preservation requirements. The National Environmental Policy Act of 1969 requires Federal agencies to prepare environmental impact statements for Federal actions that affect the quality of the human environment, including archeological sites. Executive Order 11593 requires Federal agencies to inventory lands they administer for archeological and historic properties. This requirement was incorporated into the National Historic Preservation Act by amendment in 1980. The Archeological and Historic Preservation Act of 1974 amended the Reservoir Salvage Act, extending its provisions to include all Federal construction activities and all Federally licensed or assisted activities that would cause loss of scientific, prehistoric, or archeological data. The Archaeological Resources Protection Act of 1979 expanded upon the provisions of the 1906 Antiquities Act by establishing major criminal and civil penalties for violations of the Act, establishing procedures for issuing permits for archeological testing and excavation on public lands, and requiring various interagency program reporting and coordination activities.

Since the 19th century the breadth of Federal concern for archeological preservation has grown to include the consideration of the impact of modern life upon archeological properties nationwide. As a result, there is a wide range of agencies and activities at the national, state, and local levels involved in Federal archeology. During FY 1985 and FY 1986 legislation was enacted and a number of rules and regulations, and policy statements, were promulgated that effect Federal archeological activities (Table 2.1).

TABLE 2.1

## LEGISLATION, RULES, AND POLICIES, FY 1985 AND FY 1986

CATEGORY	DESCRIPTION
<b>Legislation</b>	
<b>Arctic Research Policy Act of 1984 (P.L. 98-373)</b>	Defines U.S. interests in the Arctic and establishes a framework for developing priorities in basic and applied research, including archeology; stresses the coordination of Arctic research through interagency, Federal/State, and private sector cooperation with respect to planning and data sharing; calls for public awareness and cooperation in the development of an Arctic Research Plan that will assess national needs and problems, state goals and objectives, list existing Federal programs, recommend necessary program changes, and describe actions to be taken to coordinate the budget process.
<b>Rules and Regulations</b>	
<b>43 CFR Part 7B</b>	Pertains to Department of the Interior bureau functions and authorities under ARPA and addresses five main areas: (1) supplemental definitions, (2) determination of loss or absence of archeological interest, (3) permitting procedures relating to Indian lands, (4) permit appeals and disputes, and (5) civil penalties hearings and appeals procedures.
<b>36 CFR Part 79</b>	Provides guidance to Federal agencies about the curation of archeological collections, particularly, custody of collections, accountability and registration, conservation, storage, security, restrictions on use of sensitive objects, access for educational and scholarly purposes, periodic inspections and reports, and funding, among other things.
<b>36 CFR Part 76</b> <i>"Definition of an Object of Antiquity"</i>	(Withdrawn because the appropriate definitions of "archeological resource," "archeological interest," and "material remains" are contained in the ARPA uniform rules.)
<b>Section 16</b>	(A technical amendment to the ARPA uniform rules) Provides for assessment of civil penalties according to the archeological value of resources damaged by violators.
<b>18 CFR Part 1312</b>	(Supplemental rules which assign "specific responsibilities within TVA") Pertains to the issuance of permits for authorized excavations, protection of resources through assignments, civil penalties for violations of the Act, and assurances for preserving the confidentiality of archeological information.

**25 CFR Part 261** (formerly 25 CFR Part 132)  
*"Preservation of Antiquities"*

(Updated by the Bureau of Indian Affairs [BIA]) Implements the 1906 Antiquities Act.

**25 CFR Part 262** (formerly 25 CFR Part 281)  
*"Heritage Preservation"*

Describes the implementation of the National Historic Preservation Act and ARPA as these laws pertain to BIA responsibilities on Indian lands.

**43 CFR Part 8100**  
*"Cultural Resource Management"*

(Developed by the Bureau of Land Management) Balances land and resource use with effective cultural resource protection, in which "the rule will adapt a Government-wide compliance procedure to a Bureau-specific procedure, with substantial streamlining, reduction of outside consultation, (and) quicker management decisions."

**30 CFR Part 250**

(A proposal by the Minerals Management Service) Consolidates "regulations, OCS Orders, Notices to Lessees, and related offshore operating requirements into a unified body of regulations" in order to improve their effectiveness and add performance standards; includes rules concerning the protection of cultural resources.

**33 CFR Part 325**

(Corps of Engineers rules regarding processing of Department of the Army permits) Includes provisions for protection of historic properties in Section 325.2(b)(3). A proposed Appendix C to the permit rules (49 FR 19036) will establish procedures to be followed to fulfill National Historic Preservation Act requirements.

**30 CFR Part 762.5**  
*"Criteria for Designating Areas as Unsuitable to Surface Coal Mining Operations"*

(Proposed by the Office of Surface Mining Regulation and Enforcement [OSMRE]) Removes any degree of damage stipulations regarding impacts to fragile or historic lands.

**30 CFR Part 773**  
*"Requirements for Permits and Permit Processing"*

(Proposed by OSMRE) Clarifies existing requirements about the protection of historic properties, whereby States with approved regulatory programs "have authority to require specific actions to assist (in compliance) with Section 106 of the National Historic Preservation Act."

**36 CFR Part 800** (51 FR 31115)  
*"Protection of Historic Properties"*

(Revision published as a final rule by the Advisory Council on Historic Preservation) Reduces regulatory burdens, increases flexibility in historic preservation compliance activities, and streamlines the administrative process. Among other things, the revisions clarified in Section 800.11 outlines the options available to Federal agencies for actions to resolve situations where unanticipated discoveries of archeological resources are made during an undertaking.

**36 CFR Part 78**  
*"Waiver of Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act"*

(Final rule issued by the Interagency Resources Division of the National Park Service) Provides for waiver of historic preservation responsibilities by a Federal Agency under Section 110 if emergency actions necessary to preserve lives or property would be impeded during imminent natural disaster or threat to national security.

(A proposed rule [51 FR 28204] published by the Interagency Resources Division of the National Park Service) Consolidates and updates procedures contained in these parts. The intended effect is to clarify, streamline, and improve the administrative procedures for identification and registration of historic and archeological properties eligible for inclusion in the National Register of Historic Places.

## Policy Statements

### MMSM 620.1-H

*"Handbook for Archaeological Resource Protection"*

(Issued as a new part to the Minerals Management Service's Service Manual) Describes policy and responsibilities for the protection of archeological resources associated with all MMS Outer Continental Shelf actions. The objectives of the handbook were to establish procedures and provide guidelines for the regional implementation of the archeological resource protection program. It is the policy of MMS to: (1) consider the impacts on archeological resources in all aspects of planning, leasing, permitting, and regulatory decisions; (2) ensure that archeological resources are not damaged or destroyed by operations on the Outer Continental Shelf; and (3) achieve and maintain a consistent application of archeological resource stipulations, regulations, and other related requirements.

### Native American Relationships Management Policy

(Final management policy by the National Park Service) Defines NPS management responses to the requirements of the American Indian Religious Freedom Act (P.L. 95-341) and other legislation. Also defines terms, discusses Native American traditional activities in NPS units, Native American involvement in planning, and their concerns in resources management, research, and interpretation.

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## Current Program - Function and Responsibilities

The Federal Archeology Program functions under various statutes, rules and regulations, policy statements, and guidelines by integrating the values of preservation, research, and education with the individual mission of each agency, most of which do not have archeology as a primary function. Each department/agency has its own internal organization to comply with Federal mandates concerning archeological resources. This may be accomplished with a professional staff of archeologists, through agreements with other agencies with archeological capabilities or by using qualified archeological consultants.

The ways in which different departments and agencies are involved in the Federal Archeological Program depend upon their function within the government.

Some agencies, such as the Bureau of Land Management, the Forest Service, the National Park Service, and others, are responsible for managing large amounts of land or other kinds of resources. These agencies are responsible for the care of important archeological resources under their control. Some agencies, such as the Environmental Protection Agency, the Federal Highway Administration, and others, function to help other levels of government, or the private sector to develop resources and facilities. These agencies are responsible for ensuring that developments that they license, fund, or support in some other way do not wantonly destroy important archeological resources. Although it is possible to categorize agency functions very generally as resource management agencies or development agencies, many agencies carry out a combination of these activities as they execute their specific roles. The resource management agencies, for example,

undertake or permit development activities on the lands they administer. Some agencies that are primarily development-oriented, such as the Bureau of Reclamation and the Corps of Engineers, administer some lands for recreation or other purposes as well. Large agencies especially undertake a wide variety of activities for which archeological investigations are needed.

As one might expect, given the different roles, agencies can take very different approaches to how they meet their archeological responsibilities. Some, such as the Bureau of Land Management, Forest Service, and the National Park Service have developed extensive internal archeological programs with

hundreds of archeologists on staff. Agencies mainly responsible for assisting other levels of government with development projects, such as the Federal Highway Administration and the Environment Protection Agency, have passed along the responsibility for accomplishing the actual archeological investigations to state or local agencies that are undertaking the development action.

American archeology and historic preservation have developed side by side and share similar constructs. The Federal Archeology Program has benefited from strong legislation and public support for historic preservation and relies on and is an integral part of the nation's historic preservation program.

## CHAPTER 3. FEDERAL ARCHEOLOGICAL INVESTIGATIONS AND STUDIES

This chapter describes the types, quantities, and cost of various kinds of archeological investigations done by or for Federal agencies during FY 1985 and FY 1986. The chapter is divided into sections on permits for archeological investigations on Federal and Indian lands, documentary and map research activities, identification and evaluation studies, data recovery projects, and unanticipated discoveries of archeological remains. Information discussed in this chapter represents data from only those agencies that responded to questions dealing with archeological investigations and studies. Agency personnel involvement in these activities is discussed in terms of FTEs (Full-time Equivalency, i.e., one person working full-time for one year).

Costs associated with Federal archeological activities discussed in this chapter reflect estimates provided by departments/agencies. Overall, for FY 1985 and FY 1986, land managing agencies reported the highest amounts expended on archeological activities, followed closely by developmental agencies, with regulatory agencies reporting considerably lower expenditures (approximately 2% of total expenditures reported).

All the total cost figures in this report are approximations, although those reported by land managing agencies probably are the most accurate due to the higher level of response by these agencies. Even these figures are artificially low, however, due to incomplete reporting of some direct agency expenditures and expenditures by nonfederal third party permittees or resource extractors.

Some of the development agencies, such as EPA and HUD, did not report amounts expended for archeological activities, so the total amounts for this category of agency are substantially below the actual funds expended. Also not included in the figures reported by development agencies are the amounts expended by State and local governments as their contribution to development projects. These nonfederal matching funds typically are 10% to 30% of the total project expenditure.

The lower costs reported by regulatory agencies reflect the fact that several agencies, such as FERC and OCS, did not report costs associated with archeological activities carried out as part of their regulatory responsibility because the majority of these costs may have been provided by States or private industry. Since, in many cases, these costs can be considerable, the costs of archeological activities conducted because of regulatory requirements is likely understated.

Although these are estimates and partially incomplete, the amounts reported as being expended for Federal archeological activities, overall, provide the most accurate estimate, to date, of the cost of the Federal Archeology Program. As reporting procedures improve for tracking costs associated with Federal archeological activities, the ability to assess the total cost will also improve. Based on agency review of the FY 1985 and FY 1986 questionnaire, questions addressing cost have been revised to assist agencies in providing these data. In addition, guidelines have been prepared to assist agencies in completing future questionnaires. This should substantially improve cost estimate reporting for Federal archeological activities.

### Federal Archeological Permits

Both the Antiquities Act of 1906 (AA) and the Archaeological Resources Protection Act (ARPA) 1979 require permits to excavate or remove any archeological resources located on public lands, and to carry out activities associated with such excavations and removal.

Until 1984, permits were issued solely under the authority of the Antiquities Act. With completion and publication of the final rules and regulations for ARPA (43 CFR 7; 36 CFR 296; 18CFR 1312; 32 CFR 229) permits began being issued under this statute. This brought about several changes in the permitting process: (1) permits issued for archeological activities on Indian lands cannot be issued without the permission of the Indian landowner, (2) Indian tribes must be notified of permit applications and given an opportunity

to comment before a permit is issued, and (3) specific information on the location, schedule, research design, scope, and specific purpose of the proposed work must be specified in the permit application.

Prior to 1984, the Departmental Consulting Archeologist in the National Park Service reviewed applications and issued permits for lands under the jurisdiction of the Departments of Interior and Defense. In early FY 1985 the Secretary of the Interior re delegated authority for permitting to individual agencies within the Department of the Interior in an attempt to expedite the permit process and enable local land managers to receive and review permit applications and to issue permits (Secretarial Order 3104). In FY 1985 the Department of Defense also began processing its own permits.

#### **Permits - FY 1985 and FY 1986 (Tables 3.1, A.1, A.7)**

A total of 349 ARPA permit applications were reported with 333 actually issued during FY 1985. The BLM (162), FS (57), and BIA (44) accounted for over three-fourths (79%) of all ARPA permits issued. The vast majority of the permits were issued for research associated with compliance or management activities, with a small number issued for scientific or scholarly purposes. In addition to permits issued under ARPA, 467 permits were issued under other authorities, including the Antiquities Act and agency-specific regulations. The vast majority (96%) of such permits were issued by BLM (313) and BIA (138). In addition 287 contracts, for archeological investigations, constituting a permit under ARPA were issued.

ARPA requires that Indian tribes be notified of impending permits that would affect archeological resources associated with them. Agencies reported 117 such notifications. The FS (53), BLM (40), and BIA (11) accounted for 89% of such notifications. Forty-five notifications were reported for contracts that constituted permits. The BLM (12), COE (10), and FWS (7) accounted for 64% of these notifications.

A total of 823 permits of all types were reported as being issued or in effect during FY 1986 for archeological activities, including active multiple authority permits issued during the previous fiscal year. Again, the BLM (398), BIA (176), and FS (141) accounted for the bulk of the permits. Within this total, agencies reported 348 permits issued under ARPA

(including multiple authority permits) with the BLM (173), FS (65), and BIA (53) reporting 84% of the permits issued under this Act. In addition to permits issued under ARPA, 49 permits were reported issued under the Antiquities Act (including multiple authority permits), with the FS (65) and the Army (5) accounting for 82% of Antiquities Act permits. In addition to permits issued under these two laws, 467 permits were reported as being issued under other regulations (e.g., special use permits). The BLM (225), BIA (120), and FS (79) accounted for 91% of such permits.

The extent of field checks on permittees ranged widely. Some agencies reported checking all permittees, others none. Of all permits issued, 704 were issued for investigations related to compliance activities. The BLM (376), BIA (163), and FS (101) reported 91% of the permits issued for this activity. In addition to compliance related permits, 85 permits were issued for investigations solely for scientific or scholarly purposes. The BLM (22), NPS (16), FWS (14), and the BIA (13) issued 65% of research related permits. The total number of permits for investigations on Federal or Indian lands begun or underway during FY 1986 for which no permits were issued, but which complied with conditions and standards by ARPA, was reported at 2606. The BLM (616), FS (559), BIA (493), and COE (394) accounted for 79% of these activities. Of these investigations 2110 were conducted by agency personnel, with 94% being reported by BLM (597), BIA (476), FS (456), COE (229), and NPS (228). A total of 480 of these investigations were reported as being conducted under contract, with the NPS (228), COE (165), and FS (80) reporting 64% of these activities.

The number of permit applications received (all types) was reported as 635, with the BLM (334), BIA (134), and FS (84) reporting 87% of all permit applications. Of these permit applications, 10 were denied. The BLM (5), NOAA (2), FWS (2), and BIA (1) accounted for all permit denials. A total of 19 permits were suspended in FY 1986 with the Army accounting for 84% (16). Three cases (BLM 2, BIA 1) were reported where permits denied or suspended were appealed.

A total of 145 of notifications to Indian tribes of an application for a permit under ARPA that could possibly harm or destroy sites having religious or cultural importance for the tribes were reported. The BLM (73), FS (36), and BIA (24) accounted for 92% of these notifications. Also reported were 617 notifications to Indian tribes of an archeological investigation

**TABLE 3.1**  
**PERMIT ACTIVITIES, FY 1985 AND FY 1986**

ACTIVITIES	FY 1985	FY 1986
Number of permits issued or in effect for archeological activities	800	823
Number of ARPA permits issued	333	348
Number of Antiquities Act permits issued	NA	49
Number of permits issued under agency policy, procedure, or guidelines	102	467
Percent of permittees field checked	NA	0-100%
Number of permits issued for investigations related to compliance	333	704
Number of permits issued for scientific or scholarly research	69	85
Number of investigations for which no permits were issued, but which complied with the conditions required by ARPA	185	2606
Number of such investigations conducted by agency personnel	NA	2110
Number of such investigations conducted by contractors	NA	480
Number of permit applications received (all types)	NA	635
Number of permit applications denied (all types)	9	10
Number of permits suspended	2	19
Number of appeals of denied or suspended permits	0	3
Number of notifications to Indian tribes of ARPA permits	117	145
Number of notifications to Indian tribes of investigation in conformance with ARPA requirements	45	617

NA = Not Available.

by agency personnel or a contractor (being done in conformance with ARPA requirements, but without a formal permit - because they were done by or under the authority of a Federal agency) that could possibly harm or destroy sites having religious or cultural importance for the tribes.

**Permit Comparison - FY 1985 and FY 1986**

The number of permits (all types) in effect increased by 2.8% (23) from FY 1985 to FY 1986. ARPA

permits issued increased by 4.5% (15). The number of permits based upon specific agency policy, procedures, or guidelines increased from 102 in FY 1985 to 467 in FY 1986. This, however, may simply reflect more detailed reporting. In a more positive sense, it might reflect more sensitivity by land managers of the need for regulations and oversight of archeology on the lands for which they are responsible. The number of permits issued for investigations related to compliance also showed an increase from 333 in FY 1985 to 704 in FY 1986. The number of permits issued for

investigations associated with scientific or scholarly research showed a 23.1% (16) increase. Investigations in which no permits were issued but which complied with the conditions required by ARPA showed a dramatic increase from 185 in FY 1985 to 2606 in FY 1986. This increase almost certainly is due to differences in reporting rather than a substantial increase in this kind of work.

The number of permit applications denied (all types) increased by 11.1% (1) while the number of permits suspended, likewise, increased from 2 in FY 1985 to 19 in FY 1986. The number of appeals denied or suspended permits also appealed increased from zero in FY 1985 to three in FY 1986. The number of notifications to Indian tribes of ARPA permits or investigations in conformance with ARPA regulations increased from FY 1985 to FY 1986. For the former there was a 23.9% (28) increase and for the latter there was a substantial increase from 45 in FY 1985 to 617 in FY 1986.

#### **Permit Monitoring and Coordination - FY 1986**

Nine agencies reported using some form of automated system to record and monitor permit information and/or maintain cultural resource listings. The use of a variety of mainframe computers, micro-computers, and software were reported (see Automated Databases section in Chapter 4 for agency-specific information).

In general, coordination procedures that were reported include: notification of the appropriate SHPOs when permits are issued, sending copies of reports of investigations, developing planning, identification, evaluation, and data recovery strategies jointly. Other procedures include reviewing the qualifications of organizations and contractors seeking permits to ensure satisfaction of ARPA and Section 106 requirements.

The Air Force reported cooperation with Federal, State, and local agencies, Indian tribes, and the public in managing historic resources. The three Air Force regional civil engineers acted as the Air Force points-of-contact with Federal, regional, and State agencies. Before contracts or permits were issued, the SHPO was given an opportunity to comment. For the Army, there was no specific coordination related to issuing permits, except when the ARPA permit requirements

were included in a contract for archeological work to be performed to comply with the National Historic Preservation Act.

The Department of Energy (DOE) in Chicago reported sending the State Historic Preservation Officer (SHPO) copies of all Phase I survey reports and included the SHPO in the development of evaluation strategies. All surveys and plans for archeological work by DOE at its Savannah River facility were coordinated with the South Carolina SHPO in accordance with ARPA. Since all archeological work and research was coordinated through a single entity, the South Carolina Institute of Archaeology and Anthropology (SCIAA), University of South Carolina, no formalized system was considered necessary. The DOE-Western Area Power stated that contractors were required to obtain ARPA permits.

At the Indian Health Service of the Department of Health and Human Services the coordination of possible ARPA activities was accomplished by pursuing appropriate steps with the SHPO to develop an acceptable course of action before the start of construction activities.

Most area offices of the Bureau of Indian Affairs (BIA) notified the appropriate SHPO when ARPA permits were issued. Only the Navajo Area Office provided details of 1986 activities, stating that many ARPA permits were issued in instances where collection and/or disturbance of cultural resources were necessary to implement the terms of a Section 106 consultation. The system used was to have the archeological contractor prepare a proposal for the intended work and submit this proposal along with a complete ARPA permit application. The package was reviewed for completeness and then passed on to the Indian tribal government and/or landowner(s) for consent and to append their stipulations if consent is provided.

Although most Bureau of Land Management (BLM) States routinely submitted copies of ARPA permits to the State Historic Preservation Officer (SHPO), a few States coordinated permits and Section 106 compliance with the SHPOs through development of formal Programmatic Memoranda of Agreement.

At the Bureau of Reclamation (BOR) virtually all ARPA permits were issued in connection with compliance activities, and were integrated into those activities.

Fish and Wildlife Service (FWS) planning for "undertakings" affected by Section 106 compliance was coordinated with reviews of proposed contracts and permit applications. There was some informal contact between FWS personnel and permit applicants to ensure that agency and research objectives are as consistent as possible.

In the Southeast region of the National Park Service compliance was coordinated through the regional Section 106 compliance coordinator. The Midwest region reviewed the qualifications of individuals or groups submitting proposals for research to insure they met ARPA standards. In the Alaska region, all permittees were required by special stipulation to fill out and submit Alaska State Site Cards to the SHPO for any sites that were found or for which new information came to light.

Surveys and data recovery directed by the Veterans Administration (VA) were dictated by VA management needs, and the resulting reports were shared with the SHPOs. Applications for permits other than for VA contracts were dependent upon the research interests of the applicants.

### **Identification and Evaluation Activities**

The National Historic Preservation Act and its regulations direct Federal agencies to identify and evaluate historic properties, including archeological resources, that are located on lands they administer or that are affected by federally funded or assisted projects. The identification and evaluation of archeological resources, many of which are not easily recognized, or even visible on the surface, can involve a number of distinct activities. For purposes of this report, identification and evaluation efforts are divided into literature reviews and map analyses that did not include fieldwork, and investigations that did. The latter is referred to as field surveys in the text and tables. FY 1985 reports did not differentiate the funding sources for these activities, so only the total estimate costs are shown for this fiscal year on Table 3.2.

#### **Literature Review and Field Survey - FY 1985 (Tables 3.2, A.4)**

Normally archeology projects begin with literature research of the area under consideration. This includes, but is not limited to, information about

previous archeological work conducted, the known history and prehistory of the area and region, past and present environmental data, and information on known sites in the area. Agencies reported 10,581 such literature searches, with the BLM (4911), COE (1500), and FHWA (1500) accounting for 75% of these studies. The cost for these literature searches was estimated to be \$2,445,565 with COE (\$1,000,000), NPS (\$312,681), and FHWA (\$300,000) reporting 66% of the cost.

After the appropriate information has been gathered through the literature review, field surveys to identify and evaluate archeological resources may be undertaken. No agency has a complete inventory of archeological resources on its land or in development areas, therefore, identification and evaluation studies frequently are necessary. Agencies reported 16,572 field surveys for archeological resources. The FS (6578) and BLM (4669) accounted for 68% of the reported surveys. The estimated cost for these surveys was \$20,218,637 with the FS (\$5,500,000) and COE (\$5,000,000) representing 52% of the cost.

As a result of these archeological surveys, 28,018 new sites were reported. The FS (7993), BLM (6705), and COE (6000) located 74% of the new sites reported. In an effort to locate archeological resources, agencies reported examining, at various levels, approximately 5,408,097 acres. (See the "Archeological Resource Base" section of this chapter for agency-specific data on areas surveyed.)

Of the sites located, 7947 (28%) were considered to be eligible for inclusion in the National Register of Historic Places (NRHP). The majority of these sites (54%) were reported by the BLM (2155), COE (1216), and the BOR (919). The number of sites formally determined eligible for inclusion in the National Register was reported at 1303 with the Army (216), EPA (344), and BOR (199) accounting for 58%. Agencies reported that 259 sites were nominated to the National Register with the NPS (205) accounting for 79% of this number. The total cost for literature reviews and field surveys to identify and evaluate resources was reported at \$22,664,202.

#### **Literature Review and Field Survey - FY 1986 (Tables 3.2, A.10)**

A total of 20,154 agency undertakings which included documented literature or map research of archeologi-

cal properties were reported for FY 1986. The FHWA (5000), BLM (4481), COE (2350), and FmHA (2315) accounted for 70% of this type of research. It was reported that 305 FTEs were used by agencies for this type of activity at an estimated cost of \$5,720,457. The FHWA (\$2,000,000), COE (\$1,100,000), and FS (\$622,000) accounted for 65% of this cost. In addi-

tion, it was estimated that \$1,450,730 in support costs was spent by agencies, with FHWA (\$400,000), COE (\$350,000), FS (\$223,000), and BLM (\$212,295) accounting for 73% of this amount. In addition to the cost of this activity by agency personnel, it was reported that \$6,001,290 was expended under contracts for these activities, with FHWA (\$2,500,000)

**TABLE 3.2**  
**IDENTIFICATION AND EVALUATION ACTIVITIES, FY 1985 AND FY 1986**

ACTIVITIES	FY 1985	FY 1986
<b>COST RELATED DATA</b>		
Cost of FTEs used for literature or map research	NA	\$ 5,720,457
Cost of support for literature and map research by agencies	NA	1,450,730
Cost of literature and map research by contract	NA	6,001,290
Cost of literature and map research by land use applicant	<u>NA</u>	<u>2,235,375</u>
<b>Subtotal</b>	<b>\$2,445,565*</b>	<b>\$15,407,852</b>
Cost of FTEs to identify and evaluate archeological resources	NA	\$14,474,098
Cost of support to identify and evaluate archeological resources by agencies	NA	3,266,453
Cost to identify and evaluate archeological resources by contract	NA	16,422,572
Cost to identify and evaluate archeological resources by land use applicants	<u>NA</u>	<u>2,224,969</u>
<b>Subtotal</b>	<b>\$20,218,637*</b>	<b>\$36,388,092</b>
<b>Total Identification and Evaluation Activities</b>	<b>\$22,664,202</b>	<b>\$51,795,944</b>
<b>STATISTICAL DATA</b>		
Number of agency undertakings with literature or map research	10,581	20,154
Number of FTEs used for literature or map research	NA	305
Agency studies to identify and evaluate archeological resources	16,572	20,063
FTEs used to identify and evaluate archeological resources	NA	652
Acres inspected to identify and evaluate archeological resources	5,408,097	7,663,288
New sites identified	28,018	35,150
Sites determined eligible for inclusion in the National Register	1303	4301

\* FY 1985 reports did not differentiate the funding sources for these activities, so only the total estimate costs are shown for this fiscal year.  
NA = Not Available.

and COE (\$1,500,000) accounting for 67%. The cost of this activity expended by land use applicants in contracting for these activities was reported at \$2,235,375 with MMS (\$1,500,000), FHWA (\$300,000), and FmHA (\$281,665) accounting for 77% of this cost. The total cost for literature reviews was estimated at \$15,407,852.

In FY 1986, it was reported that 20,063 agency undertakings included field surveys to identify and evaluate archeological resources, with BLM (6769), FS (6303), and FHWA (3700) accounting for 84% of these types of activities. It was estimated that 652 FTEs were used by agencies in conducting this activity at a cost of \$14,474,098. The FS (177), FHWA (150), and EPA (127) accounted for 70% of the FTEs used for this activity, while the FS (\$4,976,000), FHWA (\$4,000,000), and BLM (\$1,584,900) accounted for 73% of the cost. Support costs expended by agencies in conducting these activities was estimated at \$3,266,453 with FHWA (\$800,000), Postal Service (\$100,000), and COE (\$80,000) reporting 62% of this amount. The cost associated with contracting for these activities was reported at \$16,422,572 with FHWA (\$5,500,000) and COE (\$5,000,000) accounting for 64% of this amount. The cost by land use applicants in contracting for this activity was estimated at \$2,224,969, with BLM (\$574,200), FHWA (\$400,000), COE (\$300,000), and FmHA (\$288,995) representing 70% of this cost. Field studies to identify and evaluate archeological resources was estimated to cost \$36,388,092.

Based on field investigations it was estimated that 7,663,288 acres were inspected by these identification and evaluation investigations, resulting in the location of 35,150 new sites. The SCS (3,268,569), FS (1,460,000), and the MMS (904,000 acres of the outer continental shelf) accounted for 74% of this acreage. Approximately 4301 sites were formally determined eligible for the NRHP or considered eligible through agreement between the agency and the appropriate State Historic Preservation Officer (SHPO). The FS (1199), BLM (923), and COE (340) accounted for 57% of these determinations. (See the section "Archeological Resource Base" in this chapter for agency-specific data on areas surveyed.)

Based on the information provided for FY 1986, the total cost of archeological investigations and evaluations, including literature reviews and field studies, associated with Federal projects or federally assisted projects was \$51,795,944.

### Comparison of Identification and Evaluation - FY 1985 and FY 1986

The number of literature/map research projects increased by 90.4% (9573) from 10,581 in FY 1985 to 20,154 in FY 1986 and the reported amount expended for literature/ map research increased by \$12,962,287. Reported studies to identify and evaluate archeological resources increased by 21% (3491). The reported amount expended for this activity increased by approximately 80% (\$16,169,455). The number of acres reported as being investigated for archeological resources also increased by 41.7% (2,255,191), as did the number of new sites located, which increased by 25.4% (7132). The number of sites determined eligible for the National Register of Historic Places increased from 1303 in FY 1985 to 4301 in FY 1986. Clearly, these increases reflect more detailed and extensive reporting rather than an absolute increase in activity. While the FY 1986 figures probably are not comprehensive, they are substantially more complete than those for FY 1985.

### Data Recovery Activities

When archeological resources will be adversely impacted by Federal undertakings, data recovery often is determined to be the best way of mitigating the impact. Data recovery typically involves archeological excavation and the associated planning, analysis report preparation and dissemination, and curation.

### Data Recovery Activities - FY 1985 (Tables 3.3, A.5)

Agencies reported 2631 sites that were adversely effected by development. The BOR (903), BLM (637), FS (473), and Army (202) accounted for 77% of these sites. Of the sites adversely effected, 2565 (97%) were subject to data recovery. This means that these sites were determined to be significant and that data recovery was considered appropriate. In 759 (30%) cases, data recovery on these sites was conducted by agency personnel with the FS reporting 71% (560) of such projects. Data recovery projects conducted under contract or through other agreements were reported to have occurred 430 times, with 63% of the cases reported by FHWA (200) and BLM (71).

**TABLE 3.3**  
**DATA RECOVERY ACTIVITIES, FY 1985 AND FY 1986**

ACTIVITIES	FY 1985	FY 1986
<b>COST RELATED DATA</b>		
Cost of FTEs for archeological data recovery	\$ 7,112,969	\$ 4,535,350
Cost of support for archeological data recovery by agencies	NA	984,969
Cost of archeological data recovery by contract	9,580,734	15,090,053
Cost of archeological data recovery by land use applicants	<u>3,417,203</u>	<u>3,585,550</u>
<b>Total Data Recovery Activities</b>	<b>\$20,110,906</b>	<b>\$24,195,922</b>
<b>STATISTICAL DATA</b>		
Number of archeological data recovery projects	2562	986
FTEs used for archeological data recovery	NA	232
Archeological data recovery projects by agencies	789	420
Archeological data recovery projects by contract	430	291
Archeological data recovery projects by land use applicants	94	185
Archeological data recovery projects funded by any combination of factors	NA	157
Research questions investigated:		
Economy	NA	317
Site/Settlement	NA	480
Cultural adaptation	NA	286
Paleodemography	NA	128
Cultural processes	NA	237
Social organization	NA	203
Cultural chronology	NA	384
Technology	NA	312
Trade/Exchange	NA	211
Ritual/Ceremonial	NA	96
Architecture	NA	183
Cultural ecology	NA	222
Significance/Management	NA	376
Paleoenvironmental	NA	218

NA = Not Available.

Ninety-four data recovery projects were conducted by third parties. BLM accounted for 56% (53) of third party data recovery projects.

Data recovery costs conducted by agency personnel were estimated to be \$7,112,969, with FHWA accounting for 69% (\$4,900,000) of that amount. The cost for data recovery under contract or other agreement was estimated at \$9,580,734 with BOR (\$3,041,707), COE (\$2,125,500), and FHWA (\$2,100,000) accounting for 76% of the cost. The cost of third party data recovery projects was estimated at \$3,417,203 with BLM accounting for 82% (\$2,792,270). The total cost for archeological data recovery was estimated at \$20,110,960.

In addition to data recovery, sites and the data they contain can be protected by other means, such as project redesign, stabilization, patrols, fences, gates, etc. A total of 67,322 sites were reported as being protected by these types of methods. The BLM accounted for 95% (64,975) of sites protected in this manner.

#### **Data Recovery Activities - FY 1986 (Tables 3.3, A.11)**

A total of 986 agency undertakings, that included archeological data recovery, were reported in FY 1986: BLM (268), FS (134), FHWA (130), and COE (108) accounting for 65% of these projects. It was estimated that 232 FTEs were used by agencies for data recovery projects at a cost of \$4,535,350. The FHWA (\$2,000,000), NPS (\$512,500), and FS (\$315,700) accounted for 62% of this cost. The cost reported for agency support of data recovery projects was \$984,969, with FHWA (\$200,000), NPS (\$184,600), BOR (\$177,670), COE (\$151,000), and BLM (\$146,325) accounting for 87% of this cost. The cost of data recovery projects carried out under contract was reported at \$15,090,053, with FHWA (\$4,500,000), COE (\$4,210,000), and BOR (\$2,673,009) representing 75% of this cost. The cost of data recovery projects carried out by land use applicants in contracting for these activities was reported at \$3,585,550 with BLM (\$1,325,200) and COE (\$1,100,000) accounting for 68% of this cost. The total cost for archeological data recovery was estimated at \$24,195,992.

A total of 420 archeological data recovery projects were reported as being conducted solely by agency personnel. The BLM (177), FS (115), and NPS (57) accounted for 83% of these projects. A total of 291 archeological data recovery projects were funded solely by agencies through contracts, with FHWA (110) and COE (71) representing 62% of these types of contracts. It was also reported that 185 archeological data recovery projects were funded solely by land use applicants with BLM (91) and OSM (50) accounting for 76% of these activities. Another 157 data recovery projects were reported as being funded by a combination of agency, contract, and/or land use applicant sources, with EPA (42), FHWA (40), and NPS (26) reporting 69% of these projects.

As part of the FY 1986 questionnaire an attempt was made to identify the kind of research topics being addressed by Federal archeological investigations. The topics identified are very general. More specific directions and definitions will be provided in future reports. Even now, however, the wide range of topics being investigated is apparent.

Various research questions investigated through data recovery projects were reported by agencies. This analysis takes into consideration that a project may include major emphasis on more than one topic. The most frequent research topic addressed as part of data recovery projects was site/settlement, where 480 projects were reported as considering this question. The FHWA (80), BLM (75), FmHA (71), and COE (53) accounted for 58%. Cultural chronology was the second most frequently addressed research topic, being reported for 394 projects. The BLM (94), FHWA (70), and NPS (55) accounted for 56% of projects that addressed this research topic. The third most frequent research topic addressed was significance/management which was reported as part of 376 projects. The NPS (93), BLM (82), and COE (39) accounted for 57% of these types of projects. A total of 317 data recovery projects were reported as addressing economy as a research topic, with BLM (73), NPS (53), FHWA (50), and COE (37) accounting for 67%. Technology was reported as being addressed in 312 projects, with BLM (80), FHWA (70), COE (42), and NPS (34) accounting for 72%. Cultural adaptation was reported as a major theme in 286 projects, with COE (63), BLM (53), and FHWA (40) accounting for 55%. Data recovery projects addressing cultural processes were reported as part of 237

projects. The FHWA (45), COE (42), BOR (30), and BLM (26) accounted for 60% of this type of research. Research projects considering the question of cultural ecology were reported 222 times with COE (49), BLM (48), and FHWA (30) accounting for 57%. Projects dealing with paleo-environmental questions were reported 218 times, with NPS (41), BLM (40), FHWA (35), and FmHA (27) accounting for 66%. Two hundred eleven research projects addressed the question of trade, with BLM (57), COE (37), FHWA (30), and NPS (23) accounting for 70%. Social organization topics were part of 203 data recovery projects, with COE (33), FHWA (30), BIA (24), and NPS (24) reporting 55% of such projects. Architecture was a major research emphasis addressed for 183 projects, with FmHA (38), COE (30), FHWA (30), and NPS (22) accounting for 66%. Research addressing paleodemography was reported for 128 projects, with FmHA (28), COE (17), FHWA (15), and BOR (14) representing 58% of this research type. Research projects addressing the ritual/ceremonial topic were reported for 96 projects. BLM (22), FHWA (15), and FWS (12) accounted for 51% of projects addressing this research topic.

#### **Comparison of Data Recovery Activities - FY 1985 and FY 1986**

The number of archeological data recovery projects decreased by 61.5% (1576) from FY 1985 to FY 1986. The cost expended for FTEs for archeological data recovery also decreased by 36.2% (\$2,577,619). However, the amount for this activity conducted under contract increased 57.9% (\$5,509,319), as did the cost for data recovery conducted by land use applicants, which increased 4.9% (\$168,347). The total amount spent for all types of data recovery projects increased by 20.3% (\$4,085,016) from FY 1985 to FY 1986. There are a variety of factors that might account for these diverse and contradictory results. Data from FY 1987, which are on hand, and from FY 1988 will be checked carefully to explore this area more completely than can be done in this report.

#### **Unanticipated Discoveries**

##### **Unanticipated Discoveries - FY 1985 (Tables 3.4, A.6)**

Section 106 of the National Historic Preservation Act requires that Federal agencies consider the effects of their undertakings on archeological and historic resources and give the Advisory Council on Historic

Preservation a reasonable opportunity to comment on those undertakings. After Section 106 compliance has been completed, if previously unknown archeological or historical sites are discovered during a development project, they are considered unanticipated discoveries and must be reported to the Departmental Consulting Archeologist. The Departmental Consulting Archeologist carries out the responsibilities concerning these discoveries.

A total of 183 discoveries of unanticipated archeological resources were reported. Of that number, BLM (52), BIA (33), and COE (30) accounted for 63% of these notifications. Of these sites, 106 (58%) were considered important because of their data content. BLM (36), BIA (17), and BOR (11) accounted for 60% of sites in this category. Eighteen (17%) of these sites were subject to data recovery, with COE (6) and BOR (6) accounting for 61% of the data recovery. It was estimated that data recovery by agencies of unanticipated sites cost the government \$155,500, with BLM (\$103,500) and COE (\$41,000) accounting for 93% of the cost associated with this type of activity. The cost of this activity conducted under contract or other agreement was estimated at \$253,000, with BLM (\$121,000) and SCS (\$85,000) for 81% of this cost. The cost of data recovery by third parties was estimated at \$113,500, with FmHA (\$68,000), and BIA (\$42,500) accounting for 97% of this cost.

In addition, 30 discoveries subject to data recovery under other authority were reported by agencies, with BLM (22) and the Air Force (2) accounting for 83% of data recovery projects in this category. The cost of this type of data recovery by agencies was estimated at \$186,075, with the Postal Service (\$100,000) and FHWA (\$76,000) accounting for 95% of this cost. Another \$124,000 was spent under contract or other agreement. The Army (\$100,000) and FHWA (\$24,000) accounted for all of this cost. For data recovery conducted by third parties, BLM reported the only cost for this category at \$45,000. In those cases where data recovery of unanticipated discoveries resulted in project delays, it is estimated that agencies paid out \$168,000 in compensations for project construction delays. FHWA (\$140,000) and the Air Force (\$20,000) accounted for all of this reported cost.

Compensation by agencies for construction project delays necessitated by data recovery was reported to be \$168,000, with FHWA (\$140,000) accounting for over 83% of this cost. The total cost for unanticipated discoveries was estimated at \$1,045,075.

**TABLE 3.4**  
**UNANTICIPATED DISCOVERIES, FY 1985 AND FY 1986**

Activities	FY 1985*	FY 1986
<b>COST RELATED DATA</b>		
Cost of FTEs for unanticipated archeological discoveries by agencies	\$ 341,575	\$ 448,421
Cost of support for unanticipated archeological discoveries by agencies	NA	72,600
Cost of unanticipated archeological discoveries by contract	377,000	590,400
Cost of unanticipated archeological discoveries by land use applicant	158,500	176,600
Cost of project delays associated with unanticipated discoveries	<u>168,000</u>	<u>NA</u>
<b>Total Unanticipated Discoveries</b>	<b>\$1,045,075</b>	<b>\$1,288,021</b>
<b>STATISTICAL DATA</b>		
Discoveries of unanticipated archeological resources subsequent to Section 106 compliance	183	255
Resources considered significant and data collection or avoidance implemented	124	137
FTEs used for unanticipated archeological discoveries by agencies	NA	38

\*Some FY 1985 data were combined to facilitate FY 1986 format.  
NA = Not Available.

**Unanticipated Discoveries -  
FY 1986 (Tables 3.4, A.12)**

Subsequent to Section 106 compliance, 255 discoveries of unanticipated archeological resources were reported with FmHA (65), FHWA (38), FS (30), and BLM (30) accounting for 64%. In 137 of these cases, resources were judged important enough for data collection to be conducted or design changes made to avoid them. Sixty-five percent of these cases were reported by the BLM (27), FHWA (27), FS (20), and Air Force (15). Approximately 37 FTEs, costing \$448,421 were used for personnel services for this kind of activity. The FHWA (\$200,000) and FS (\$80,000) reported 62% of this cost. A total of \$72,600 in additional costs was expended by agencies in conducting this activity with agency personnel. The

FHWA (\$30,000), BIA (\$16,000), and NPS (\$8,500) accounted for 75% of this cost. Approximately \$590,400 was spent by agencies in contracting for this activity, with FHWA (\$500,000) and COE (\$65,000) accounting for 96% of this cost. An additional \$176,600 was reported as being spent by land use applicants contracting for this activity. The BLM (\$515,000) and the Army (\$100,000) accounted for 86% of this reported cost. The total cost estimated for unanticipated discoveries was \$1,288,021.

**Comparison of Unanticipated Discoveries -  
FY 1985 and FY 1986**

Discoveries of unanticipated archeological resources subsequent to Section 106 compliance increased by

39.3% (72) from FY 1985 to FY 1986. An increase was also posted (10.4%, [13]) for archeological resources that were considered significant enough to conduct data collection or redesign the project to avoid the resources. The cost of FTEs for dealing with unanticipated discoveries by agencies increased 31.2% (\$106,846). The cost of unanticipated archeological resources data collection increased by 56.6% (\$213,400) as did the cost for data recovery of unanticipated discoveries by land use applicants, which increased 11.4% (\$18,100).

**Cost Summary and Comparison -  
FY 1985 and FY 1986**

A number of agencies reported that it was difficult to separate specific activity costs because records were not kept in this manner. Therefore, costs associated with specific activities, in many cases, were estimated. Although some costs were estimates, the total costs for FY 1985 and FY 1986 were more accurate

indicators of the cost of the Federal Archeology Program than the cost of individual activities.

**Cost Summary - FY 1985 (Table 3.5, Figure 3.1)**

For FY 1985, separate estimates were not available for costs associated with permitting, enforcement, and education. The cost of identification and evaluation of cultural resources, including literature reviews (\$2,445,565) and field surveys (\$20,218,637), was reported at \$22,664,202. Literature reviews represented approximately 6% of the total cost while field surveys represented approximately 46% (Figure 3.1). Data recovery was reported to cost \$20,110,906 while unanticipated discoveries costs were estimated at \$1,045,075. Data recovery accounted for approximately 46% of the total cost while unanticipated discoveries accounted for approximately 2%. The total cost for activities associated with the Federal Archeology Program for FY 1985 was reported to be \$43,820,183.

**TABLE 3.5  
ESTIMATED COST FOR ACTIVITIES ASSOCIATED WITH THE FEDERAL ARCHEOLOGY  
PROGRAM, FY 1985 AND FY 1986**

ACTIVITIES	FY 1985	FY 1986
Permits	*	*
Enforcement	NA	\$ 959,508
Education**	NA	151,000
Identification and Evaluation		
Literature review	\$ 2,445,565	15,407,852
Field survey	<u>20,218,637</u>	<u>36,388,092</u>
Subtotal	<b>\$22,664,202</b>	<b>\$51,795,944</b>
Data Recovery	20,110,906	24,195,922
Unanticipated Discoveries	<u>1,045,075</u>	<u>1,288,021</u>
<b>Total Cost for Federal Archeology Program</b>	<b>\$43,820,183</b>	<b>\$78,390,395</b>

\* Included as part of Identification and Evaluation or Data Recovery.

\*\* Calculated based on personnel data provided.

NA = Not Available.

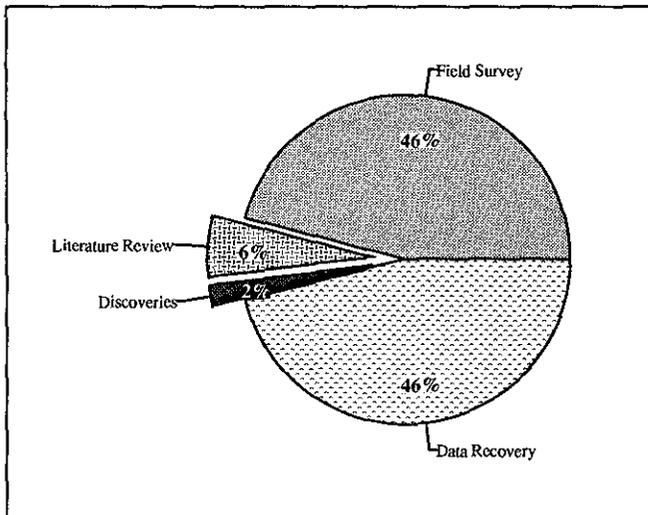
**Cost Summary - FY 1986 (Table 3.5, Figure 3.2)**

For FY 1986, separate cost estimates were not available for permitting. Activities associated with protecting cultural resources was computed at \$959,508 (enforcement) while the cost for cultural resources law enforcement training was estimated at \$151,000 (based on reported time in attendance computed at the GS-9 level). Enforcement represented approximately 1.2% of the total cost while training accounted for less than 1%. Identification and evaluation of cultural resources, including literature reviews (\$15,407,852) and field surveys (\$36,388,092), was reported to be \$51,795,944. Literature reviews accounted for approximately 20% of the total cost while field surveys represented approximately 46% (Figure 3.2). Data recovery was reported to cost \$24,195,922 and costs associated with unanticipated discoveries was reported at

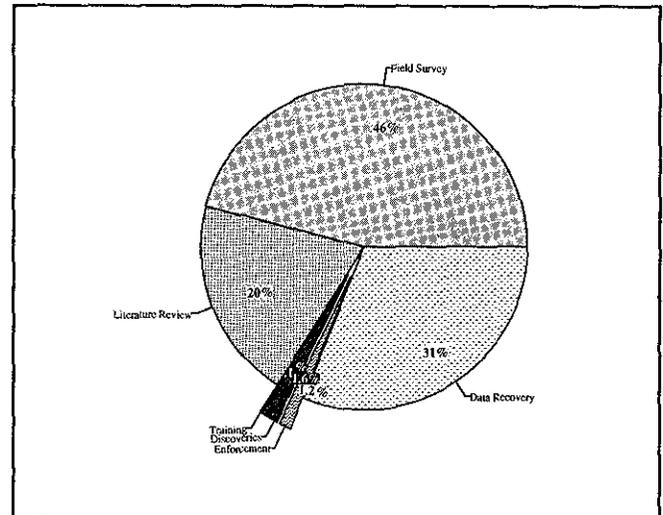
\$1,288,021. Data recovery accounted for approximately 31% of the total cost and unanticipated discoveries represented approximately 2%. The total reported cost for activities associated with the Federal Archeology Program for FY 1986 was \$78,390,395.

**Cost Comparison - FY 1985 and FY 1986**

The total amount expended for activities associated with the Federal Archeology Program increased approximately 79% (\$34,570,212) from FY 1985 to FY 1986. This increase, however, most likely reflects better record keeping of costs associated with Federal archeological activities in anticipation of the FY 1986 questionnaire and more complete reporting of activities. The actual increase most likely was less than indicated.



**Figure 3.1. Percent of costs associated with the Federal Archeology Program, FY 1985.**



**Figure 3.2. Percent of costs associated with the Federal Archeology Program, FY 1986.**

## CHAPTER 4. THE FEDERAL ARCHEOLOGICAL RESOURCE BASE

The topic concerning the Federal archeological resource base was added to the FY 1986 questionnaire and therefore, data are available only for that year. The topic was added to establish baseline information about the extent of archeological resources within the lands managed by Federal agencies and the quality of the knowledge about them. Information summarized below represents data from only those agencies that responded to questions concerning the Federal archeological resource base.

### Known Resources and Archeological Inventory (Tables 4.1, A.13)

Federal agencies reported over nine hundred forty six million acres (946,759,086) managed; BLM (340,000,000), FS (190,685,089) and the MMS (153,000,000 on the Outer Continental Shelf) account for 72% of the total acreage managed. Excluding OCS land, the BLM, FS, and FWS (90,515,521) account for 78% of the total acreage managed. The majority of agencies reported low levels of archeological inventory. Only the NRC and the Postal Service, both with relatively small areas, reported that all their lands had been completely inventoried. Almost all of the Postal Service's reported 4752 acres is covered by buildings or pavement, making it unlikely that a complete inventory has been done, but also making the existence of a large number of unknown sites unlikely. The NRC manages only about 25,000 acres.

Agency specialists were asked to estimate the extent to which all archeological resources had been identified in those areas that have been examined. The total acres investigated thoroughly enough to identify 100% (i.e., no additional survey required based on current state of knowledge) of the archeological resources ranged from 0-30%, with the COE reporting the largest percentage of coverage at this level of survey intensity. Percentages of agency holdings within which more than 50% of the archeological resources that were expected to occur were in fact identified ranged from 0-40%, with the FmHA reporting the highest percentage. Percentages of coverage that had identified less than 50% of the archeological resources in surveyed areas ranged from 0-30%, with

FmHA and the Navy reporting the highest percentages. All agencies indicated that even for those relatively small portions of their land that had been examined for archeological resources, complete inventories of sites were not available

The percentages of acres not yet investigated were substantial. Overall, 93% of all Federal land has not been subject to archeological identification or evaluation. As expected, land managing agencies with the greatest total acreages reported the highest percentages of acres not yet investigated to identify and evaluate archeological resources. Agencies with the highest percentages of acres not yet surveyed were: MMS (99%), BIA (98.4%), BLM (98%), SCS (93%), FS (90%), TVA (89%), FWS (88.8%), NPS (83%), Air Force (82%), Marines (80%), BOR (67%), Army (60%), COE (40%), and the Navy (35%).

A total of 409,436 known archeological resources were reported on lands managed by Federal agencies. The BLM (128,941), FS (11,950), and BIA (48,930) accounted for 71% of the known sites. With the exception of NRC and the Postal Service, which reported 100%, the percentage of these sites listed on the National Register of Historic Places (NRHP) ranged from 0-56%, with the NPS reporting the highest percentage. Most agencies reported percentages of less than 5%. Although reported percentage ranged widely, most agencies reported that fewer than 25% of their archeological sites were formally determined eligible for the NRHP or considered eligible through documented consultation with SHPOs. The percentages of archeological properties adequately evaluated, but not listed, considered, or formally determined eligible for the NRHP, ranged widely, with most agencies reporting less than 20%. Of the known archeological properties reported by agencies, the percentages formally determined ineligible for the NRHP or considered so based upon documented consultation with SHPOs also ranged widely, with the majority of agencies reporting percentages less than 20%. Finally, the majority of agencies responding to this question reported percentages greater than 40% of sites not yet sufficiently evaluated to fit into any of the categories described above.

TABLE 4.1

## Archeological Inventory, Acres Examined

AGENCY	ACRES MANAGED	ACRES NOT SURVEYED	% NOT SURVEYED
ASCS	0	0	0%
FmHA	1,500,000	150,000	10%
FS	190,685,089	171,616,580	90%
REA	NA	NA	NA
SCS	1,731	1,609	93%
Econ Devel	NA	NA	NA
NOAA	1,352,400	1,068,396	79%
Air Force	9,164,884	7,515,204	82%
Army	12,000,000	7,200,000	60%
COE	8,500,000	3,400,000	40%
Marines	1,500,000	1,200,000	80%
Navy	1,200,000	420,000	35%
Education	NA	NA	NA
Energy	2,021,679	1,698,210	84%
FERC	NA	NA	NA
EPA	ND	ND	ND
FCC	ND	ND	ND
GSA	15,000	ND	ND
H&HS	3,804	3,233	85%
HUD	NA	NA	NA
BIA	53,000,000	52,152,000	98%
BLM	340,000,000	333,200,000	98%
BOR	5,060,446	3,390,498	67%
FWS	90,515,521	80,377,782	88%
MMS	153,000,000	151,147,000	99%
USGS	0	0	0%
NPS	76,000,000	63,080,000	83%
OSM	0	0	0%
Justice	23,446	11,723	50%
Labor	NA	NA	NA
NASA	134,939	67,469	50%
Nat Cap Plan	NA	NA	NA
NRC	25,000	0	0%
PADC	ND	ND	ND
Postal	4752	0	0%
SBA	ND	ND	ND
TVA	1,000,000	890,000	89%
FAA	24,142	24,142	100%
FHWA	NA	NA	NA
FRA	ND	ND	ND
UMTA	NA	NA	NA
VA	<u>26,253</u>	<u>21,369</u>	<u>81%</u>
<b>Total</b>	<b>946,759,086</b>	<b>878,631,982</b>	<b>(93%)</b>

NA = Not Applicable.

ND = No Data provided.

## **Automated Databases for Archeological Resource Management**

As part of the FY 1986 questionnaire, agencies were asked to provide information about automated site or project databases they were using or developing. This information is summarized below. Individuals interested in more details about specific databases or automated systems are encouraged to contact the agencies and offices associated with the specific system.

Twelve different hardware systems and 16 kinds of software programs were reported being utilized to monitor archeological permits and/or maintain archeological resource inventories. Software varied from "off the shelf" to specially developed in-house programs. The dBASE III and dBASE III Plus software programs were most often noted as those in use or being considered for future databases. Five agencies: the Army, the COE, DOE-Savannah River, NPS Western regional office, and BLM, reported having designed software systems for their archeological databases. The Archeological Sites Information System (ASIS) was the only database reported to be in use by two agencies (Army and COE). Six agencies mentioned plans to implement or update computerized systems in FY 1987. Three agencies stated that they had database systems but did not indicate what those systems were.

### **Agency-Specific Databases**

The Army at Fort Hood, Texas, reported using its own MASSCOMP mainframe computer and UNIX operating system for archeological resource management and other environmental program objectives. Archeological data files in use included the Archeological Sites Information System (ASIS), developed jointly by the COE's Construction Engineering Research Laboratory and Fort Hood, Mistress files, and dBASE III files on 2,200 recorded sites from surveys covering 90% of the accessible area of Fort Hood. Each site record consists of about six pages of archeological data that are constantly being revised and upgraded as a result of ongoing surveys and formal site monitoring projects. An archeological resource management program that stresses site avoidance is being practiced using this archeological information.

Concurrent with the program of archeological site avoidance, Fort Hood, over the last ten years, has

created an automated archeological database in a step-by-step process. Increasingly more reliable information is being used to select a statistically representative sample of historic and prehistoric sites for priority protection, preservation, and nomination to the NRHP. The selection of a statistically representative sample based on the analysis of automated data from the entire Fort Hood inventory is expected to be completed by October 1988.

The Corps of Engineers reported incorporating three systems in its archeological resource management program. It reported using the ASIS system mentioned above on an IBM PC. The Archeology (ARCH) program, also developed by the Corps, is used on a Harris mini-computer and contains about 2,200 site listings. Information such as site number, USGS map quadrangle, and relation to water level in lakes and reservoirs is noted. The third system, the Automated Management of Archeological Site Data in Arkansas (AMASDA), gives computerized access to the Arkansas Archeological Survey site files and can quickly identify sites in the Arkansas area.

The Department of Energy (DOE) in Nevada established a formalized procedure to assure that activities conducted on the Nevada Test Site and Tonopah Test Range do not adversely affect significant cultural resources. This procedure will be made part of DOE's BECAMP program which is developing a new database that will incorporate all environmental data produced by DOE contractors. Another branch of the DOE, in Savannah River (SR), reported an extensive computer system that integrates all archeological information from permits (relating to projects and sites) within a series of MacIntosh and IBM mainframe databases. All archeological sites and artifact information has been entered into a specially designed database using Double Helix software on MacIntosh computers. The Savannah River archeological program involves an agreement with the Institute of Archaeology and Anthropology, University of South Carolina, the research facility where the database system for DOE-SR is maintained. The system, designed to fulfill combined management and research goals, incorporates: (1) a geographically based site data system which develops reports of known and expected archeological resources within any portion of the facility, (2) a site record creation system that can produce facsimile site forms from the stored data, (3) hierarchical and relational databases for archeological data categories ranging from

geographic and locational information to specific artifact measurements with all data keyed to site number and provenience codes, and (4) density mapping of site classes within the SR facility.

The Bureau of Indian Affairs (BIA) reported two area offices that record archeological permit information along with other cultural resources information on a COMPAC Deskpro 386 using dBASE III Plus.

Most Bureau of Land Management state offices currently recorded cultural resource use permits on the BLM Automated Lands and Minerals Records System (ALMRS) which tracks all lands, minerals, and other use types. An improved bureau-wide computerized system for recording and monitoring archeological permits is being developed. The new system will use dBASE III Plus on microcomputers with linkages to minicomputers in the various state offices and the BLM's mainframe computer at the BLM Denver Service Center. It will also utilize both "off the shelf" and customized software systems in a variety of languages.

The Fish and Wildlife Service reported one regional office with an automated system to track archeological permit information. It is maintained on a Datapoint computer using Multiplan software. FWS is weighing the possibility of using an automated system, perhaps in conjunction with other Federal agencies to track various archeological information.

The National Park Service is developing the Cultural Sites Inventory (CSI), a systemwide computerized inventory of prehistoric and historic archeological resources in NPS units. The inventory will contain standardized resources information for use in park, regional, and Washington office planning and management. The CSI is first and foremost a management database for improving the Service's preservation, protection, and interpretation of park archeological resources. An initial database design requirements study was completed in 1985 and field office comments on the study report were obtained and consolidated during 1985 and 1986. The design of a prototype computer program for site registration is scheduled to begin in 1988.

The National Park Service, Western region, reported using a Case Incident Record database that was developed by the Division of Ranger Activities. Archeological databases were also reported in three Western region field units and are being developed locally at two others. The Western region is also

connected to state-wide computerized databases in California.

### **National Archeological Database (NADB)**

The creation of the National Archeological Database was identified by Congress in 1983 as one means of eliminating redundant archeological efforts by Federal agencies, improving the Secretary of Interior's ability to lead and coordinate Federal archeological activities, and assisting the preparation of the report to Congress on Federal archeological activities.

Ultimately, NADB will consist of three parts providing summary, especially geographical, information, about: (1) archeological reports (the Reports portion), (2) archeological projects (the Projects portion), and (3) other archeological databases (the Database portion).

During FY 1985 and FY 1986, considerable progress was made on developing, testing, coordinating, and implementing portions of NADB. The NADB User's Manual for the Reports portion, Version 1.0, describing the database fields and providing guidelines for data entry was completed. Two pilot projects with the Georgia Department of Natural Resources and the Arkansas Archeological Survey designed to determine the scope of the system, its usefulness, and potential problem areas were completed. Five workshops were held to discuss and resolve issues pertaining to the project. A process was developed for moving data collected on the regional office level to the HP3000 minicomputer in Washington to construct a national version of NADB and consolidate the regional data.

By FY 1986, the NADB system was installed, and data collection underway in four regional offices (Mid-Atlantic, Rocky Mountain, Southeastern, and Western; the Alaska regional office began participation in the project during FY 1987). About 27,000 data records have been collected for archeological reports mainly from states in the eastern half of the country. Records collection currently is focused upon the "grey literature," unpublished and limited distribution reports. It is estimated that there are approximately 200,000 such documents, however, some indications suggest that this estimate might be low.

Both development work and records collection for the Report portion of NADB have continued in FYs 1987 and 1988. In addition, development of the Project portion has also begun (McManamon, Limp, and Farley 1988).

## CHAPTER 5. ARCHEOLOGICAL LOOTING AND LAW ENFORCEMENT

Although there are numerous statutes designed to protect them, widespread looting and vandalism of important and non-renewable archeological sites located on Federal lands has been reported. Data collection for the report to Congress permitted an assessment of the extent of this problem, at least on Federal lands. The FY 1985 and 1986 data suggest a widespread, serious problem. Recent studies (Senate Committee on Energy and Natural Resources 1986; General Accounting Office 1987; House Committee on Interior and Insular Affairs 1988) support this conclusion. They also provide anecdotal information and some additional quantitative data concerning the problem. What should be clear at the outset is that the reported incidents of looting and vandalism presented below do not tell the complete story. It is suspected that many incidents go unreported because the sites looted are in remote locations or the evidence of looting is not noticed. Data provided below represents information from only those agencies that responded to questions concerning archeological looting and law enforcement.

### Reported Looting and Vandalism (Tables 5.1, A.2, A.8)

#### Looting and Vandalism - FY 1985

**Cases:** A total of 436 documented violations of ARPA were reported on sites located on public or Indian lands during FY 1985. This includes both casual, possibly unintentional destruction of resources, as well as systematic commercial looting of valuable artifacts for sale. Over half of the incidents were reported by the FS (233). Another 38% were documented by the BLM (100), COE (35) and the NPS (31). Twenty-seven arrests for looting and/or vandalism were reported, with the FS (9), BLM (11), and NPS (3) accounting for over 85% of these arrests. In addition, a total of 45 citations were issued with almost all (98%) being issued by the FS (13), COE (12), and NPS (13). In addition to the ARPA violations, 48 other cases of looting and/or vandalism were prosecuted under other authority, some being prosecuted under

state statutes, agency specific legislation, the Antiquities Act of 1906, or other laws such as theft of government property.

**Convictions:** Thirty-four ARPA criminal convictions were reported, the majority being misdemeanors. Nine cases resulted in felony convictions, two of which were for second offenses. Of the convictions made, civil penalties were applied in 15 cases, almost all by either the FS (6) or BLM (7).

**Fines and Forfeitures:** Fines imposed as a result of ARPA convictions resulted in the collection of \$23,221. Over half (\$13,100) collected as a result of FS cases. The NPS (\$6,160) and BLM (\$3,336) accounted for another 40% of the total. ARPA also provides for the seizure of archeological resources associated with ARPA violations. The monetary value of archeological resources seized was reported at \$1,555,020, almost all of it (97%, \$1,512,000) coming from one FS case. ARPA also allows for the forfeiture of property used in connection with ARPA convictions. The value of property seized was reported at \$20,308 with three-quarters (\$15,500) resulting from FS cases. ARPA convictions also carry with them the cost of restitution of archeological resources damaged, in the form of the archeological or commercial value of the resource and the cost of restoration and repair of the archaeological site(s) involved. Agencies reported a total of \$104,085 collected for restitution, with 86% (\$90,085) coming from cases.

**Level of Looting:** The level of looting and/or vandalism reported for known sites, based upon signs of this activity, ranged from 0-75%. BLM reported the highest percentage of site disturbance, with 25-75% of the known sites showing signs of looting and/or vandalism.

**Awards:** ARPA provides for awards to be given for information leading to civil or criminal prosecutions. One award, in the amount of \$500, was reported by the FS.

## Looting and Vandallism - FY 1986

**Cases:** During FY 1986, a total of 627 documented violations of ARPA, the Antiquities Act, or other statutes protecting archeological properties were reported on lands administered by Federal agencies. The BLM (349), FS (86), and NPS (67) reported 80% of these violations. Only six arrests were reported: Army (2), BLM (2), BIA (1), and NPS (1). In addition to arrests, 37 citations were issued with the NPS (14), FS (13), and BLM (6) reporting 89% of the citations issued. Of the arrests made in FY 1986, or those that carried over from previous years, 31 prosecutions were reported. Nearly 90% were reported by the FS (12), BLM (9), and NPS (6).

**Convictions:** Nine convictions under ARPA were reported, with 89% being reported by the BLM (4), TVA (2), and Army (1). The majority of the convictions were misdemeanors with a total of 7 being reported. The BLM (4), TVA (2), and FS (1) accounted for all of the misdemeanor convictions. Only two felony convictions for ARPA violations were reported in FY 1986, both by the Army. None of the convictions reported were for second ARPA offenses. In addition to prosecutions under ARPA, 30 cases were prosecuted under other authorities, with 77% being reported by FS (11), BLM (7), and NPS (5).

**Fines and Forfeitures** In those ARPA cases where convictions resulted in criminal fines, \$13,031 was collected, with 93% being collected by BLM (\$7846), COE (\$2300), and NPS (\$2035). A total of 4 civil penalties were reported; BLM (3) and FS (1) accounted for these. Fines collected as a result of these civil penalties was reported at \$2775, BLM (\$2175), FS (\$500), and NPS (\$100) accounting for all these penalties. Site restoration costs of \$125,059 were reported, with FS (\$101,700), BLM (\$22,928), and NPS (\$431) accounting for the total. The commercial value of artifacts seized and retained by the Federal government was reported at \$90,044; the combined total reported by two agencies, BLM (\$89,344) and COE (\$100). The seizure of property associated with ARPA violations was reportedly valued at \$30,360, all reported by BLM (\$360) and NPS (\$30,000).

**Awards:** Rewards given under ARPA amounted to \$200, all reported by the FS.

**Cost Reported for Archeological Law Enforcement:** Agencies reported expending \$959,508 on law enforcement associated with ARPA and the Antiquities

Act, with BLM (\$153,950) and NPS (\$639,300) accounting for 83% of this amount. This amount represented approximately 1.2% of the total Federal Archeology Program costs reported for FY 1986. The cost of ARPA and Antiquities Act law enforcement reported by agencies ranged from 0-10% of the overall agency law enforcement budget.

## The Growing Problem of Archeological Looting Comparison FY 1985 and FY 1986

Many have discerned the problem presented by widespread destruction of important archeological sites. Some of this destruction occurs to sites on private land and is not under the jurisdiction of the Federal government. However, destruction also is occurring throughout the country on Federal land in violation of several statutes, most notably the Archeological Resources Protection Act.

Over 430 incidents of looting or vandalism to archeological sites were reported on Federal land in FY 1985. This includes both casual, possibly unintentional destruction of resources, as well as systematic commercial looting of valuable artifacts for sale. The FS (233) reported nearly sixty times more incidents of vandalism than the FWS (4), more than seven times more than the NPS (31), and over twice as many as the BLM (100). It is likely that this disparity results from two factors. First, the agencies are responsible for different amounts of acreage, those with more land are likely to have more archeological sites and greater amounts of looting occurring. Another factor, however, may be that the FS has a more effective system for monitoring its archeological sites and damage to them.

Comparison of the acreage controlled by these agencies shows that the FS has approximately 191 million acres, the BLM approximately 320 million, the FWS approximately 87 million, and the NPS approximately 75 million. If looting is distributed relatively evenly and at the rate indicated by the data provided by the FS, the BLM would have about 390 incidents, FWS about 100 incidents, and the NPS about 90. The actual cases reported were BLM 349, NPS 67, and FWS 11. Thus, the reported incidents for FY 1985 may represent only one quarter or less of the actual incidents of vandalism, if the FS report is accurate. Given the remoteness of many archeological sites and the relatively infrequent security inspections that many agencies can provide for known

**TABLE 5.1**  
**ENFORCEMENT ACTIVITIES, FY 1985 AND FY 1986**

ACTIVITIES	FY 1985	FY 1986
<b>COST RELATED DATA</b>		
Amount of money collected in criminal fines	NA	\$13,031
Amount of money that was collected in civil penalties	\$23,221	\$2775
Estimated costs for restoring or repairing archeological resources in cases which civil penalties were assessed for violations of ARPA or other authority	\$104,085	\$125,059
Amount of money in awards under ARPA	\$500	\$200
Commercial value of artifacts seized and retained by the government	\$1,555,020	\$90,044
Commercial value of other personal property seized and retained by the government	\$20,308	\$30,360
Estimated agency cost for law enforcement for archeological protection	NA	\$959,508
<b>STATISTICAL DATA</b>		
Number of documented violations of ARPA, Antiquities Act or other statutes protecting archeological resources	436	627
Number of arrests made in cases of vandalism or looting	27	6
Number of citations issued for vandalism or looting	45	37
Number of prosecutions for vandalism or looting	NA	31
Number of convictions under ARPA	34	9
Number of misdemeanor convictions under ARPA	34	7
Number of felony convictions under ARPA	9	2
Number of second offenses under ARPA	2	0
Number of cases of vandalism, destruction, theft, etc. prosecuted using an authority other than ARPA	48	30
Number of civil penalties applied under ARPA	15	4
Percentage of overall law enforcement budget associated with ARPA or Antiquities Act	NA	0-10%

NA = Not Available.

archeological sites, we can be certain that the reported incidents do not represent the true extent of the problem.

Within the Department of Defense, the distribution of reported cases of looting is very disproportionate among the services. The COE, which controls relatively little acreage, reported the greatest number of looting cases. The Air Force, which controls much of the the land within Defense, reported no cases. This may not be the actual situation regarding the occurrence of archeological looting on Department of Defense lands.

The FY 1986 data show a sharp increase among major land managing agencies to 615 in the number of reported incidents of looting. All agencies except the FS show this increase which probably is due to more effective reporting and increased cooperation between agency archeologists and law enforcement officers. The increase also probably reflects the heightened concern about the problem of looting that has developed recently. The reason for the decrease in the number of incidents reported by the FS is unclear.

The increase in reported incidents is not accompanied by similar increases in the number of citations or arrests for looting or in prosecutions or convictions for these crimes. Figure 5.1 illustrates the relationships among these aspects of the looting problem graphically. The reported incidents of looting or vandalism increased by 42% while the number of arrests or citations for these activities declined by almost 50% (71 in FY 1985, 42 in FY 1986). Prosecutions or convictions remained at about the same level during both years.

The limited extent to which vandalism is being discovered and prevented through law enforcement is evident from the totals presented on all the enclosures. Of the 432 incidents reported for FY 1985, only 15% were discovered in time for an arrest to be made or a citation issued. Less than half of the arrests or citations resulted in any criminal convictions and only about a third of the convictions were for felonies. It is important to note that convictions have been made using a variety of statutes in addition to ARPA. It appears that in certain situations law enforcement officials have found other statutes easier to prosecute than ARPA. For the FY 1986 data the discrepancy between reported incidents and citations or arrests is even larger.

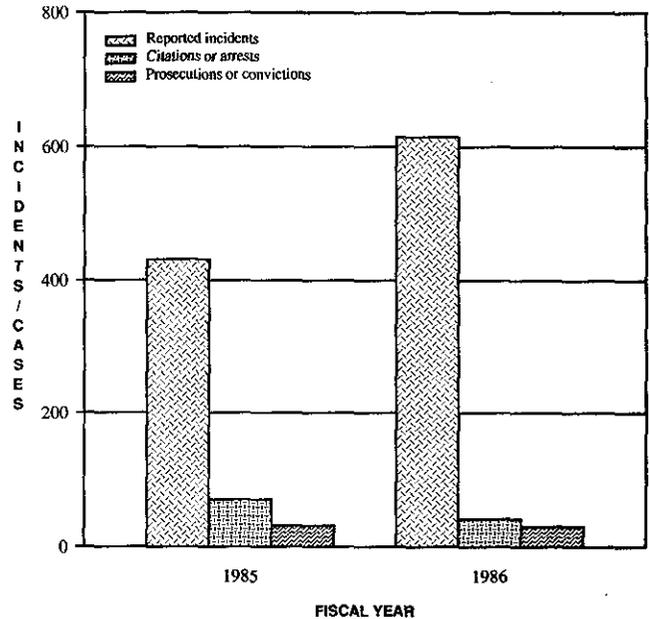


Figure 5.1. Vandalism and looting statistics, FY 1985 and FY 1986.

These numbers must be interpreted with caution because some of the information about convictions is from cases that originated in earlier fiscal years. However, the general trends and relationships seem clear. Very few incidents of vandalism are discovered in time to apprehend vandals or looters, much less prevent the damage to the archeological sites. Moreover, the trend seems to be that the situation is becoming worse. The ratio of incidents to arrests/citations is increasing and the number of arrests/citations is actually declining, perhaps reflecting the increasing workload on law enforcement officers in the field.

The number of reported violations of ARPA, the Antiquities Act, or other statutes protecting archeological resources increased by 43.8% (191) from 436 cases in FY 1985 to 627 in FY 1986. The number of arrests, however, decreased by 77.7% (21) for this same period, as did the number of citations issued for vandalism or looting which decreased 17.7% (8). The number of convictions under ARPA decreased 73.5% (25), from 34 reported for FY 1985 to 9 in FY 1986. Of the types of convictions made misdemeanors decreased 79.4% (27), and felonies decreased 77.7% (7). The number of reported second offenses under ARPA also dropped from 2 in FY 1985 to 0 in FY 1986.

The number of civil penalties applied under ARPA decreased by 73.3% (11) as did the amount of money collected in civil penalties, which showed a drop of some 88% (\$20,446). During this same period the cost for restoring or repairing archeological resources, as assessed through civil penalties under ARPA (Section 7), increased by 20.1% (\$20,974). Awards given for information leading to convictions under ARPA decreased by 60% (\$300) from FY 1985 to FY 1986. The commercial value of artifacts seized and retained by the government under Section 8 of ARPA decreased by 94.4% (\$1,464,976). However, this decrease was due to one very large FS case in FY 1985 followed by much smaller amounts of seized property in FY 1986. The commercial value of personal property seized in association with ARPA violations, as allowed under Section 8 of ARPA, increased by 49.5% (\$10,052).

### **Methods Used to Improve Archeological Site Preservation**

Techniques used by Federal agencies to improve Archeological site preservation were many and varied. They ranged from direct intervention methods such as fencing, patrols, site monitoring, and surveillance to education programs, enhanced interpretation, and general interagency cooperation.

### **Site Fencing, Patrols, and Other Surveillance**

Three agencies (Army-Fort Carson, DOE-Idaho, and FWS) established access restrictions to archeologically sensitive areas and information. Site security has been aided by posted signs, fences and patrols (COE, DOE-Idaho). In addition, some respondents used site inspections (Army, DOE, BLM), the monitoring of off-road vehicles, and surveillance equipment, such as remote sensing (BLM, NPS) and aerial reconnaissance (Army, DOE, BLM, NPS), to monitor land units and sites. Ten agencies (FS, NOAA, Army, DOE, BIA, BLM, BOR, FWS, NPS, TVA) developed cooperative projects with Federal, State, and local authorities, and public interest groups for surveillance of cultural resources.

The National Marine Sanctuary Program of NOAA worked with the National Park Service (NPS) in two Marine Protected Areas. Both NOAA and the NPS shared enforcement and surveillance activities.

Patrolling was utilized by three agencies (Air Force, Army, and FWS), fencing by seven (Air Force, Army, DOE, BLM, FWS, NPS, and FHWA), and the use of barricades by three (Army, BLM, and NPS). The Army, FWS, NPS, and FHWA posted signs against trespassing. Site stabilization programs were implemented by the COE, BLM, NPS, TVA, and FHWA. The Army and NPS monitored changes to sites from natural forces and man-made disturbances, while the Army, COE, and TVA also monitored site protection strategies. Only the NPS Southwestern regional office reported installing surveillance equipment.

The Air Force reported employing security personnel and game wardens to assist in patrolling sites. Various types of fences are used at several installations.

Having surveyed literally all of Fort Hood, Texas, the Army reported having precise information on the location of almost all looted or vandalized archeological sites as well as data on the qualitative aspects of the destruction. The ability to revisit these sites on a systematic basis has allowed Fort Hood the opportunity to monitor ongoing looting over time and to alert the law enforcement branch where priority surveillance is needed. Site looting at Fort Hood is the subject of a formal analysis currently being implemented. Preliminary analysis of the data suggested a reduction in the rate and incidence of serious looting and vandalism since the initiation of a highly visible archeological resource management program at Fort Hood ten years ago (Carlson and Briuer 1986). For a summary of another Army archeological resource management program, at Fort Bliss, Texas, see "Historic Resources Management of Fort Bliss," in *Cultural Resources Management* (Johnson and Schene 1987).

In an effort to protect the remote 2-acre Old Fort Argyle Site located on the Ogeechee River, Georgia, 25 miles from Fort Stewart headquarters, the Army reported initiating a program of delineating and marking of boundaries combined with posting against trespass, limited fencing, and bi-weekly patrol. When complete, the southern and western boundaries of the site will be marked with a double firebreak, and along with the northern boundary access road, will be fenced with barbed wire. The entire periphery including the river front will be posted against trespass, and the access road will be barricaded and posted where it leaves a major Fort Stewart road.

The Army at Fort Carson, Colorado, developed a protection program for training at the Pinon Canyon Maneuver Site (PCMS). The PCMS is a remote range consisting of 244,000 acres and is used for brigade-size maneuvers. After each month-long rotation, agency staff conduct an inspection of National Register eligible cultural resources in cooperation with NPS staff. Sites are located on training maps. Those sites in critical maneuver locations are marked with "restricted area" or "off limits" signs. Likewise, sites in locations subject to significant military activity are fenced or enclosed with two inch white engineers tape in addition to signs. Briefings are conducted with unit commanders and other critical personnel prior to each rotation. Each individual is required to carry a maneuver damage card listing environmental "do's" and "don'ts," including ARPA related information, contained on the cards.

Law enforcement and security personnel are on site both during and in between training rotations so that further protection can be afforded sites as needed (such as consulting with commanders or installing flashing barricades) and enforcement of installation and maneuver restrictions can be implemented. Indirect impacts from soil erosion and other natural forces are also monitored on a regular basis. Additional information on the PCMS cultural resource program can be obtained from the Environment, Energy, and Natural Resources Office, AFZC-FE-EE, Fort Carson, Colorado 80913-5000.

At Edwards and Vandenberg Air Force bases in California and at Fort Carson, Colorado, installation orientation and pre-training briefings provided to visitors and personnel include instructions about recognition of archeological resources, access restrictions to archeologically sensitive areas, and law enforcement information. Tours were also provided to civilian and military groups for heightened awareness. Aircraft overflights were used to identify impacts to sites after military training missions. The National Park Service staff in Denver cooperated in conducting inspections of sites after training and in evaluating training-related impacts to archeological resources.

At Fort Bragg, North Carolina, historic sites such as graveyards and historic churches were monitored by installation law enforcement personnel.

The Corps of Engineers reported using signs, press releases, the monitoring of off-road vehicles, fences,

patrols, interpretive facilities, and lectures to improve resource protection.

The Department of Energy (DOE) in Nevada reported a site inspection program under which all known, significant archeological sites are visited on a regular basis. The purpose of these site visits is to assess the accumulated impacts occurring to such sites. The possibility of using remote sensing data for archeological site monitoring exists at this facility, but has not yet been used. The DOE-Richland has used aerial surveillance to monitor activity near archeological sites. In Idaho, all references to and identification of known archeological sites have been limited to project personnel who need to know of these resources. Routine security patrols further ensure against unauthorized site visits.

The BIA Juneau, Alaska, office reported that inter-agency cooperation was crucial to the monitoring and surveillance efforts in Alaska. The Navajo area office also reported working in close coordination with other Federal agencies. This included joint field inspections with the NPS at Canyon de Chelly and Chaco Culture National Historical Park, and the maintenance of contacts with the FBI.

The BLM State Offices reported cooperation with one another, and also with the FS and the NPS, in intra- and inter-state law enforcement efforts. Interagency efforts were reported between the Susanville District (California) and Lassen National Forest, and with an interagency task force in the Four Corners States involving BLM, NPS, and FS. Some State Offices reported cooperative agreements with local law enforcement agencies for response to looting violations on BLM lands (e.g., Lakeview District, Oregon, reported a cooperative agreement with the county sheriff's department to patrol selected sites in the District).

Two BLM States reported developing a site steward program. The Carson City District (Nevada) has entered into a cooperative agreement with the Churchill County Chapter of the Nevada Archeological Association to implement the "Adopt-a-Site" Program (a program created by the Carson City District Archeologist). Utilizing volunteers, significant sites are patrolled, reports submitted and a 24-hour hotline established. The BLM Arizona State Office also has participated very actively in the development of a statewide Arizona Site Steward program.

In addition, the BLM Arizona State Office reported cooperating with the Arizona State Land Development and NPS in conducting periodic surveillance flights in Apache and Navajo Counties. Funds and personnel have been shared in this effort. Likewise, a cooperative agreement with the Arizona National Guard was made, whereby Guard pilots agreed to watch for and report any incidents of looting or vandalism they observe during their 50 scheduled training flights each month. Other agreements were with the Yavapai County Search and Rescue volunteers to monitor archeological sites in a remote area north of Phoenix and with county sheriffs' departments to provide funds in exchange for their efforts in enforcing laws on public lands. The BLM Arizona State Office has used, and will continue to use remote sensing for monitoring.

Several commonly used methods reported by the FWS to help improve site preservation included: restricted access to site location information, the use of cooperative agreements, and the use of surveillance equipment to monitor site intrusions/disturbance.

Most of the parks in the North Atlantic Region of the NPS reported concurrent jurisdiction with local law enforcement agencies who assist the regional office in the surveillance of cultural resources. The NPS Rocky Mountain Region reported an effective interagency cooperative program with the FS and the BLM in Utah with an emphasis on antiquities law enforcement and surveillance. This collaboration also resulted in the creation of an interagency poster discouraging looting and vandalism. In the NPS Southwest Region, an agreement was established involving the BLM, FS, and NPS for cooperation in the management, protection, and preservation of archeological sites and structures.

In the NPS Western region, NPS and BLM reported cooperative efforts carried out in northern Arizona on BLM and Grand Canyon National Park lands in the remote sections of the "Arizona Strip," south of St. George, Utah. Aircraft and on-the-ground surveillance, documentation of physical evidence and resource conditions were done by cultural resource and law enforcement staff from NPS and BLM. Remote sensing devices were installed at key locations. The Yosemite NP's archeologist worked closely with NPS law enforcement staff from Sequoia-Kings Canyon NP and Yosemite NP on rumored concessionaire employee activities and disturbance of a

rockshelter site. Seismic and magnetic point sensors were used to protect a major archeological site on the boundary of Petrified Forest NP, now in Archeological Conservancy ownership and scheduled for inclusion within the park.

In the NPS Pacific Northwest Region several bordering agencies cooperated in the monitoring of archeological resources. In the NPS Alaska Region, Native inholders at Cape Krusenstern National Monument were very cooperative in reporting possible looting. By the end of 1988, the Alaska region hopes to have formally recruited several Alaska Native inholders to participate in a "site watch" program. Following looting incidents at two parks in Northwest Alaska, an article was prepared for a local newspaper warning potential looters that NPS would be watching for them. The use of additional educational tactics in the local media to discourage looting are planned.

The Tennessee Valley Authority (TVA) reported a contract with the Monroe County Sheriff's Department for them to carry out surveillance and enforcement at the Tellico Reservoir in Loudon County, Tennessee.

### **Education and Other Awareness Efforts**

In the long run, archeological resources will be preserved because the public at large believe their preservation is important. Looting and vandalism will be reduced or eliminated because the market for looted material shrinks and vandalism will be widely regarded as unacceptable behavior. Widespread and substantial educational efforts will be needed to accomplish these changes. Many Federal agency archeological programs have recognized this and are making progress in this area. Reported education and awareness techniques included: lectures for staff and the general public, press releases, posters, and site tours.

Many agencies commented on the importance of public awareness and interagency efforts. Five agencies (COE, DOE, BLM, FWS, and NPS) have initiated interpretive programs, facilities and displays replete with articles, brochures, and slide and video presentations. Public lectures and education programs to increase awareness were employed by the SCS, Army, COE, BIA, NPS, and FHWA. Training programs for employees and contractors have been incorporated into the cultural resource management

programs of four agencies (Army, BIA, NPS, FHWA), while Cooperative Management Agreements have been developed between four agencies (Army, BLM, FWS, TVA) and with public interest groups. Volunteers and para-professionals have participated on several projects with the BIA, BLM, FWS, and NPS. A few regional offices of the BLM and NPS have designed visitor management techniques as part of their protection measures. The Army and TVA have published studies of their resource protection methods to compare and improve upon them.

To improve archeological resource preservation, the Soil Conservation Service (SCS) reported conducting a number of public awareness activities and is developing a training program for its employees and cooperators.

The Corps of Engineers reported using the following methods and procedures to improve preservation: requirement for contractors to prepare articles and slide or video presentations for use in interpretive programs; cultural resources interpretive facilities; cave-site sealing with concrete and boulders; stone rip-rap, steel piles, and berm walls for bank stabilization; public lectures and education programs; and monitoring of protection measures.

The DOE in Nevada reported that an interpretive archeological display has been maintained in the cafeteria at Mercury on the Nevada Test Site since 1985. This display, the themes of which are rotated every 4 to 6 months, emphasizes the importance of preserving cultural resources, references ARPA and is focused around cultural resource management activities on the Nevada Test Site and Tonopah Test Range. The DOE in Savannah River (SR) stated that all land use activities are carefully reviewed through coordination with the archeological contractor at SR during initial planning phases. This process, in conjunction with predictive site location models and known archeological site distributions, has enabled the avoidance of significant and potentially significant resources within the planning process. This system has resulted in the need for very few data recovery projects associated with over 75 major land use projects each year. The DOE in Idaho reported using several techniques for resource preservation: namely, pre-construction surveys, written notification to contractors to cease work in the event resources are encountered, redesign or relocation of project facilities potentially impacting archeological or cultural resources, and fencing.

Four area offices of the Bureau of Indian Affairs reported activity in resource preservation. The Billings Area Office stated that their in-house training consisted of advising the non-law enforcement personnel of the permitting system and tribal notification. The Juneau Area Office stated that education was the most effective method that they had used to improve archeological resource preservation. Training sessions, seminars, and archeology field schools involving Alaska Natives were the most successful ways they had to preserve cultural resources in remote communities. The Aberdeen (SD) Area Office reported that in lieu of an archeologist being stationed at each agency, they had to rely on their lease compliance (surface) technicians to alert the agency to any possible violations or discoveries. Additionally, their lease and permit applications contain provisions which require a Class 2 survey prior to surface disturbing activities. The Navajo Area Office reported that their archeological staff had developed and presented a series of courses related to raising the archeological consciousness of land developers and land managers in the Navajo Area. This course was offered in 1986 to individuals involved in mineral development, water development and forestry. Each course was tailored to the needs of the particular kind of resource development represented. This training has also acted as a form of para-professional training.

The Bureau of Land Management in Alaska reported utilizing Student Conservation Association (SCA) volunteers to work with active placer mining operations to retrieve Pleistocene fossils and, generally, to make miners more aware of the scientific value of archeological resources. This has been named the "Fossil Cooperative Agreement Program."

The BLM in Arizona has helped organize Arizona Archaeology Week, the Arizona Site Steward program, production of Ted Danson (star of the television program "Cheers") public service announcements (PSA), development of intaglio brochure, development of other PSAs, stabilization of Harquahala Peak Solar Observatory, Bighorn Cave cooperative research project, and Antelope Cave cooperative research project. The Arizona State Office has also fenced a number of intaglios to prevent damage from off-road vehicles. For the most part, this has been very effective in eliminating surface disturbance. The Arizona State Office has also been involved in a multi-year cooperative research project in the Timber Draw area of southeast Arizona in which

an independent researcher and volunteers have been assisting BLM in delineating areas for future mitigative efforts.

The California BLM State Office reported success in implementing protection through the use of Cooperative Management Agreements (four in FY 1986) to carry out fencing, site testing, site excavation and inventory. In conjunction with the Forest Service, Colorado BLM has trained approximately 150 persons as para-professional archeologists.

The BLM in Montana has formulated a cooperative agreement with a private, non-profit preservation society to protect and manage the Butte District's Garnet Ghost Town. This group provided both protection through active caretaking and summer visitor management and interpretive services. The BLM provided caretaking in the winter months when the area is actively used for snowmobiling and nordic skiing. The Carson City District in Nevada reported a program of prehistoric and historic site stabilization and interpretation. Utilizing the National Register Grimes Point Archeological Area, thousands of visitors each year are provided with a unique view of such sites as the Grimes Point Petroglyph Site and Hidden Cave.

The BLM Salem District in Oregon blocked entry to vehicles and horseback riders onto historic Copper Creek Bridge, while still allowing foot traffic to use the bridge. Also in this district, a BLM naturalist/interpreter included talks on coastal archeology at Yaquina Head. A number of districts in Oregon and Washington have used para-professionals in different capacities.

A cooperative agreement between Wyoming BLM and the Washakie County Museum, Worland, Wyoming, was developed for curating and conserving the Soapy Dale Peak Timber Lodge recovered from the Absaroka Mountains. This vertical pole lodge was preserved utilizing state-of-the-art conservation techniques prior to being incorporated into a long-term interpretive display of the prehistoric utilization of the Big Horn Basin. Cooperative agreements with the University of Wyoming and with Western Wyoming College will result in cost sharing efforts to excavate the Hanson and Finley sites. The use of Student Conservation Aides (SCA) is also being explored in the Rawlins District, to map and inventory Castle Gardens Petroglyph Site and the South Pass Historic

Mining District. Rawlins District will also be using Boy Scouts to erect plaques along the Oregon Trail.

The Rock Springs District in Wyoming has begun exploring the use of open-trench examinations to locate buried sites in large pipeline projects. This technique involves an archeologist walking along an open pipeline trench prior to installation of the pipe and examining the entire trench profile for exposed cultural material. This strategy has enabled BLM to identify several highly significant Paleo-Indian sites that went undetected by surface inventory, or whose subsurface potential was not recognized.

The FWS reported using signs and other interpretive devices. In some instances, FWS has used cooperative agreements with local public and volunteer organizations to maintain sites.

The North Atlantic Region of the NPS reported stressing the interpretation of the character of the resource to the park interpretive staffs. The National Capital Regional Archeology Program reported producing an ARPA interpretive poster "HELP US PROTECT THE PAST FOR THE FUTURE" with a grant from the Parks and History Association. The Southeast Region through the Southeast Archeological Center initiated a park-level basic archeological technical assistance program that included the following goals: refresher training in ARPA and Cultural Resource Management Guidelines requirements; uses of the Cultural Sites Inventory in the field; archeological site identification; monitoring sites for disturbance and reporting the disturbances. Training was adapted to specific park requirements and types of resources and included field demonstrations on site identification and the measurement and reporting of disturbances.

The NPS Midwest Region reported supporting a program of para-professional archeology training. This program improved the region's management of the archeological resource base by training people in the parks to serve as advocates for archeological resources, including identification of archeological concerns among advance planning issues. Consequently, many small projects which were previously being constructed without any archeological review are now being incorporated on the reviews. In the Rocky Mountain Region, a multi-year program of prehistoric ruins stabilization was carried out in several parks in southern Utah, with active participation by

various park personnel. Canyonlands National Park reported developing an Archeological Disclosure Policy based on the park's enactment legislation, resource preservation needs, and the type of visitors it receives.

In the NPS Southwest Region, surveillance units were installed in Wupatki and Canyon de Chelly National Monuments. Fencing was also used at Canyon de Chelly and at Amistad Recreation Area. At Amistad, a study was underway to assess preservation/protection needs. This work included backfilling potholes, mapping and recording, fencing, signing (interpretive and ARPA notices) and closing off areas with buoys. In two parks, sites that were being eroded away were protected through the application of soil erosion control techniques. The sites were covered with "enkadrain," which in turn was covered with soil.

The NPS Western Region employed the use of attractive hand-outs and publication of resource conservation articles in local media. Sites in four parks were stabilized using various mechanical means. Grand Canyon National Park and the Western Archeological Conservation Center actively participated in the annual "Arizona Archeology Week" with special displays, staff talks, and media efforts. Three areas of the Grand Canyon were closed to visitation due to the sensitive nature of cultural resources, and monitoring patrols along the Colorado River recreation zone were periodically done with visits to river-running parties.

In the NPS Alaska Region, the Regional Archeologist taught a section of the Controlled Fire Training for Fire Bosses to instill consideration for cultural resources in the management of controlled fires. Archeologists from the Regional Office spoke to Native corporation members in Northwest Alaska prior to conducting a cultural resource inventory in the area. They later sent multiple copies of a summary report designed specifically for the Native community to several villages, and thereby enlisted the cooperation of the Native corporation in the archeological preservation process.

The Tennessee Valley Authority reported a joint program with the University of Mississippi Center for Archaeological Research to explore and test the efficacy of various means of site stabilization. Demonstrations of techniques at archeological sites throughout the Valley were put into place and monitored. The results of the initial phase was

published, and publication of second phase results is expected in FY 1987.

The Federal Highway Administration, in conjunction with state highway agencies, reported using a variety of methods and techniques to improve archeological resource preservation: placing restrictions on construction easements; placing signs in the field; fencing resources during construction or stabilization; cross-training focused on increasing the awareness of agency personnel about the identification and fragile nature of archeological resources; interagency workshops to improve working relationships concerning the consideration and treatment of archeological resources; developing public hand-outs, magazine articles, or professional papers; and using an interdisciplinary team approach, including a Native American advisor.

#### Information Exchange - LOOT Clearinghouse

The Departmental Consulting Archeologist and Archeological Assistance Division (NPS) have developed a clearinghouse to summarize information about the prosecutions of archeological looting and vandalism. This clearinghouse, named LOOT (the Listing of Outlaw Treachery), contains summary data from Federal, State, and local sources concerning incidences, arrests, indictments, hearings, trials, pleas, judgements, sentences, and forfeitures. These summary records are being entered into a computer database. This effort is aimed at providing a central place for those seeking information concerning prosecutions. The current listing is incomplete, but collecting information about additional cases is underway. At present, summary information, including sources that can be contacted for more detailed information, is available for the following cases:

<u>Year</u>	<u>Agency</u>	<u>Location</u>
1981	BLM	South Warner Valley (Site 35LK94), Oregon
1982	FS	Coconino National Forest, Arizona
1983	NPS	Mesa Verde National Park, Colorado
1983	FWS	Malheur National Wildlife Refuge, Oregon
1983	FS	San Juan National Forest, Colorado
1983	BLM	Lonetree, Wyoming
1984	NPS	Richmond Battlefield Park, Virginia
1984	NPS	Petersburg National Battlefield, Virginia

1984	FS	Manti Lasal National Forest, Utah
1984	NPS	Gulf Islands National Seashore, Florida
1985	BLM	Hells Canyon National Recreation Area, Idaho
1985	Hopi	Hopi Indian Reservation, Arizona
1986	NPS	Biscayne National Park, Florida
1986	BLM	Malheur County, Oregon
1986	FS	Chippewa National Forest, Minnesota
1986	BIA	Unitah and Ouray, Fort Duchesne, Utah
1987	FS	St. Francis National Forest, Arkansas
1987	NPS	Channel Islands National Park, California
1987	FS	Tonto National Forest, Arizona
1987	FS	Cleveland National Forest, California

### Federal Law Enforcement and Archeological Training (Tables A.3, A.9)

Effective protection of the nation's archeological resources depends, to a large extent, on archeologists, law enforcement personnel, and the public being knowledgeable about archeological resources, regulations pertaining to these resources, and the enforcement of legislation pertaining to archeological resources protection. Agencies reported various levels of training for archeological and law enforcement personnel, including ARPA training courses like the 40-hour ARPA training course offered by the Federal Law Enforcement Training Center.

During FY 1985, public education activities regarding archeological resources was reported by 45% (19) of the agencies. The majority of these efforts were focused at the local and regional levels. Examples of activities included school tours, lectures, programs, articles in newspapers and magazines, site tours, exhibits, displays, workshops, posters, booklets, essay contests, public reports, radio and television presentations, etc. Although most of the activity was on the local and regional levels 12% (5) of the agencies did report similar educational activities aimed at a national audience (FS, SCS, NOAA, NPS, FHWA).

In addition to outreach activities concerning preserving archeological resources, 45% (19) of the agencies reported in-house education activities regarding site preservation. Twenty-four percent (10) provided in-house para-professional courses in archeology to increase awareness of and solicit help for site preservation. Cultural resource awareness training for non-cultural resource personnel, to increase public awareness, was reported by 43% (18) of the agencies.

During FY 1986, agencies reported that 58 law enforcement personnel received ARPA training through either the Federal Law Enforcement Training Center (FLETC) or other 40-hour courses. The percent of law enforcement personnel within agencies receiving this type of training ranged from 0-10%. Cultural resource personnel receiving this same type of training was reported at 19. The percent of cultural resource personnel receiving this type of training ranged from 0-17%. In addition to law enforcement and cultural resource personnel it was reported that 2 additional employees received this training.

In addition to the 40-hour ARPA training courses, 559 law enforcement personnel received ARPA training in 8-to-16 hour courses. Twenty-seven cultural resource personnel were reported as having received similar training. The percent of cultural resource personnel receiving this training ranged from 0-25%. Another 78 employees were reported as having had the 8-16 hour ARPA training. Participation by this category of personnel ranged from 0-33%.

The majority of agencies/offices reported that they had some form of training in cultural resource management, ARPA enforcement or general archeology for their personnel. Nine agencies have sponsored the Advisory Council on Historic Preservation's (ACHP) Section 106 compliance course and five offered ARPA training through FLETC. Seven agencies participated in additional training from commercial sources or other government agencies; namely courses offered by the NPS, COE, BLM, and FS. Two agencies reported that they were developing programs. Of the twenty agencies providing training, 12 had developed programs for their own use, varying in intensity from 1/2-hour to 2 weeks and annually to quarterly. Seminars, workshops and refresher courses utilized guest speakers, films, videos, slide/tape programs and on-site visits.

The Farmers Home Administration reported offering a three-day course for its 46 State Environmental Coordinators. The course provided an in-depth overview of the environmental review process including the regulatory process for cultural and archeological resources.

Among the military, the Air Force reported sponsoring a 2-week cultural resources management workshop at Northern Arizona University in Flagstaff, Arizona. The

Department of the Army reported cooperating with the other military departments in sponsoring a 1-week basic training course on historic resources management for defense personnel every other year. This course included a session on ARPA and one entire day on archeological resources management. In the years between basic courses, the Army encouraged personnel to attend intensive training, such as the 2-week summer course being offered by the University of Northern Arizona, the ACHP Section 106 course, and the Army Corps of Engineers cultural resources management course.

The Department of the Army at Fort Hood, Texas, reported offering a 1-day quarterly seminar required for all environmental coordinators from each activity and battalion on base. The Fort Hood staff archeologist instructed attendees on archeological resource management requirements. On-site law enforcement classes offered at Fort Carson, Colorado, included a section on ARPA. The Army's historic preservation officer provided a 1-hour briefing to facilities engineer staffs approximately four times a year at which ARPA was explained and a case study on the development of an installation archeological resource management program was presented. The Marine Corps reported employing Air Force and DOD courses.

The Corps of Engineers used its own course "Cultural Resources: Identification, Analysis, and Evaluation" and the National Park Service's course on "Federal Archeology Program Management." Attendance at professional conferences, training sessions and 2-day courses taught by archeologists and historians for field personnel and land managers were also methods used for training.

The Department of Energy-Western Area Power office reported formalized training with the ACHP Section 106 course and the BLM/FS. The DOE in Savannah River reported it planned to establish a training program for its security force personnel on archeological resources as part of the general security training process.

The General Services Administration (GSA) reported that some of its historic preservation staff have received archeological training offered by the National Park Service.

The Indian Health Service of the Department of Health and Human Services (HHS) reported giving a 1/2-hour

lecture to approximately 50 engineers on the identification of cultural resources.

The Juneau Area office of the BIA reported receiving organized training through a Statewide Cultural Resource Protection Plan workshop organized by Alaska's Office of History and Archeology.

The BLM reported offering courses related to general training in archeology, particularly the BLM's 8000-1 course "Cultural Resource Management for BLM Personnel" and the annual BLM State Office Cultural Resources Management workshops. BLM State Offices reported that they periodically conduct employee cultural resource awareness sessions using a variety of films, slide/tape modules, and videotapes. Some State Offices used a 4-hour training module developed by the BLM Phoenix Training Center, entitled "Cultural Resource Management for the Resource Specialists." State Offices have also used a slide/tape program developed by BLM's Colorado State Office, entitled "Site Protection and the Law," as well as slide/tape programs developed by various regions of the Forest Service. Several States Offices reported developing formal awareness training in conjunction with existing or anticipated paraprofessional programs.

The FWS reported that at several regional offices managers and project leaders were offered short refresher courses on ARPA as part of a longer training session.

Within the NPS the North Atlantic Region reported being involved in many training courses for park personnel in all aspects of park operations. All sessions involving cultural resources contained information about ARPA and archeological resources. A specific session on ARPA was set up for the Law Enforcement Refresher Course. The National Capital Region Archeology Program has developed a 2 1/2-hour ARPA training course entitled "Protecting the Past: Training in Archeological Resources Protection." The course was designed to be taught at the yearly in-service Park Ranger Training, parks, and U.S. Park Police substations in the National Capital Region.

The NPS Southeast Region, through the Southeast Archeological Center, initiated a park-level basic archeological technical assistance program that included refresher training in ARPA and Cultural Resource Management Guidelines requirements.

Training was adapted to specific park requirements and types of archeological resources, and included field demonstrations on site identification and the measurement and reporting of disturbances. This program, conducted on a yearly basis, was given at four parks in FY 1986.

The NPS Midwest Archeological Center offered a course to train park personnel to serve as para-professional archeologists. Individuals attending the course were instructed in the nature and significance of the archeological remains and the role of the National Park Service in the management of archeological resources. Participants in the course were taught skills in recognizing archeological resources so they could assist NPS archeologists with projects, or report the discovery of archeological remains to professionals. The course provided an opportunity for park staff to take an active role in the preservation of archeological resources and increase their understanding of the resources under their stewardship. A portion of this course was directed to ARPA issues and concerns. The NPS Rocky Mountain Region provided seasonal training in many parks which incorporated sessions on area archeology and preservation requirements.

In the NPS Southwest Region, condensed versions of the FLETC course on ARPA were conducted in cooperation with the Forest Service. Refresher law enforcement courses included four hours on ARPA and its regulations. ARPA and archeological clearances were addressed in resource management workshops and in cultural resource management training. In the Western Region, regional archeologists and archeologists from four parks gave short training presentations to seasonal law enforce-

ment, interpretation, maintenance, and resource management field staff. Chief Rangers in the region were given information on ARPA and the Code of Federal Regulations regarding archeological and other cultural resource protection. ARPA-related training was effectively done at several levels: 40-hour courses, shorter briefings for new or seasonal employees, discussions for Supervisory Rangers, and during Superintendents' Conferences. The Pacific Northwest region provided ARPA training to its law enforcement personnel, which was provided by the Regional Archeologist and the Regional Curator.

In the NPS Alaska Region, a small number of superintendents and resource managers took the introductory course "Cultural Resource Management" given at the NPS training center at Harpers Ferry. In 1986, a representative from the Department of the Interior Solicitors' Office in Anchorage gave a short overview of ARPA at the Law Enforcement Refresher Class. Also, the Alaska Region is planning to give a 3 to 5 day locally taught class to cultural resource managers and permanent ranger staff.

The FAA reported using an Environmental Assessment Course, a 1-week course concerning effects of airports on the environment. This course included an afternoon movie and lecture on archeological, historical, and cultural resources and laws to protect them.

The Federal Highway Administration reported a training course on historic and archeological preservation. Developed in 1976, it has been presented 48 times across the nation. The course manuals and training materials were given or loaned to a variety of local, State, and Federal agencies to assist them in similar presentations.

## CHAPTER 6. INTERAGENCY COOPERATION IN INFORMATION EXCHANGE AND COOPERATION WITH PRIVATE ORGANIZATIONS

In Chapter 5 many examples of interagency cooperation involving resource protection were described or cited. In this chapter, examples of cooperation in information exchange are the focus. Information exchange is an important means of reducing redundancy in the Federal Archeology Program, one of the recommendations made in the 1981 Government Accounting Office (GAO) report on Federal archeological activities (GAO 1981). Cooperation between Federal agencies and private collectors and professional archeological organizations also are reported here. Such cooperation is encouraged under Section 11 of ARPA to enhance resource preservation. Much of the agency-specific information in this chapter comes from answers to narrative questions that were part of the questionnaire for FY 1986 activities. Not all agencies submitted answers to these questions, so all agencies are not represented in the examples described here.

Twenty-one agencies provided information on methods used to share archeological data with each other and interested groups. Thirteen of these agencies participated in the most common form of information sharing through the distribution of reports to SHPOs, Federal agencies, the National Technical Information Service (NTIS), educational institutions, museums, libraries, and individuals. Utilization of computerized databases such as the Intermountain Antiquities Computer System (IMACS), NTIS, and the Archeological Sites Information System (ASIS) was reported by the Air Force, Army, COE, DOE, BLM, and NPS. Participation in State and local archeological societies, professional meetings, and workshops also has been used to disseminate archeological information. Cooperative agreements for information sharing between agencies, universities, and museums has been helpful to the Air Force, Army, Marines, and the NPS. A few respondents, the BLM, BOR, MMS, NPS and DOE, have initiated informational meetings and memoranda, working committees, mailing lists, and clearinghouses as means to distribute information.

Reports resulting from Federal archeological projects, or federally licensed or assisted archeological projects, were reported by most agencies. A total of

12,655 such reports were noted. The majority (81%) of these reports involved work by or for BLM (5279), FHWA (2500), and BIA (2410). Thirty-six percent of the agencies reported that they made reports available to the public through NTIS; 10% indicated that they sent reports to the Defense Technical Information Service (DTIS). The use of other means of making reports available, such as regional archeology information centers, Government Printing Office (GPO), local museums, libraries, universities, etc., was reported by 52% (22) of the agencies. Sixty-two percent (26) reported sending copies of reports to the appropriate State Historic Preservation Officer.

### Agency-Specific Cooperation

The Rural Electrification Administration (REA) stated that results of field surveys and data recovery by REA's applicants were provided routinely to the relevant SHPO and to interested parties upon request. Summaries of the archeological work were included in REA's environmental review documents. The Soil Conservation Service reported submitting archeological information to SHPOs and disseminating it through professional networks and meetings.

The Air Force's Strategic Air Command reported developing an agreement with the University of California at Santa Barbara, California, for data collection and artifact curation. Williams AFB, Arizona, developed display cases and produced an audiovisual program for a Hohokam site on the base; Edwards AFB staff participated in local and state archeological society meetings. Military Airlift Command reported sending all reports to NTIS, while copies of data recovery reports are provided to NPS and the SHPO.

The Army at Fort Hood, Texas, reported exchanging computer files through electronic mail with cooperating agencies and archeologists under contract. They also reported computer graphics capabilities which allow them to create archeological maps that are coordinated with other organizations and agencies, especially the SHPO.

Fort Campbell, Kentucky, reported two systems that have been utilized for retrieval of archeological/historical information. The Cultural Resource Information Bulletin Board (CRIB) and Discuss with Experts Environmental Problems (DEEP) have been accessed through the Environmental Technical Information System (ETIS) computer terminal at the U.S. Army in Champaign, Illinois.

At Fort Carson, Colorado, a Land Use Technical Advisory Committee (LUTAC) was established for the Pinon Canyon Maneuver Site (PCMS) environmental programs; included on the committee are representatives of the Advisory Council On Historic Preservation, SHPO, NPS, and local and state amateur and professional organizations. The Corps of Engineers reported that various offices have different information sharing systems. These include the distribution of reports to state universities and agencies, NPS, NTIS, the sharing of the ASIS database with SHPOs, and computer access to SHPO site information.

The Marine Corps Air Station in Kaneohe Bay, Hawaii, has shared archeological resources information with the Bishop Museum in Honolulu, which is a repository for the station's recovered resources.

The Department of Energy in Nevada stated that all reports and site records pertaining to cultural resources on the Nevada Test Site and Tonopah Test Range were filed both at the Nevada State Museum and the Nevada Division of Historic Preservation and Archaeology. In addition, the Desert Research Institute has maintained computerized database of all cultural resources on both facilities, as well as known sites on the surrounding Nellis Bombing and Gunnery Ranges. DOE also has participated in the IMACS database maintained by the University of Utah.

The DOE Savannah River Facility (SRF) reported that all archeological site information from the facility is incorporated within the South Carolina Site Inventory system maintained at the South Carolina Institute of Archaeology and Anthropology and made directly accessible by the South Carolina SHPO. This inventory system has made available specific archeological research information and raw data to any professionally trained and qualified researcher with a justifiable need. Scholars and students have been encouraged to employ these data in research projects. Finally, the SRF archeology program serves as a de facto clearinghouse for archeological data and literature related to the Savannah River Valley and

hosts occasional workshops on technical subjects for the regional archeological community. The DOE-Western Area Power reported distributing reports to all Section 106 consulting parties and upon request to interested parties. The DOE in Idaho submitted annual reports to the SHPO and BLM containing pertinent archeological and cultural resource information.

The Environmental Protection Agency (EPA) Region II reported working on a process to adapt features of the New York State Department of Environmental Conservation computerized system for data storage and project tracking for archeological purposes. Eventually the region hopes to develop a system to retrieve information on archeological investigations associated with Region II construction grants projects. This system could be helpful in initiating development of a national database for EPA. EPA is considering developing this system in other regions and states.

The General Services Administration reported making archeological information available to other agencies, SHPOs, and to interested institutions.

The Indian Health Service of the Department of Health and Human Services reported sharing archeological information with the BIA, SHPO, tribes, and occasionally with museums.

As a rule, BIA area offices share information with SHPOs and supply tribes with copies of reports of BIA archeological work on their lands. Due to the sensitivity of archeological sites for many tribes, there is a tendency within the Bureau to restrict the distribution of information about such sites and, in some cases, to release this information only with tribal consent.

In Idaho, Nevada, Utah, and Wyoming the Bureau of Land Management (BLM) has participated in the IMACS database. Data entry was conducted in the BLM State Offices and a tape sent to the University of Utah to be entered into the general system.

BLM shared data with the SHPOs, other Federal agencies, and researchers through computer exchange or hard copy transfers. In Colorado, researchers have been able to access information on artifact collections through the computers at the Anasazi Heritage Center (Dolores, Colorado). Wyoming BLM reported working on a system to share Geographic Information System information with the SHPO and the University of Wyoming. Arizona BLM reported

being a major participant, along with the Arizona State Museum and the SHPO, in developing a statewide computer database for archeological site records. In Alaska, although there are not as yet any formal computer-to-computer linkages between BLM and the SHPO, the BLM reported using Wang and Apple computer-generated listings for sharing archeological data with the SHPO as part of the annual reporting process. Products from these systems also have been available to other agency archeologists.

Virtually all BLM State Offices have established cultural resource technical publications series to print and disseminate information on cultural resource projects undertaken or funded by BLM.

The Bureau of Reclamation Arizona Projects Office (Central Arizona Project) conducted monthly information sharing meetings with representatives from all active archeological contractors, SHPO, Arizona Archeological Council, and other interested professionals. This office also issued a monthly informational memorandum that is broadly distributed among the professional community. All final reports of surveys, data recovery activities, etc., were filed with NTIS and the DOI Natural Resources Library in Washington, D.C. In addition, these reports were distributed regionally to appropriate agencies, institutions, and individuals. The library at Reclamation's Engineering and Research Center in Denver has maintained a complete collection of Reclamation sponsored or produced cultural resource reports. These have been available as hard copies, and for publications received beginning in 1986, on microfiche.

Fish and Wildlife Service Regional Offices, as part of routine policy, shared and distributed information to SHPOs, other Federal and State agencies, and professionals involved in particular activities. Copies of reports were sent to the NTIS as they became available.

The Tennessee Valley Authority has an extensive publication series in archeology. Reports of all major work done in connection with TVA projects are published in this series and are available for sale through TVA's Mapping Services Branch.

The Minerals Management Service Regional Offices has sponsored annual information transfer meetings which serve to disseminate information on the Outer Continental Shelf archeology program to the oil and

gas industry, environmental, regulatory, and archeology professionals, and the general public. In addition, the MMS has kept an open door policy for sharing archeological information with other agencies, SHPOs, and archeological groups and specialists with regard to shipwreck records.

Within the National Park Service (NPS), the North Atlantic Region mailed copies of published reports to colleagues in educational institutions, SHPO offices, other governmental agencies, and private organizations. Major reports were distributed to all government depository libraries. In the Southeast region, archeological reports were distributed to the SHPOs and newly discovered sites were entered into state site record systems. The Midwest Archeological Center has maintained a large mailing list for dissemination of archeological reports to professional archeologists in the Midwest Region. Copies of all final archeological reports were distributed to the appropriate SHPOs. The Rocky Mountain Region shared archeological information as a member of the IMACS Council. The NPS Southwest Region distributed reports and other information to professional and government archeologists in the region. The Western region participated with the California BLM and Pacific Southwest Region of the Forest Service in formal staff working committees for cultural resource management and Native American affairs. Regional Office staff periodically met with counterpart staff from these agencies and with appropriate State of California agency representatives to exchange information, program details, and operational data. All Archeological Clearance Survey forms as issued from the Western Archeological and Conservation Center were automatically sent to SHPOs for review and comment. The Western Region has also actively participated in state-wide archeological organizations in Hawaii, Arizona, and California, and has been an active member of the California Heritage Data Management Advisory Committee, sponsored by the California SHPO. Archeologists from the NPS Pacific Northwest Region participated in regional anthropological meetings and maintained close associations with other Federal agencies in the region. Archeologists participated as invited lecturers at institutions, societies, and agency meetings and were active members of local and regional organizations. All research or compliance investigations were cleared through SHPOs. The Alaska Region sent collected site data to the SHPO so it could be entered on the computerized Alaska Heritage Resource Survey.

The Federal Aviation Administration's (FAA) Environmental Assessments contain archeological survey reports. These were distributed for review to other Federal agencies and to State and local organizations including: SHPOs, EPA, FWS, COE, State air and water control boards, and State aeronautical commissions. Distribution of the assessments constitutes FAA's system for sharing archeological information with other agencies, SHPOs, and other archeological groups.

The Federal Highway Administration reported that some state highway agencies have initiated computer linkages with their SHPOs for information sharing.

The Urban Mass Transportation Administration reported that private consultants to the Santa Clara Transportation Agency, San Jose, California, shared archeological information by transmitting reports to the state clearinghouse/information center, the SHPO, and the Native American Heritage Commission.

The Veterans Administration (VA) shared information by writing letters, making phone calls, sending copies of reports, and responding to inquiries. The VA provided site specific information to organizations and individuals on a need-to-know basis.

### **Information Exchange - LEAP Clearinghouse**

During FY 1986 at the strong urging of archeologists and Federal Historic Preservation Officers throughout the government the Departmental Consulting Archeologist through the Archeological Assistance Division, NPS, proposed the development of a clearinghouse to collect data on public education and public awareness aspects of archeological projects or programs. The LEAP clearinghouse (Listing of Education in Archeological Projects) was planned to contain summary information about efforts at improving public awareness of archeology, public education, and public involvement in archeology. It was planned to include information on projects or programs that involve amateur organizations and volunteers in archeological survey, testing, excavation, or interpretation. Along with Federal efforts, projects or programs by State and local governments, museums, academic institutions, historical societies, and others were to be included. Information also was to be collected on brochures, posters, radio and TV programs, and other products of these efforts.

During FY 1987, LEAP was established. Federal agencies were requested to complete an information sheet on each of their archeological projects, programs, or products that included a public awareness effort.

As currently organized, the LEAP clearinghouse contains, but is not limited to, information on: (1) projects or programs (including the cooperative efforts among agencies) to educate the public about these resources; (2) projects or programs with avocational organizations and volunteers involving archeological survey, testing, excavation, or interpretation; (3) projects or programs with museums, academic institutions, historical societies, etc., for exhibits or displays about archeological resources; and (4) brochures, posters, videos, radio and television spots, and other products of these efforts. The LEAP clearinghouse is intended as a reference for Federal and State agencies, museums, educational organizations, etc., that are seeking information on existing projects, programs, and products to increase public awareness of archeology.

At this time approximately 500 responses have been received from 13 Federal agencies and several State offices and organizations, museums, and private foundations. Of these, the U.S. Forest Service, Soil Conservation Service, and U.S. Air Force are the first three agencies whose responses have been entered into the clearinghouse database. With a dBASE III Plus program designed by the Minerals Management Service, the first 100 records have been entered and queried for summary information under the categories of agency, state, and specific product. The product-specific portion cites title (of product), agency/institution, contact person (address and telephone) and a narrative summary of that product. The brief narrative contains information about the project/program to which it relates, organization, production, use, distribution, funding/sponsorship, etc.

The following is a summary of the product-specific portion of the first 100 records entered into the clearinghouse:

1. **Posters** relating messages about archeological resource protection, schedules of events, particular sites or features within a park, as well as standard agency information.

2. **Publications** (professional journals, reports, newsletters, books, etc.) ranging from newsletters to evaluation and site reports, and specifically to environmental impact statements and archeological recovery at Vandenberg Air Force Base,

3. **Articles** featured in local and national newspapers, magazines and journals, cultural resource management, site preservation, vandalism/looting, remote sensing, training programs, erosion control, special events, and archeological projects.

4. **Brochures** covering a number of subjects including prehistory and history of agency lands and sites, cultural resource management, tours, excavations, interagency projects and standard agency information.

5. **News releases** informing the public about archeological projects and findings, special events (such as open houses and summer schedules), new exhibits, cultural resource management, vandalism/looting, and ARPA convictions.

6. **Videos** relaying public information on National Historic Landmarks and the impact of the Space Shuttle at Vandenberg Air Force Base, and television segments featuring excavation projects, rock art, and ancient Native American cultures.

7. **Volunteer organizations** and **programs** participating in inventory and recording of sites and rock art, as well as excavation, analysis and reporting for archeological projects.

8. **Exhibits** and **displays** ranging from cultural resource management to historic buildings; from traveling exhibits of selected artifacts and documentation to archeological excavations.

The Archeological Assistance Division anticipates completion of data entry and production of a summary report on all information submitted so far by the Fall of 1988. It is hoped that the report will serve as a guide to those seeking help in designing similar public education projects and as a promotional device for LEAP that will encourage others to submit information about their efforts.

### Information Exchange - Report Reviews

During FY 1986 the Departmental Consulting Archeologist through the Archeological Assistance Division, NPS began a program of submitting Federal archeology reports to professional journals for review. This program was undertaken to increase the dissemination of information about Federal archeological activities to the professional community and the public. Sixty reports were submitted to professional journals for review during FY 1986. Since then this initiative has continued and the number submitted has increased to 135. The distribution of reports to various Journals is shown on Table 6.1.

### Cooperation with the Private Sector and Professional Organizations

Fifteen agencies reported various forms of communication, cooperation, and exchange with professional organizations and individuals or other private sector organizations. Five agencies (Air Force, Army, IOE, BIA, NPS) cited participation in professional societies by presenting papers and attending meetings. Cooperative involvement between agencies and research institutions was reported by five agencies (Army, Marines, COE, DOE, NPS). Six agencies (Army, COE, DOE, BIA, NPS, TVA) noted associations with avocational archeological organizations as members, guest lecturers, or supervisors of agency projects with volunteer assistance.

Eight agencies (REA, SCS, Army, COE, DOE, GSA, FWS and VA) required their contract and staff researchers to locate local private sources of information about the archeology of proposed project areas or collection from these areas.

The Rural Electrification Administration (REA) requested that its applicants develop archeological resource information concerning a proposed project by contacting appropriate local sources and repositories of such data. REA and the SHPO reviewed such information-gathering activities and suggested additional data sources in appropriate situations.

Because the Soil Conservation Service works primarily with private landowners, efforts are made to report private archeological collections (with landowners permission) to SHPOs for state records.

TABLE 6.1

**FEDERAL ARCHEOLOGY PROGRAM REPORTS SUBMITTED TO  
PROFESSIONAL JOURNALS FOR REVIEW**

JOURNAL	NUMBER
<i>Louisiana Archeological Society Newsletter and Bulletin</i>	12
<i>Journal of California and Great Basin Anthropology</i>	5
<i>Wisconsin Archaeologist</i>	1
<i>Plains Anthropologist</i>	16
<i>Historical Archaeology</i>	14
<i>American Antiquity</i>	22
<i>Man in the Northeast</i>	18
<i>North American Archaeologist</i>	9
<i>Journal of the Iowa Archeological Society</i>	3
<i>The Kiva</i>	4
<i>Southeastern Archaeology</i>	18
<i>Missouri Archaeologist</i>	5
<i>Wyoming Archeologist</i>	1
<i>Quaternary Research</i>	4
<i>Society for California Archeology Newsletter</i>	<u>2</u>
<b>Total</b>	<b>135</b>

Air Force archeologists reported participating in professional meetings. The Army at Fort Bragg, North Carolina, contacted one person who had collected Civil War artifacts in the past. He indicated a willingness to donate those that were found on Fort Bragg to the post. The archeological staff at Fort Hood, Texas, reported working very closely with the amateur and professional archeological community, such as the Bell County Archeological Society, the Central Texas Archeological Society, the Council of Texas Archeologists, and the Society for American Archeology. Fort Carson, Colorado, staff provided informational talks to amateur and professional organizations.

The Corps of Engineers reported the following cooperation: attendance at archeological seminars, conferences, and meetings, such as the yearly meeting of the Society for American Archeology; requiring contractors to contact individuals who have worked in a project area for information; speaking engagements by agency archeologists before local amateurs and clubs; viewing of private collections by invitation; and circulation of the quarterly "Cultural Resources Information Exchange," containing informa-

tion compiled from submissions by COE cultural resources personnel.

The DOE in Nevada reported that the Desert Research Institute had identified several amateur collectors who have made collections on the Nevada Test Site and had photographed the collection of one such individual. In addition, the Desert Research Institute conducted up-dated record searches at the following institutions or agencies: BLM, Las Vegas and Tonopa Districts, Nevada State Museum, and the Archeological Research Center, University of Nevada, Las Vegas. The DOE in Chicago stated that private individuals were contacted to review the content of private artifact collections and to identify site locations on DOE controlled land.

The DOE at the Savannah River Facility (SRF) attempted through local and state archeological societies, such as the (Augusta Archeology Society and the Archeological Society of South Carolina), to obtain site information from the region, both within SRF and the vicinity. They supported a collector's survey for the state that involved the recording of

private artifact collections and resulted in the exchange of important information for certain sites at SRF. Also, the archeological program at SRF actively solicited historical information from past inhabitants of the SRF property (pre-dating 1950) with considerable success. As part of the educational interaction with the local and regional community, SRF archeological personnel presented talks to private groups and clubs to *inform the public of research activities*. An archeological exhibit room was organized for the Aiken County Historical Museum to inform the public and solicit additional archeological and historical information. In addition, an archeological program for avocational archeologists, which began in 1978, continued. This program incorporates society members in survey and test excavations conducted by professional SRF personnel. This cooperative involvement of private citizens in the research activities have improved public awareness of archeological conservation and fostered support for all archeological preservation in the area.

The DOE-Richland employed professional archeologists as consultants. One of the consultants has worked in the area for over twenty years and has directed field studies using an amateur archeological society. This contact has fostered a communication and exchange with private citizens having collections obtained before enactment of ARPA. The DOE has also kept contact with the local amateur archeological society.

Three BIA Area Offices reported cooperation with private and professional organizations. The Billings Area Office reported obtaining copies of previous survey data, primarily from the Montana and Wyoming SHPO offices. The Juneau Area Office reported contact with the Alaska Anthropological Association. The Navajo Area Office reported that three of the Navajo Area staff archeologists worked with amateur archeological societies.

Fish and Wildlife Service personnel and private researchers conducting archeological work on FWS lands were encouraged to initiate contacts and use information from local landowners and other individuals who may possess artifact collections and information affecting specific projects. They reported that in many cases such individuals provided valuable data that helped focus research and survey strategies.

The Midwest Archeological Center of the NPS encouraged communication between professional archeologists and amateur archeologists with an interest in parks in the Midwest Region. Research at Ozark National Scenic Riverways specifically included extensive documentation of private collections. The Center worked with some amateur archeologists to include photographs of materials from private collections in NPS research reports, thereby increasing the quality of data from specific sites.

The NPS Rocky Mountain Region reported the exchange of information between private individuals with collections of archeological materials and professional archeologists. The privately-owned Jackson Hole Museum shared its Slim Lawrence collection with archeologists carrying out the extensive Bureau of Reclamation/National Park Service data recovery program in conjunction with repair of the Jackson Lake Dam, Grand Teton National Park. The materials purportedly were collected from the Lawrence Site, an important site at the pre-dam head of the lake.

The BLM Area Manager at Kotzebue, Alaska, returned a collection of artifacts to the NPS that had been surface collected by a hunter at Noatak National Preserve. The BLM manager had previously educated a charter pilot who immediately convinced the hunter of his error and turned the artifacts over to the hands of the BLM. Also, a NPS archeological team in Skagway, Alaska, (Klondike Gold Rush National Historical Park) assisted the City of Skagway in the recovery, description, and inventory of important Gold Rush Era artifacts recovered in the course of a city road project for which there was no Federal or State involvement.

The Tennessee Valley Authority (TVA) developed an archeological associates program with the University of Alabama at Tuscaloosa and the Alabama Archeological Society. This program provided training in site recording for avocational archeologists and allowed interested amateurs to volunteer in certain archeological surveys.

The Veterans Administration (VA) reported obtaining information from private individuals regarding either VA properties or properties where VA grants were involved.

## CHAPTER 7. MAINTAINING EFFECTIVENESS AND IMPROVING FEDERAL ARCHEOLOGY

### Introduction

The goals of this report have been to describe in detail the types and levels of Federal archeological activities, to identify what is known about the number of archeological sites on Federal lands and the state of knowledge about them, to note some of the threats to these sites (mainly looting and modern development), and Federal actions to protect sites. Previous chapters have described Federal efforts to preserve archeological resources and improve public appreciation and information about them. In this chapter, recommendations are made for maintaining effective actions and levels of activity and for improvements, where these are appropriate.

### Federal Archeological Activities

Federal agencies conduct, fund, or require the largest portion of archeological work done in the United States. In FY 1986 the amount reported as spent by Federal agencies for investigations involving resource identification, evaluation, data recovery, and preservation totaled over 75 million dollars (see Chapter 3). Although not a complete accounting the amount spent on these efforts by Federal agencies provides a major, if not the majority of funding for archeology in the United States.

Federal agencies are making progress in efforts to identify, evaluate, and preserve important archeological resources on Federal lands and on nonfederal lands that will be affected by development projects with Federal involvement. Most of the archeology done by Federal agencies is part of development, facilities maintenance, or operational projects. The major Federal resource and land management agencies have active archeological programs with significant numbers of archeologists on staff. Agencies, involved primarily in development projects, such as the Federal Highway Administration and the Environmental Protection Agency often have required State or local agencies to perform the necessary archeological investigations. This has resulted in the establishment of active archeological programs by

highway departments and other agencies in some States.

General guidance for these archeological investigations have been published as *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (Interior 1983) and the Final Uniform Regulations for the Archaeological Resources Protection Act of 1979 (Interior 1984). The Federal planning regulation that initiates much of this archeological work is *The Protection of Historic Properties*, 36 CFR 800 (Advisory Council 1986). Many agencies have developed more detailed guidelines for their own archeological activities with these standards and guidelines as a basis; for example, the National Park Service's *NPS-28, Cultural Resource Management Guideline* (National Park Service 1985).

Collecting information about all of these Federal archeological activities is no easy matter. Even this report, the most complete to date, is not a thorough accounting of the activities. This compilation of information is only possible through the cooperation of many individuals in other Federal agencies at the headquarters, regional, State, and local office levels. The Project portion of the National Archeological Database (NADB), under development in FY 1988 and 1989, will permit more detailed descriptions of the Federal program with less effort. Work on this part of the database continues to receive high priority by the National Park Service, but the finished software is not expected to be available for distribution before FY 1990. Until the Project portion is available nationally, a questionnaire will continue to be used to collect this information (see Appendix B). Federal agencies are asked to cooperate in assembling and preparing this information, computerizing it whenever practical.

### Archeological Investigations and the Resource Base

Only a small fraction of archeological investigations on Federal lands actually require an ARPA permit to be issued. Most of the work is done as part of Federal

activities or programs for which an ARPA permit is not required because it is conducted by the Federal government or under the authority of the Federal government. These investigations, however, must be done according to the standards incorporated in the ARPA regulations concerning such important factors as the proper training and experience of the principal investigator, widespread reporting of the results, careful curation of the records and remains recovered, and consultation with Native American groups, if appropriate.

Federal agencies undertake a wide range of archeological studies. Map and document research are done frequently as part of early planning for Federal development projects or as part of management operations. When an impact to resources is possible, more intensive identification and evaluation investigations are conducted. Sometimes these kinds of investigations are done for resource management purposes unrelated to development or operations, although the overwhelming majority of the studies are related to development or operations. Less frequent, but as important, are archeological data recovery projects, undertaken when sites will be destroyed or damaged by construction or a related impact.

Not only are the kinds of archeological studies varied, the numbers of investigations are large. For FY 1986, over 20,000 map and document research projects were reported along with a similar number of identification and evaluation projects. In addition, nearly 1,000 data recovery projects were reported.

Information provided on the level and amount of archeological survey conducted on Federal lands indicates that 93% of Federal lands, about 880 million acres out of the approximately 947 million acres managed by Federal agencies, have not been examined for archeological resources. Major land managing agencies such as the BLM, NPS, FS, and FWS report vast areas that have not been systematically inspected for inventories or evaluations of the archeological resources on them (see Table 4.1). Estimates of the total archeological resource base on Federal lands exceed several million sites, yet only about 410,000 sites have been located, let alone evaluated. The level of site identification and evaluation presents a major problem in managing and protecting this important public resource.

Already the relatively poor knowledge of the locations and significance of archeological resources has been

identified as a problem for successful protection of these resources from those who loot archeological sites (General Accounting Office 1987; House Committee on Interior and Insular Affairs 1988). Concern over this situation resulted in the recent passage of Public Law 100-555 (labeled S.1985 during hearings and debate in Congress). Introduced by Senators Bingaman and Domenici during the 100th Congressional session, P.L. 100-555 requires the major land managing agencies to develop and implement programs for systematically inventorying archeological resources on the lands they manage. Such a requirement also exists in Section 110(a)(2) of the National Historic Preservation Act of 1966, as amended. The need felt by the Congress for another piece of legislation, aimed specifically at the inventorying of archeological properties, reflects the gravity of the situation, and highlights the need for Federal land-managing agencies to make progress in this direction.

A further problem with this lack of archeological inventory and evaluation information is confronted by agencies when new development or operations are proposed. When such a small portion of the resource base is known, a detailed context within which to evaluate the potential for significant resources within the impact area and subsequently to evaluate the significance of resources found within the impact area can be difficult and costly to establish. More information about the locations and importance of resources at the onset of project planning can lead to the effective preservation of these resources by avoiding them in the development or operations project with a concomitant savings of funds not needed for the intensive study or data recovery of the resources.

Another challenge to the preservation of Federal archeological resources is the appropriate, safe curation of archeological collections and records of the investigations that generated the collections. While a major goal of effective archeological preservation is to leave as much of the record as possible in the ground, proper preservation of the portions of the record that have been taken out of the ground is equally important. Federal agencies have always had the responsibility to care for the archeological collections that their activities generate, but these responsibilities often have not been acknowledged. Increasingly, however, the need to care for Federal archeological collections is more explicitly recognized (General Accounting Office 1987). The National Park Service is preparing final regulations with guidance for Federal agencies on this topic, 36 CFR 79. The proposed

versions of this rule were published in the *Federal Register* on 28 August, 1987, pp. 32740-32751.

None of the Federal agencies with large areas and numbers of archeological resources is adequately dealing with the curation of archeological collections and records at present. The National Park Service, which probably has the most extensive existing organizational capacity for curating these collections, reports a backlog of over 12.9 million archeological objects that have not been integrated into the Park Service curatorial program. NPS is making substantial progress in improving the curation of archeological collections. The precise assessment of the magnitude of the problem reflects this. NPS curators and archeologists are working cooperatively in a well-organized, long-term program to eliminate the backlog and provide proper archeological curation. Curation is an area of archeological heritage preservation that requires more attention and will continue to be so in the future. Archeological resources regularly are excavated so that the information they yield can be preserved for future generations. Without appropriate curation of the collections and records, this information will not be available in the future.

The large number of archeological studies each year results in a nearly equally as large number of reports. These reports, along with the collections and records discussed above, constitute the information about the past that has been saved while all or part of the archeological resource itself has been destroyed. At the direction of Congress, the National Park Service began in 1984 to devise a means of providing easy access to information about reports of archeological investigations. The creation and use of a national archeological database was envisioned as a means of providing quick information about report titles, authors, the kind of archeological investigation, its location, and the location where a copy of the report could be found. This is a very large undertaking that requires the cooperation of organizations and individuals at the Federal, State, and local levels. It requires that individuals within Federal agencies work together at the headquarters, regional, and local units.

The National Archeological Database (NADB) is a computerized system that currently operates on microcomputers using a commonly available operating system (MS-DOS) and database management file structure (dBASE III Plus). A minicomputer version of NADB is being prepared to run on the NPS Hewlett-Packard 3000 computer. This version will contain the

national system. Plans for making the national system available to authorized participants in NADB are being formulated.

A conservative estimate is that 200,000 archeological reports have been prepared and printed since the beginning of major Federal and State archeological programs about a decade ago. Additional reports exist from the years before that. The collection of summary information about this body of existing reports is one major goal of NADB. A related and equally important goal is the establishment of a procedure for entering new information about new reports, updating information about existing reports into NADB, and providing access to these records for authorized NADB participants. The Reports portion of NADB will be distributed to State Historic Preservation Offices (SHPO) and Federal agencies in FY 1989. This will be the beginning of the operational phase of the NADB program. SHPOs and agencies will have access to information already collected and will supply information about newly issued reports. The latter information will become part of the national database and will be shared with other NADB users.

### **The Problem of Looting and Vandalism**

As indicated in this report (see Chapter 5), there is widespread destruction of important archeological sites by looters and vandals. In part, this destruction of our archeological heritage is driven by a market for attractive artifacts that can be sold for hundreds or thousands of dollars. For example, Mimbres bowls and pots from the Southwest can sell for \$2,000 to \$25,000. Prehistoric pottery vessels from Kentucky have been valued at \$4,000 and ceremonial pipes estimated to be worth \$18,000. A well-made Dalton projectile point from the Southeast can be sold for as much as \$3,000.

Some of this resource destruction is occurring on Federal land in violation of several statutes, most notably the Archaeological Resources Protection Act. Destruction is occurring throughout the country. Incidents are probably best known in the Southwest, but are known also from National Parks, National Forests, and Bureau of Land Management areas in Florida, Virginia, California, Oregon, Washington, Colorado, Arkansas, Wyoming, Idaho, Minnesota, and Maryland, reflecting the national scope of the problem. A recent survey of a sample of archeological sites listed on the National Register of Historic Places by

the National Park Service indicated that about 50% of all archeological sites, including those on private land have been looted or vandalized, or are threatened with looting or vandalism (National Park Service 1988: Table B-6).

Recent enactment of Public Law 100-588 (labeled HR 4068 during hearings and debate in Congress), which reduces the threshold for a felony offense under ARPA from \$5000 to \$500 should help law enforcement officers and U.S. Attorneys prosecute ARPA violators effectively. Increasingly, State and local governments are passing legislation to protect archeological sites on State and local lands. In addition, public relations messages, such as the "Take Pride in America" campaign, have been undertaken to promote the preservation of America's archeological heritage on all public and private lands. Strong State-coordinated public awareness programs, ranging from public education publications to the nationally honored Arizona Archaeology Week, also are important aspects of the overall effort to improve archeological preservation through public education (for examples and more detail see Hoffman and Lerner 1988; Peters et al. 1987).

### Information Exchange

At the local, State, and regional levels Federal archeologists and their colleagues are working hard at cooperation and information exchange. Chapter 6 contains references to many such examples. These efforts should be encouraged and information exchange mechanisms formally established.

As of October 1988, the National Park Service, acting for the Secretary of the Interior with regard to his leadership and coordination role of Federal archeology, has established three vehicles for information exchange. The first is a newsletter, the *Federal Archeology REPORT*, an informational publication which is prepared quarterly. It contains news of developments in legislation, procedures, regulations, pieces about specific public agency programs, and announcements of training, meetings, and conferences. It is mailed directly to all Federal agency archeologists, SHPOs, State Archeologists, and others who have asked to be on the mailing list or expressed an interest in the Federal Archeology Program.

The second two information exchange vehicles are information clearinghouses. The first is LEAP, the Listing of Education in Archeological Projects. LEAP contains summary information about educational products or programs done as part of archeological investigations. Entries include brochures, videos, slide shows, volunteer programs, and other public education efforts. The summary information contains a brief description of the product and a name and phone number to contact for further information. Although many archeological projects include some kind of public education product, such information is not widespread and many archeologists find themselves working on archeological education projects in isolation. By accessing the information in LEAP, archeologists can contact others who have successfully completed an educational product before they begin work on their own. The second clearinghouse is LOOT, or the Listing of Outlaw Treachery. LOOT contains summary information about prosecutions of those accused of looting or vandalizing archeological sites. Usually these cases are ARPA or Antiquities Act violations, but cases involving violations of State or local laws also could be included. The intent of LOOT is to provide summary information about convictions.

### Improving Federal Archeology

Section 13 of the Archaeological Resources Protection Act and Section 5(c) of the Archeological Recovery Act (P.L. 93-291, also known as Moss-Bennett), along with Sections 2 and 101(h) of the National Historic Preservation Act provide for the Secretary of the Interior's report on Federal archeological activities. The first two of these statutes direct the Secretary to report annually to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate. These statutes also call for the Secretary to comment on the overall effectiveness of Federal archeology and to recommend improvements. This section identifies four general program areas that could be improved.

1. **Give more attention to the inventory and evaluation of archeological properties on Federal lands and to the curation of archeological records and collections.** The archeological record is irreplaceable, often it is easily disturbed or destroyed, and frequently hidden from sight. As our only source

of much of what we would like to know about the past, the long term preservation of America's archeological heritage should be given substantial attention and concern by Federal agencies.

By improving their knowledge about archeological site locations and significance, Federal managers also will be better able to fight looting and vandalism of these sites through more focused law enforcement efforts. Archeological collections and records often are all that remains for future generations of the archeological record. Their existence is evidence of our belief that data recovery and curation of remains and records are essential to our ability to understand what happened in the past. More attention is needed for curation of archeological collections and records if the data gathered at a substantial cost is to be preserved effectively.

**2. Cooperate in the sharing of information about archeological properties, reports, projects, and other kinds of activities.** As this report demonstrates, Federal agencies undertake, fund, or require a large amount of archeological work. This work is organized and directed by each individual agency rather than by a central organization, as in some other countries, particularly in Europe. This is effective because it makes each agency responsible for archeological preservation in its own activities, but it also means that without coordination and inter-agency cooperation, important information may not be consistently recorded or may not be easily available to those who need it. Three specific actions that would aid in this area are continued cooperation by Federal agencies in contributing information for reports like this one in future years, more active contributions to and use of the LEAP and LOOT clearinghouses, and the acceptance, by Federal and related State agencies, of the data standards for the Reports and Project

portions of the National Archeological Database for use in their own computer systems.

**3. Cooperation in efforts to apprehend those who loot Federal, State, local, and private protected archeological properties.** Amendments to ARPA made by the 100th Congress (P.L. 100-555 and P.L. 100-588) will increase the effective enforcement of the anti-looting sections of ARPA substantially. It is acknowledged, however, that some individuals will continue to loot sites for profit and can only be stopped by more effective law enforcement. Inter-agency cooperation has proven to be an important tool in this effort and should be encouraged at the local, State, regional, and national levels. More specialized training in archeological resource protection also is needed for law enforcement personnel, resource and program managers, and Federal, State, and local prosecutors.

**4. Provide more public education, outreach, and involvement activities as part of Federal archeological projects and programs.** Most individuals will support archeological preservation if they learn about it in a positive way. This is not difficult because many people have an inherent interest in archeology and its interpretation. Education efforts should be targeted at some special populations as well, including Federal judges and United States Attorneys and their staffs. Public involvement in archeological projects might help, in some circumstances, to provide an important source of labor for some necessary surveys, tests, excavations, or laboratory work.

The topics identified above in Numbers 1-4 are general areas that the Congressional Committees with responsibilities for Federal archeological activities and heritage management should see as important for an effective Federal archeological program.

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**APPENDIX A. QUESTIONNAIRE DATA FY 1985 AND FY 1986--SREADSHEETS  
(TABLES A.1 -- A.13)**

**Footnotes** concerning information found in Tables A.1 -- A.13 are located at the end of Appendix A. They consist of information provided by departments/agencies that explain, or clarify responses to specific questions addressed in the FY 1985 and FY 1986 questionnaires.

TABLE A.1

Permitting, FY 1985

1	2	3	4	5	6	7	8	9
4	DEPARTMENTS	AGENCIES	ARPA PERMIT APPLICATIONS		ARPA PERMITS ISSUED	PERMITS ISSUED FOR SCIENTIFIC OR SCHOLARLY PURPOSES	PERMITS ISSUED FOR RESEARCH FOR COMPLIANCE OR MANAGEMENT PURPOSES BY AGENCY	
13	AGRICULTURE							
14		ASCS	0	0.0%	0	0.0%	0	0.0%
15		FaHA	NA		NA		NA	NA
16		FS	57	16.3%	53	15.9%	13	18.8%
17		REA	NA		NA		NA	NA
18		SCS	NA		NA		NA	NA
20	COMMERCE							
21		EDON DEVEL	NA		NA		NA	NA
22		NOAA	NA		NA		NA	NA
24	DEFENSE							
25		AIR FORCE	1	0.3%	1	0.3%	0	0.0%
26		ARMY	4	1.1%	5	1.5%	3	4.3%
27		ARMY COE	9	2.6%	7	2.1%	4	5.8%
28		MARINES	1	0.3%	1	0.3%	0	0.0%
29		NAVY	3	0.9%	3	0.9%	2	2.9%
31	EDUCATION		NA		NA		NA	NA
33	ENERGY		1	0.3%	1	0.3%	1	1.4%
34		FERC	NA		NA		NA	NA
36	EPA		NA		NA		NA	NA
38	FCC		ND		ND		ND	ND
40	BSA		0	0.0%	0	0.0%	0	0.0%
42	H&HS		0	0.0%	0	0.0%	0	0.0%
44	HUD		NA		NA		NA	NA
46	INTERIOR							
48		BIA	44	12.6%	42	12.6%	5	7.2%
49		BLM	162	46.4%	156	46.8%	22	31.9%
50		BOR	19 <sup>1</sup>	5.4%	19	5.7%	1	1.4%
51		FWS	24	6.9%	22	6.6%	7	10.1%
52		USGS	NA		NA		NA	NA
53		MMS	NA		NA		NA	NA

TABLE A.1 (continued)

	1	2	3	4	5	6	7	8	9	58
54			NPS	22	6.3%	21	6.3%	9	13.0%	NA
55			OSH	NA		NA		NA		NA
56										
57	JUSTICE			0	0.0%	0	0.0%	0	0.0%	0
58										
59	LABDR			NA		NA		NA		NA
60										
61	NASA			0	0.0%	0	0.0%	0	0.0%	0
62										
63	NAT CAP PLAN			NA		NA		NA		NA
64										
65	NRC			NA		NA		NA		NA
66										
67	PADC			ND		ND		ND		ND
68										
69	POST/SERVICE			NA		NA		NA		NA
70										
71	SBA			NA		NA		NA		NA
72										
73	TVA			2	0.6%	2	0.6%	2	2.9%	0
74										
75	TRANSPORTATION									
76		FAA		NA		NA		NA		NA
77		FHWA		NA		NA		NA		NA
78		FRA		0	0.0%	0	0.0%	0	0.0%	0
79		UMTA		NA		NA		NA		NA
80										
81	VA			0	0.0%	0	0.0%	0	0.0%	0
82										
83	TOTALS			349		333		69		85

NA = NOT APPLICABLE  
 ND = NO DATA  
 85PERMIT  
 8/19/87

TABLE A.1 (continued)

	10	11	12	13	14	15	16	17	18
	DEPARTMENTS	AGENCIES		PERMITS ISSUED FOR RESEARCH FOR COMPLIANCE OR MANAGEMENT PURPOSES BY CONTRACT		PERMITS ISSUED FOR RESEARCH FOR COMPLIANCE OR MANAGEMENT PURPOSES BY THIRD PARTY		PERMITS DENIED	
13	AGRICULTURE								
14		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
15		FHHA		NA		NA		NA	
16		FS	0.0%	11	15.1%	44	25.1%	0	0.0%
17		REA		NA		NA		NA	
18		SCS		NA		NA		NA	
20	COMMERCE								
21		ECON DEVEL		NA		NA		NA	
22		NOAA		NA		NA		NA	
24	DEFENSE								
25		AIR FORCE	0.0%	1	1.4%	0	0.0%	0	0.0%
26		ARMY		ND		ND		0	0.0%
27		ARMY CDE	0.0%	0	0.0%	3	1.7%	2	22.2%
28		MARINES	0.0%	0	0.0%	1	0.6%	0	0.0%
29		NAVY	0.0%	0	0.0%	1	0.6%	0	0.0%
31	EDUCATION			NA		NA		NA	
33	ENERGY		0.0%	0	0.0%	0	0.0%	0	0.0%
34		FERC		NA		NA		NA	
36	EPA			NA		NA		NA	
38	FCC			ND		ND		ND	
40	SSA		0.0%	0	0.0%	0	0.0%	0	0.0%
42	H&HS		0.0%	0	0.0%	0	0.0%	0	0.0%
44	HUD			NA		NA		NA	
46	INTERIOR								
48		BIA	3.5%	19	26.0%	8	4.6%	2	22.2%
49		BLM	10.6%	24	32.9%	95	54.3%	2	22.2%
50		BOR	1.2%	5	6.8%	7	4.0%	0	0.0%
51		FWS	16.5%	10	13.7%	9	5.1%	2	22.2%
52		USGS		NA		NA		NA	
53		MMS		NA		NA		NA	

TABLE A.1 (continued)

	10	11	12	13	14	15	16	17	18	
54			NPS 68.2%		3	4.1%	7	4.0%	1	11.1%
55			OSM		NA		NA		NA	
56										
57	JUSTICE		0.0%		0	0.0%	0	0.0%	0	0.0%
58										
59	LABOR				NA		NA		NA	
60										
61	NASA		0.0%		0	0.0%	0	0.0%	0	0.0%
62										
63	NAT CAP PLAN				NA		NA		NA	
64										
65	NRC				NA		NA		NA	
66										
67	PADC				ND		ND		ND	
68										
69	POST/SERVICE				NA		NA		NA	
70										
71	SBA				NA		NA		NA	
72										
73	TVA		0.0%		0	0.0%	0	0.0%	0	0.0%
74										
75	TRANSPORTATION									
76					NA		NA		NA	
77					NA		NA		NA	
78			FRA 0.0%		0	0.0%	0	0.0%	0	0.0%
79			UMTA		NA		NA		NA	
80										
81	VA		0.0%		0	0.0%	0	0.0%	0	0.0%
82	-----									
83	TOTALS				73		175		9	
84										
85										
86										
87										
88										
89										
90										

TABLE A.1 (continued)

	19	20	21	22	23	24	25	26	27
	DEPARTMENTS	AGENCIES	PERMITS REVOKED	PERMIT APPEALS WITHIN AGENCY	PERMIT APEALS BY OTHER MEANS	PERMITS SUSPENDED		PERMITS REINSTATED	
13	AGRICULTURE								
14		ASCS	0	0	0	0	0.0%	0	0.0%
15		FmHA	NA	NA	NA	NA		NA	
16		FS	0	0	0	1	50.0%	4	80.0%
17		REA	NA	NA	NA	NA		NA	
18		SCS	NA	NA	NA	NA		NA	
20	COMMERCE								
21		ECON DEVEL	NA	NA	NA	NA		NA	
22		NOAA	NA	NA	NA	NA		NA	
24	DEFENSE								
25		AIR FORCE	0	0	0	0	0.0%	0	0.0%
26		ARMY	0	0	0	0	0.0%	0	0.0%
27		ARMY COE	0	0	0	0	0.0%	0	0.0%
28		MARINES	0	0	0	0	0.0%	0	0.0%
29		NAVY	0	0	0			0	0.0%
31	EDUCATION		NA	NA	NA	NA		NA	
33	ENERGY		0	0	0	0	0.0%	0	0.0%
34		FERC	NA	NA	NA	NA		NA	
36	EPA		NA	NA	NA	NA		NA	
38	FCC		ND	ND	ND	ND		ND	
40	GSA		0	0	0	0	0.0%	0	0.0%
42	H&HS		0	0	0	0	0.0%	0	0.0%
44	HUD		NA	NA	NA	NA		NA	
46	INTERIOR								
48		BIA	0	0	0	1	50.0%	0	0.0%
49		BLM	0	0	0	0	0.0%	1	20.0%
50		BDR	0	0	0	0	0.0%	0	0.0%
51		FWS	0	0	0	0	0.0%	0	0.0%
52		USGS	NA	NA	NA	NA		NA	
53		MMS	NA	NA	NA	NA		NA	

TABLE A.1 (continued)

	19	20	21	22	23	24	25	26	27	
54			NPS	0	0	0	0	0.0%	0	0.0%
55			OSM	NA	NA	NA	NA		NA	
56										
57	JUSTICE			0	0	0	0	0.0%	0	0.0%
58										
59	LABOR			NA	NA	NA	NA		NA	
60										
61	NASA			0	0	0	0	0.0%	0	0.0%
62										
63	NAT CAP PLAN			NA	NA	NA	NA		NA	
64										
65	NRC			NA	NA	NA	NA		NA	
66										
67	PADC			ND	ND	ND	ND		ND	
68										
69	POST/SERVICE			NA	NA	NA	NA		NA	
70										
71	SBA			NA	NA	NA	NA		NA	
72										
73	TVA			0	0	0	0	0.0%	0	0.0%
74										
75	TRANSPORTATION									
76			FAA	NA	NA	NA	NA		NA	
77			FHWA	NA	NA	NA	NA		NA	
78			FRA	0	0	0	0	0.0%	0	0.0%
79			UMTA	NA	NA	NA	NA		NA	
80										
81	VA			0	0	0	0	0.0%	0	0.0%
82										
83	TOTALS			0	0	0	2		5	
84										
85										
86										
87										
88										
89										
90										

TABLE A.1 (continued)

	28	29	30	31	32	33	34	35	36
	DEPARTMENTS	AGENCIES	PERMITS ISSUED UNDER OTHER AUTHORITY		CONTRACTS CONSTITUT- ING A PERMIT FOR PURPOSES OF ARPA		CONTRACTS CONSTITUT- ING A PERMIT UNDER OTHER AUTHORITY		NUMBER OF TIMES INDIAN TRIBES WERE NOTIFIED OF AN INPENDING PERMIT
13	AGRICULTURE								
14		ASCS	0	0.0%	0	0.0%	0	0.0%	0
15		FaHA	NA		NA		NA		NA
16		FS	ND		ND		ND		53
17		REA	NA		NA		NA		NA
18		SCS	NA		NA		NA		NA
20	COMMERCE								
21		ECON DEVEL	NA		0	0.0%	NA		NA
22		NOAA	NA		NA		NA		NA
24	DEFENSE								
25		AIR FORCE	ND		8	4.3%	0	0.0%	1
26		ARMY	0	0.0%	1	0.5%	10	9.8%	ND
27		ARMY COE	0	0.0%	51	27.6%	65	63.7%	0
28		MARINES	0	0.0%	1	0.5%	1	1.0%	0
29		NAVY	0	0.0%	6	3.2%	0	0.0%	ND <sup>2</sup>
31	EDUCATION		NA		NA		NA		NA
33	ENERGY		0	0.0%	1	0.5%	0	0.0%	0
34		FERC	NA		NA		NA		NA
36	EPA		NA		NA		NA		NA
38	FCC		ND		ND		ND		ND
40	GSA		0	0.0%	0	0.0%	0	0.0%	0
42	H&HS		0	0.0%	0	0.0%	0	0.0%	0
44	HUD		NA		NA		NA		NA
46	INTERIOR								
48		BIA	138	29.6%	12	6.5%	16	15.7%	11
49		BLM	313	67.0%	21	11.4%	7	6.9%	40
50		BDR	7	1.5%	13	7.0%	3	2.9%	ND
51		FWS	8	1.7%	31	16.8%	0	0.0%	6
52		USGS	NA		NA		NA		NA
53		MMS	NA		NA		NA		NA

TABLE A.1 (continued)

	28	29	30	31	32	33	34	35	36	
54			NPS	1	0.2%	21	11.4%	0	0.0%	53
55			DSM	NA		NA		NA		NA
56										
57	JUSTICE			0	0.0%	0	0.0%	0	0.0%	0
58										
59	LABDR			NA		NA		NA		NA
60										
61	NASA			0	0.0%	0	0.0%	0	0.0%	0
62										
63	NAT CAP PLAN			NA		NA		NA		NA
64										
65	NRC			NA		NA		NA		NA
66										
67	PADC			ND		ND		ND		ND
68										
69	POST/SERVICE			NA		NA		NA		NA
70										
71	SBA			NA		NA		NA		NA
72										
73	TVA			0	0.0%	19	10.3%	0		1
74										
75	TRANSPORTATION									
76		FAA		NA		NA		NA		NA
77		FHWA		NA		NA		NA		NA
78		FRA		0	0.0%	0	0.0%	0	0.0%	0
79		UMTA		NA		NA		NA		NA
80										
81	VA			0	0.0%	0	0.0%	0	0.0%	0
82										
83	TOTALS			467		185		102		117
84										
85										
86										
87										
88										
89										
90										

TABLE A.1 (continued)

	37	38	39	40	41
1					
2					
3	-----				
4	DEPARTMENTS	AGENCIES		NUMBER OF	
5				TIMES INDIAN	
6				TRIBES WERE	
7				NOTIFIED OF A	
8				CONTRACT THAT	
9				CONSTITUTED	
10				A PERMIT	
11	-----				
12					
13	AGRICULTURE				
14		ASCS	0.0%	0	0.0%
15		FaHA		NA	
16		FS	45.3%	ND	
17		REA		NA	
18		SCS		NA	
19					
20	COMMERCE				
21		ECON DEVEL		NA	
22		NOAA		NA	
23					
24	DEFENSE				
25		AIR FORCE	0.9%	4	8.9%
26		ARMY		1 <sup>4</sup>	2.2%
27		ARMY COE	0.0%	10	22.2%
28		MARINES	0.0%	0	0.0%
29		NAVY		0	0.0%
30					
31	EDUCATION			NA	
32					
33	ENERGY		0.0%	0	0.0%
34		FERC		NA	
35					
36	EPA			NA	
37					
38	FCC			ND	
39					
40	GSA		0.0%	0	0.0%
41					
42	H&MS		0.0%	0	0.0%
43					
44	HUD			NA	
45					
46	INTERIOR				
47					
48		BIA	9.4%	2	4.4%
49		BLM	34.2%	12	26.7%
50		BOR		4	8.9%
51		FWS	5.1%	7	15.6%
52		USGS		0	0.0%
53		MMS		NA	

TABLE A.1 (continued)

	37	38	39	40	41
54			NPS	4.3%	5 11.1%
55			OSM		NA
56					
57	JUSTICE			0	0.0%
58					
59	LABOR				NA
60					
61	NASA			0	0.0%
62					
63	NAT CAP PLAN				NA
64					
65	NRC				NA
66					
67	FADC				ND
68					
69	POST/SERVICE				NA
70					
71	SBA				NA
72					
73	TVA			0	0.0%
74					
75	TRANSPORTATION				
76			FAA		NA
77			FHWA		NA
78			FRA	0.0%	0 0.0%
79			UMTA		NA
80					
81	VA			0	0.0%
82					
83	TOTALS			45	
84					
85					
86					
87					
88					
89					
90					

**TABLE A.2**  
**Enforcement, FY 1985**

1	2	3	4	5	6	7	8	9	
DEPARTMENTS	AGENCIES	% OF CULTURAL RESOURCE PERSONNEL RECEIVING ARPA TRAINING FLETC COURSE	% OF CULTURAL RESOURCE PERSONNEL RECEIVING ARPA TRAINING OTHER COURSES	% OF LAW ENFORCEMENT PERSONNEL RECEIVING ARPA TRAINING FLETC COURSE	% OF LAW ENFORCEMENT PERSONNEL RECEIVING ARPA TRAINING OTHER COURSES	CASES OF VANDALISM		ARRESTS	
15	AGRICULTURE								
16		ASCS	0.0	0.0	0.0	0.0	0	0.0%	0
17		FmHA	NA	NA	NA	NA	NA		NA
18		FS	9.0	32.0	7.0	9.0	233	53.4%	9
19		REA	NA	NA	NA	NA	NA		NA
20		SCS	NA	NA	NA	NA	NA		NA
22	COMMERCE								
23		ECON DEVEL	NA	NA	NA	NA	NA		NA
24		NOAA	NA	NA	NA	NA	NA		NA
26	DEFENSE								
27		AIR FORCE	0.0	30.0	0.0	1.0	0	0.0%	0
28		ARMY	ND	ND	ND	ND	4	0.9%	2
29		ARMY COE	5.0	12.0	5.0	5.0	35	8.0%	0
30		MARINES	30.0	0.0	0.0	0.0	0	0.0%	0
31		NAVY	0.0	50.0	0.0	0.0	0	0.0%	0
33	EDUCATION		NA	NA	NA	NA	NA		NA
35	ENERGY		0.0	0.0	0.0	0.0	4	0.9%	0
36		FERC	NA	NA	NA	NA	NA		NA
38	EPA		NA	NA	NA	NA	NA		NA
40	FCC		ND	ND	ND	ND	ND		ND
42	GSA		0.0	33.0	0.0	0.0	0	0.0%	0
44	H&HS		0.0	0.0	0.0	0.0	0	0.0%	0
46	HUD		NA	NA	NA	NA	NA		NA
48	INTERIOR								
49		BIA	0-66	0.0	1-75	15.0	24	5.5%	0
50		BLM	10.0	25.0 <sup>1</sup>	24.0	29.0	100	22.9%	11
51		BOR	ND	2.0	ND	ND	ND		ND
52		FWS	75.0	10.0	100.0	80.0	4	0.9%	0
53		MMS	NA	NA	NA	NA	NA		NA

TABLE A.2 (continued)

	1	2	3	4	5	6	7	8	9
54		USBS	NA	NA	NA	NA	NA	NA	NA
55		NPS	15-66	2-19	1-50	5-100	31 <sup>2</sup>	7.1%	3
56		OSM	1-33	NA	NA	NA	NA		NA
57									
58	JUSTICE		0.0	0.0	0.0	0.0	0	0.0%	0
59									
60	LABOR		NA	NA	NA	NA	NA		NA
61									
62	NASA		0.0	0.0	0.0	0.0	0	0.0%	0
63									
64	NAT CAP PLAN		NA	NA	NA	NA	NA		NA
65									
66	NRC		NA	NA	NA	NA	NA		NA
67									
68	PADC		ND	ND	ND	ND	ND		ND
69									
70	PDST/SERVICE		NA	NA	NA	NA	NA		NA
71									
72	SBA		NA	NA	NA	NA	NA		NA
73									
74	TVA		0.0	0.0	0.0	0.0	ND <sup>3</sup>		2
75									
76	TRANSPORTATION								
77		FAA	NA	NA	NA	NA	NA		NA
78		FHWA	NA	NA	NA	NA	NA		NA
79		FRA	0.0	0.0	0.0	0.0	0	0.0%	0
80		UMTA	NA	NA	NA	NA	NA		NA
81									
82	VA		50.0	ND	1.0	ND	1	0.2%	0
83									
84	TOTALS						436		27
85									
86									
87									
88		NA = NOT APPLICABLE							
89		ND = NO DATA							
90		BSENFDR1							
91		8/19/87							

TABLE A.2 (continued)

	10	11	12	13	14	15	16	17	18
	DEPARTMENTS	AGENCIES		CITATIONS		CIVIL PENALTIES APPLIED		AMOUNT COLLECTED IN FINES	
15	AGRICULTURE								
16		ASCS	0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
17		FaHA		NA		NA		NA	
18		FS	33.3%	13	28.9%	6	40.0%	\$13100.00	56.4%
19		REA		NA		NA		NA	
20		SCS		NA		NA		NA	
22	COMMERCE								
23		ECON DEVEL		NA		NA		NA	
24		NDAA		NA		NA		NA	
26	DEFENSE								
27		AIR FORCE	0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
28		ARMY	7.4%	ND		ND		ND	
29		ARMY CDE	0.0%	12	26.7%	2	13.3%	\$400.00	2.6%
30		MARINES	0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
31		NAVY	0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
33	EDUCATION			NA		NA		NA	
35	ENERGY		0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
36		FERC		NA		NA		NA	
38	EPA			NA		NA		NA	
40	FCC			ND		ND		ND	
42	BSA		0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
44	H&HS		0.0%	0	0.0%	0	0.0%	0	0.0%
46	HUD			NA		NA		NA	
48	INTERIOR								
49		BIA	0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
50		BLM	40.7%	6	13.3%	7	46.7%	\$3336.00	14.4%
51		BOR		ND		ND		ND	
52		FWS	0.0%	1	2.2%	0	0.0%	\$25.00	0.1%
53		MMS		NA		NA		NA	

TABLE A.2 (continued)

	10	11	12	13	14	15	16	17	18	
54			USGS		NA		NA		NA	
55			NPS	11.1%	13 <sup>4</sup>	28.9%	0	0.0%	\$6160.00	26.5%
56			OSM		NA		NA		NA	
57										
58	JUSTICE			0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
59										
60	LABOR				NA		NA		NA	
61										
62	NASA				0	0.0%	0	0.0%	\$0.00	0.0%
63										
64	NAT CAP PLAN				NA		NA		NA	
65										
66	NRC				NA		NA		NA	
67										
68	PADC				ND		NA		ND	
69										
70	POST/SERVICE				NA		NA		NA	
71										
72	SBA				NA		NA		NA	
73										
74	TVA		7.4%		0	0.0%	0	0.0%	\$0.00	0.0%
75										
76	TRANSPORTATION									
77			FAA		NA		NA		NA	
78			FHWA		NA		NA		NA	
79			FRA	0.0%	0		0.0	0.0%	0.0	0.0%
80			UMTA		NA		NA		NA	
81										
82	VA			0.0%	0	0.0%	0	0.0%	\$0.00	0.0%
83										
84	TOTALS				45		15		\$23221.00	
85										
86										
87										
88										
89										
90										
91										

TABLE A.2 (continued)

	19	20	21	22	23	24	25	26	27
	DEPARTMENTS	AGENCIES	AMOUNT GIVEN IN AWARDS		MONETARY VALUE OF ARCHEOLOGICAL RESOURCES SEIZED BY GOVERNMENT		MONETARY VALUE OF PERSONAL PROPERTY SEIZED BY GOVERNMENT		CRIMINAL CONVICTIONS
15	AGRICULTURE								
16		AFSCS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0.0
17		FmHA	NA		NA		NA		NA
18		FS	\$500.00	100.0%	\$1512000.00	97.2%	\$15500.00	76.3%	10
19		REA	NA		NA		NA		NA
20		SCS	NA		NA		NA		NA
22	COMMERCE								
23		ECON DEVEL	NA		NA	#VALUE!	NA		NA
24		NOAA	NA		NA		NA		NA
26	DEFENSE								
27		AIR FORCE	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
28		ARMY	ND		\$50.00	0.0%	\$50.00	0.2%	2
29		ARMY COE	\$0.00	0.0%	\$1500.00	0.1%	\$8.00	0.0%	0
30		MARINES	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
31		NAVY	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
33	EDUCATION		NA		NA		NA		NA
35	ENERGY		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
36		FERC	NA		NA		NA		NA
38	EPA		NA		NA		NA		NA
40	FCC		ND		ND		ND		ND
42	BSA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
44	H&HS		0	0.0%	0	0.0%	0	0.0%	0
46	HUD		NA		NA		NA		NA
48	INTERIOR								
49		BIA	\$0.00	0.0%	ND		ND		0
50		BLM	\$0.00	0.0%	\$40720.00	2.6%	\$3200.00	15.8%	12
51		BOR	ND		ND		ND		ND
52		FWS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
53		MMS	NA		NA		NA		NA

TABLE A.2 (continued)

	19	20	21	22	23	24	25	26	27
54			USGS	NA		NA		NA	
55			NPS	\$0.00	0.0%	\$250.00	0.0%	\$1400.00	6.9%
56			OSM	NA		NA		NA	
57									
58		JUSTICE		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
59									
60		LABOR		NA		NA		NA	
61									
62		NASA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
63									
64		NAT CAP PLAN		NA		NA		NA	
65									
66		NRC		NA		NA		NA	
67									
68		PADC		ND		ND		ND	
69									
70		POST/SERVICE		NA		NA		NA	
71									
72		SBA		NA		NA		NA	
73									
74		TVA		\$0.00	0.0%	\$500.00	0.0%	\$150.00	0.7%
75									
76		TRANSPORTATION							
77			FAA	NA		NA		NA	
78			FHWA	NA		NA		NA	
79			FRA	0.0	0.0%	0.0	0.0%	0.0	0.0%
80			UMTA	NA		NA		NA	
81									
82		VA		\$0.00	0.0%	ND		ND	
83									
84		TOTALS		\$500.00		\$1555020.00		\$20308.00	34
85									
86									
87									
88									
89									
90									
91									

TABLE A.2 (continued)

	28	29	30	31	32	33	34	35	36
	DEPARTMENTS	AGENCIES		MISDEMEANORS		FELONIES		SECOND OFFENSES	
15	AGRICULTURE								
16		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
17		FaHA		NA		NA		NA	
18		FS	29.4%	10	29.4%	8	88.9%	2	22.2%
19		REA		NA		NA		NA	
20		SCS		NA		NA		NA	
22	COMMERCE								
23		ECON DEVEL		NA		NA		NA	
24		NOAA		NA		NA		NA	
26	DEFENSE								
27		AIR FORCE	0.0%	0	0.0%	0	0.0%	0	0.0%
28		ARMY	5.9%	0	0.0%	0	0.0%	0	0.0%
29		ARMY COE	0.0%	0	0.0%	0	0.0%	0	0.0%
30		MARINES	0.0%	0	0.0%	0	0.0%	0	0.0%
31		NAVY	0.0%	0	0.0%	0	0.0%	0	0.0%
33	EDUCATION			NA		NA		NA	
35	ENERGY		0.0%	0	0.0%	0	0.0%	0	0.0%
36		FERC		NA		NA		NA	
38	EPA			NA		NA		NA	
40	FCC			ND		ND		ND	
42	GSA		0.0%	0	0.0%	0	0.0%	0	0.0%
44	H&HS		0.0%	0	0.0%	0	0.0%	0	0.0%
46	HUD			NA		NA		NA	
48	INTERIOR								
49		BIA	0.0%	0	0.0%	0	0.0%	0	0.0%
50		BLM	35.3%	11	32.4%	1	11.1%	0	0.0%
51		BOR		ND		ND		ND	
52		FWS	0.0%	1	2.9%	0	0.0%	0	0.0%
53		MMS		NA		NA		NA	

TABLE A.2 (continued)

	28	29	30	31	32	33	34	35	36
54			USGS		NA		NA		NA
55			NPS	26.5%	11	32.4%	0	0.0%	0 0.0%
56			OSM		NA		NA		NA
57									
58	JUSTICE			0.0%	0	0.0%	0	0.0%	0 0.0%
59									
60	LABDR				NA		NA		NA
61									
62	NASA			0.0%	0	0.0%	0	0.0%	0 0.0%
63									
64	NAT CAP PLAN				NA		NA		NA
65									
66	NRC				NA		NA		NA
67									
68	PADC				ND		ND		ND
69									
70	POST/SERVICE				NA		NA		NA
71									
72	SBA				NA		NA		NA
73									
74	TVA			2.9%	1	2.9%	0	0.0%	0 0.0%
75									
76	TRANSPORTATION								
77			FAA		NA		NA		NA
78			FHWA		NA		NA		NA
79			FRA	0.0%	0.0	0.0%	0.0	0.0%	0 0.0%
80			UMTA		NA		NA		NA
81									
82	VA			0.0%	0	0.0%	0	0.0%	0 0.0%
83									
84	TOTALS				34		9		2
85									
86									
87									
88									
89									
90									
91									

TABLE A.2 (continued)

	37	38	39	40	41	42	43	44	45
	DEPARTMENTS	AGENCIES	COST OF RESTITUTION		CASES OF VANDALISM PROSECUTED UNDER OTHER AUTHORITY		CULTURAL RESOURCES OWNED OR CONTROLLED BY AGENCY		AUTOMATED INVENTORY
15	AGRICULTURE								
16		ASCS	\$0.00	0.0%	0	0.0%	0	0.0%	NO
17		FmHA	NA		NA		NA <sup>5</sup>		NA
18		FS	\$90085.00	86.5%	19	39.6%	120000	2.8%	YES
19		REA	NA		NA		NA		NA
20		SCS	NA		NA		NA		NA
22	COMMERCE								
23		ECON DEVEL	NA		NA		NA	#VALUE!	NA
24		NOAA	NA		NA		NA		NA
26	DEFENSE								
27		AIR FORCE	\$0.00	0.0%	0	0.0%	1700	0.0%	NO
28		ARMY	ND		2	4.2%	101000	2.3%	NO
29		ARMY COE	\$0.00	0.0%	3	6.3%	40000	0.9%	YES
30		MARINES	\$0.00	0.0%	0	0.0%	5	0.0%	NO
31		NAVY	\$0.00	0.0%	0	0.0%	65 <sup>6</sup>	0.0%	NO
33	EDUCATION		NA		NA		NA		NA
35	ENERGY		\$0.00	0.0%	0	0.0%	1376	0.0%	YES
36		FERC	NA		NA		NA		NA
38	EPA		NA		NA		NA		NA
40	FCC		ND		ND		ND		ND
42	GSA		\$0.00	0.0%	0	0.0%	350	0.0%	YES
44	H&HS		0	0.0%	0	0.0%	ND		ND
46	HUD		NA		NA		NA		NA
48	INTERIOR								
49		BIA	\$0.00	0.0%	0	0.0%	2000000	46.0%	NO
50		BLM	\$14000.00	13.5%	6	12.5%	1663500	38.3%	YES
51		BOR	ND		ND		21551 <sup>7</sup>	0.5%	YES
52		FWS	\$0.00	0.0%	3	6.3%	100000	2.3%	NO
53		MMS	NA		NA		3002 <sup>8</sup>	0.1%	ND

TABLE A.2 (continued)

	37	38	39	40	41	42	43	44	45
54		USGS	NA		NA		NA		NA
55		NPS	\$0.00	0.0%	15	31.3%	295050	6.8%	YES
56		OSM	NA		NA		NA		NA
57									
58	JUSTICE		\$0.00	0.0%	0	0.0%	1	0.0%	NO
59									
60	LABOR		NA		NA		NA		NA
61									
62	NASA		\$0.00	0.0%	0	0.0%	22	0.0%	ND
63									
64	NAT CAP PLAN		NA		NA		NA		NA
65									
66	NRC		NA		NA		NA		NA
67									
68	PADC		ND		ND		ND		ND
69									
70	POST/SERVICE		NA		NA		NA		NA
71									
72	SBA		NA		NA		NA		NA
73									
74	TVA		\$0.00	0.0%	0	0.0%	ND		ND
75									
76	TRANSPORTATION								
77		FAA	NA		NA		NA		NA
78		FHWA	NA		NA		NA		NA
79		FRA	\$0.00	0.0%	0	0.0%	NA		ND
80		UNTA	NA		NA		0	0.0%	NA
81									
82	VA		\$0.00	0.0%	0	0.0%	300 <sup>9</sup>	0.0%	YES
83									
84	TOTALS		\$104085.00		48		4347922		
85									
86									
87									
88									
89									
90									
91									

TABLE A.2 (continued)

	46	47	48	49	50	51
1						
2						
3	-----					
4	DEPARTMENTS	AGENCIES	% OF	SAVINGS		REMOTE
5			ARCHEOLOGICAL	TO LAW		SENSING
6			RESOURCES	ENFORCEMENT,		EQUIPMENT
7			THAT HAVE	MAINTENANCE,		USED IN
8			BEEN	ETC.		SITE
9			VANDALIZED	RESULTING		PROTECTION
10			OR LOOTED	FROM ENFORCE-		
11				MENT EFFORTS		
12						
13	-----					
14						
15	AGRICULTURE					
16		ASCS	0	\$0.00	0.0%	NO
17		FmHA	NA	NA		NA
18		FS	5-25	ND		YES
19		REA	NA	NA		NA
20		SCS	NA	NA		NA
21						
22	COMMERCE					
23		ECON DEVEL	NA	NA		NO
24		NOAA	NA	NA		YES
25						
26	DEFENSE					
27		AIR FORCE	ND	ND		YES
28		ARMY	5.0	\$10000.00	25.0%	YES
29		ARMY COE	10.0	ND		YES
30		MARINES	0	ND		NO
31		NAVY	ND	ND		NO
32						
33	EDUCATION		NA	NA		NA
34						
35	ENERGY		5.0	ND		YES
36		FERC	NA	NA		NA
37						
38	EPA		NA	NA		NA
39						
40	FCC		ND	ND		ND
41						
42	BSA		ND	ND		ND
43						
44	H&HS		ND	\$0.00	0.0%	NO
45						
46	HUD		NA	NA		NA
47						
48	INTERIOR					
49		BIA	2-10	\$0.00	0.0%	NO
50		BLM	25-75	ND		YES
51		BOR	ND	ND		NO
52		FWS	ND <sup>10</sup>	ND		YES
53		MMS	ND <sup>11</sup>	ND		YES <sup>12</sup>

TABLE A.2 (continued)

	46	47	48	49	50	51
54			USGS	NO	NA	NA
55			NPS	ND <sup>13</sup>	\$30000.00	75.0%
56			DSM	NA	NA	NA
57						
58	JUSTICE			0.0	\$0.00	0.0%
59						
60	LABOR			NA	NA	NA
61						
62	NASA			NA	NA	NA
63						
64	NAT CAP PLAN			NA	NA	NA
65						
66	NRC			NA	NA	NA
67						
68	PADC			ND	ND	ND
69						
70	POST/SERVICE			NA	NA	NA
71						
72	SBA			NA	NA	NA
73						
74	TVA			ND	ND	NO
75						
76	TRANSPORTATION					
77			FAA	NA	NA	NO
78			FHWA	NA	NA	NA
79			FRA	0	\$0.00	0.0%
80			UMTA	NA	NA	NO
81						
82	VA			ND	ND	NO
83						
84	TOTALS				\$40000.00	
85						
86						
87						
88						
89						
90						
91						

**TABLE A.3**  
**Education, FY 1985**

	1	2	3	4	5	6	7	8
1								
2								
3	-----							
4	DEPARTMENTS	AGENCIES	PUBLIC	PUBLIC	PUBLIC	PUBLIC	PUBLIC	IN-HOUSE
5			EDUCATION	EDUCATION	EDUCATION	EDUCATION	OUTREACH	EDUCATION
6			ACTIVITIES	INITIATIVES	INITIATIVES	INITIATIVES	ACTIVITIES	ACTIVITIES
7			REGARDING	LOCAL	REGIONAL	NATIONAL	FOR	REGARDING
8			PRESERVING				ARCHEOLOGICAL	PRESERVING
9			ARCHEOLOGICAL				WORK	ARCHEOLOGICAL
10			RESOURCES					RESOURCES
11								
12	-----							
13								
14	AGRICULTURE							
15		ASCS	NO	NO	NO	NO	NO	NO
16		FmHA	NO	NO	NO	NO	NO	YES
17		FS	YES	YES	YES	YES	NO	YES
18		REA	NO	NO	NO	NO	NO	NO
19		SCS	YES	YES <sup>1</sup>	YES	YES	NO	YES
20								
21	COMMERCE							
22		ECON DEVEL	NO	NO	NO	NO	NO	NO
23		NOAA	YES	NO	YES	YES	YES	YES
24								
25	DEFENSE							
26		AIR FORCE	YES <sup>2</sup>	YES	YES	NO	NO	YES
27		ARMY	YES	YES	NO	NO	NO	YES <sup>3</sup>
28		ARMY COE	YES	YES	YES	NO	NO	YES
29		MARINES	YES	YES	NO	NO	NO <sup>4</sup>	YES <sup>5</sup>
30		NAVY	NO	NO	NO	NO	NO	YES
31								
32	EDUCATION		NA	NA	NA	NA	NA	NA
33								
34	ENERGY		YES	YES	YES	NO	YES	YES
35		FERC	NA	NA	NA	NA	NA	NA
36								
37	EPA		NO	NO	NO	NO	NO	NO
38								
39	FCC		NO	NO	NO	NO	NO	NO
40								
41	GSA		NO	NO	NO	NO	NO	NO
42								
43	H&HS		YES	YES	NO	NO	YES	YES
44								
45	HUD		NA	NA	NA	NA	NA	NA
46								
47	INTERIOR							
48		BIA	YES	YES	NO	NO	NO	YES
49		BLM	YES	YES	YES	NO	NO	YES
50		BOR	YES <sup>6</sup>	YES <sup>7</sup>	YES	NO	YES <sup>8</sup>	YES <sup>9</sup>
51		FWS	YES <sup>10</sup>	YES	YES	NO	YES	YES
52		MMS	YES	YES <sup>11</sup>	YES	NO	YES <sup>12</sup>	NO <sup>13</sup>
53		USGS	NO	NO	NO	NO	NO	NO

TABLE A.3 (continued)

	1	2	3	4	5	6	7	8
54		NPS	YES <sup>14</sup>	YES	YES	YES	YES <sup>15</sup>	YES <sup>16</sup>
55		OSM	YES <sup>17</sup>	NO	YES	NO	NO	YES <sup>18</sup>
56								
57	JUSTICE		NO	NO	NO	NO	NO	NO
58								
59	LABOR		NA	NA	NA	NA	NA	NA
60								
61	NASA		NO	NO	NO	NO	NO	NO
62								
63	NAT CAP PLAN		NA	NA	NA	NA	NA	NA
64								
65	NRC		NO	NO	NO	NO	NO	NO
66								
67	PADC		NO	NO	NO	NO	NO	NO
68								
69	POST/SERVICE		NO	NO	NO	NO	NO	NO
70								
71	SBA		NA	NA	NA	NA	NA	NA
72								
73	TVA		YES	NO	YES	NO	YES	YES
74								
75	TRANSPORTATION							
76		FAA	NO	NO	NO	NO	NO	NO
77		FHWA	YES	NO	NO	YES	YES	YES
78		FRA	NO	NO	NO	NO	NO	NO
79		UMTA	NO <sup>19</sup>	YES	NO	NO	NO	NO
80								
81								
82	VA		YES <sup>20</sup>	YES	NO	NO	NO	NO <sup>21</sup>

83 -----  
84 TOTALS

85  
86  
87 NA = NOT APPLICABLE  
88 ND = NO DATA  
89 BSEEDUCAT  
90 8/21/87  
91

TABLE A.3 (continued)

1	9	10	11	12	13	14	15	16
2								
3	=====							
4	DEPARTMENTS	AGENCIES	IN-HOUSE	CULTURAL	ARCHEOLOGICAL		REPORTS	REPORTS
5			PARA-	RESOURCE	REPORTS		MADE	MADE
6			PROFESSIONAL	AWARENESS	FROM PROJECTS		AVAILABLE	AVAILABLE
7			COURSES	TRAINING	OR LICENSED		TO THE	TO THE
8			IN	FOR NON-	OR ASSISTED		PUBLIC	PUBLIC
9			ARCHEOLOGY	CULTURAL	PROJECTS		THROUGH	THROUGH
10				RESOURCE			NTIS	DTIS
11				PERSONNEL				
12	=====							
13								
14	AGRICULTURE							
15		ASCS	NO	NO	0	0.0%	NO	NO
16		FmHA	NO	NO	128	1.0%	NO	NO
17		FS	YES	YES	900	7.1%	YES	NO
18		REA	NO	NO	54	0.4%	NO	NO
19		SCS	YES	YES	53	0.4%	YES	NO
20								
21	COMMERCE							
22		ECON DEVEL	NO	NO	0	0.0%	NO	NO
23		NOAA	NO	NO	1	0.0%	NO	NO
24								
25	DEFENSE							
26		AIR FORCE	YES	YES	53	0.4%	NO	NO
27		ARMY	NO <sup>22</sup>	YES	44	0.3%	YES	YES
28		ARMY COE	YES	YES	378	3.0%	YES	YES
29		MARINES	YES	NO	2	0.0%	NO	NO
30		NAVY	YES	YES	6	0.0%	YES	NO
31						0.0%		
32	EDUCATION		NA	NA	NA		NA	NA
33								
34	ENERGY		NO	NO	1	0.0%	YES	NO
35		FERC	NA	NA	NA		NA	NA
36								
37	EPA		NO	YES	NO		NO	NO
38								
39	FCC		NO	NO	NO		NO	NO
40								
41	GSA		NO	YES	1	0.0%	NO	NO
42								
43	H&HS		YES	YES	95	0.8%	YES	NO
44								
45	HUD		NA	NA	NA		NA	NA
46								
47	INTERIOR							
48		BIA	NO	YES	2410	19.0%	NO	NO
49		BLM	YES <sup>23</sup>	YES <sup>23</sup>	5279 <sup>24</sup>	41.7%	YES	NO
50		BOR	NO	YES	112	0.9%	YES	NO
51		FWS	NO	YES	61	0.5%	YES	NO
52		MMS	NO	NO	326	2.6%	YES	NO
53		USGS	NO	NO	0	0.0%	NO	NO

TABLE A.3 (continued)

	9	10	11	12	13	14	15	16
54		NPS	YES <sup>25</sup>	YES	159	1.3%	YES	YES
55		OSM	NO <sup>26</sup>	YES	25	0.2%	YES	NO
56								
57	JUSTICE		NO	NO	3	0.0%	YES	YES
58								
59	LABOR		NA	NA	NA		NA	NA
60								
61	NASA		NO	NO	0	0.0%	NO	NO
62								
63	NAT CAP PLAN		NA	NA	NA		NA	NA
64								
65	NRC		NO	NO	21	0.2%	NO	NO
66								
67	PADC		NO	NO	NO		NO	NO
68								
69	POST/SERVICE		NO	NO	1	0.0%	NO	NO
70								
71	SBA		NA	NA	NA		NA	NA
72								
73	TVA		NO	NO	4	0.0%	NO	NO
74								
75	TRANSPORTATION							
76		FAA	NO	YES <sup>28</sup>	22	0.2%	NO	NO
77		FHWA	YES <sup>27</sup>	YES <sup>28</sup>	2500 <sup>29</sup>	19.8%	NO	NO
78		FRA	NO	NO	NO		NO	NO
79		UMTA	NO	NO	11 <sup>30</sup>	0.1%	NO	NO
80								
81								
82	VA		NO	YES	5	0.0%	YES	NO
83								
84	TOTALS				12655			
85								
86								
87								
88								
89								
90								
91								

TABLE A.3 (continued)

	17	18	19	20
1				
2				
3	=====			
4	DEPARTMENTS	AGENCIES	REPORTS	REPORTS
5			MADE	FILED WITH
6			AVAILABLE	THE SHPO
7			TO THE	
8			PUBLIC	
9			THROUGH	
10			OTHER MEANS	
11				
12	=====			
13				
14	AGRICULTURE			
15		ASCS	NO	NO
16		FaHA	YES <sup>31</sup>	YES
17		FS	YES <sup>32</sup>	YES
18		REA	YES	YES
19		SCS	YES	YES
20				
21	COMMERCE			
22		ECON DEVEL	NO	NO
23		NOAA	YES <sup>33</sup>	NO
24				
25	DEFENSE			
26		AIR FORCE	YES <sup>34</sup>	YES
27		ARMY	YES	NO
28		ARMY COE	YES	YES
29		MARINES	NO	YES
30		NAVY	NO	NO
31				
32	EDUCATION		NA	NA
33				
34	ENERGY		YES	YES
35		FERC	NA	NA
36				
37	EPA		NO	YES
38				
39	FCC		NO	NO
40				
41	SSA		YES <sup>35</sup>	YES
42				
43	H&HS		YES <sup>36</sup>	YES
44				
45	HUD		NA	NA
46				
47	INTERIOR			
48		BIA	YES	YES
49		BLM	YES <sup>37</sup>	YES
50		BOR	YES	YES
51		FWS	YES <sup>38</sup>	YES
52		MMS	NO <sup>39</sup>	YES <sup>40</sup>
53		USGS	NO	NO

TABLE A.3 (continued)

	17	18	19	20	
54			NPS	YES	YES
55			OSM	NO	YES
56					
57	JUSTICE			YES	YES
58					
59	LABOR			NA	NA
60					
61	NASA			NO	NO
62					
63	NAT CAP PLAN			NA	NA
64					
65	NRC			NO	YES
66					
67	FADC			NO	NO
68					
69	POST/SERVICE			NO	YES
70					
71	SBA			NA	NA
72					
73	TVA			YES <sup>41</sup>	YES
74					
75	TRANSPORTATION				
76			FAA	YES <sup>42</sup>	YES
77			FHWA	YES <sup>43</sup>	YES
78			FRA	NO	NO
79			UMTA	YES <sup>44</sup>	YES
80					
81					
82	VA			YES	YES
83	-----				
84	TOTALS				
85					
86					
87					
88					
89					
90					
91					

TABLE A.4

Identification and Evaluation, FY 1985

1	2	3	4	5	6	7	8	
DEPARTMENTS	AGENCIES	LITERATURE SEARCHES FOR ARCHEOLOGICAL PROPERTIES		COST OF LITERATURE SEARCHES FOR ARCHEOLOGICAL PROPERTIES		FIELD SURVEYS OF ARCHEOLOGICAL PROPERTIES		
14	AGRICULTURE							
15		ASCA	0 <sup>1</sup>	0.0%	0	0.0%	0	0.0%
16		FWS	85	0.8%	\$3,300.00	0.1%	347	2.1%
17		FS	ND		ND		6578	39.7%
18		REA	510	4.8%	\$30,000.00	1.2%	54	0.3%
19		SCS	33 <sup>2</sup>	0.3%	\$42,183.00	1.7%	57 <sup>2</sup>	0.3%
21	COMMERCE							
22		ECON DEVEL	NA		NA		NA	
23		NOAA	2	0.0%	\$12,000.00	0.5%	2	0.0%
25	DEFENSE							
26		AIR FORCE	43	0.4%	\$80,000.00	3.3%	42	0.3%
27		ARMY	44	0.4%	\$131,000.00 <sup>3</sup>	5.4%	56	0.3%
28		ARMY COE	1500	14.2%	\$1,000,000.00	40.9%	700	4.2%
29		MARINES	4	0.0%	ND		1	0.0%
30		NAVY	8	0.1%	ND		8 <sup>4</sup>	0.0%
32	EDUCATION		NA		NA		NA	
34	ENERGY		5	0.0%	\$1,500.00	0.1%	25	0.2%
35		FERC	NA		NA		NA	
37	EPA		140	1.3%	\$215,000.00	8.8%	129	0.8%
39	FCC		ND		ND		ND	
41	GSA		24	0.2%	\$18,000.00	0.7%	1	0.0%
43	H&HS		127	1.2%	\$14,540.00	0.6%	88	0.5%
45	HUD		NA		NA		NA	
47	INTERIOR							
48		BIA	898	8.5%	\$8,470.00	0.3%	1464	8.8%
49		BLM	4911	46.4%	\$86,567.00 <sup>5</sup>	3.5%	4669	28.2%
50		BOR	106	1.0%	\$87,824.00	3.6%	131	0.8%
51		FWS	48	0.5%	\$90,000.00	3.7%	73	0.4%
52		MMS	0 <sup>6</sup>	0.0%	\$0.00	0.0%	326 <sup>7</sup>	2.0%
53		USGS	0	0.0%	\$0.00	0.0%	0	0.0%

TABLE A.4 (continued)

	1	2	3	4	5	6	7	8
54		NPS	244	2.3%	\$312,681.00	12.8%	277	1.7%
55		QSM	0	0.0%	\$0.00	0.0%	5	0.0%
56								
57	JUSTICE		3	0.0%	\$5,000.00	0.2%	3	0.0%
58								
59	LABOR		NA		NA		NA	
60								
61	NASA		0	0.0%	\$0.00	0.0%	0	0.0%
62								
63	NAT CAP PLAN		NA		NA		NA	
64								
65	NRC		ND		ND		6	0.0%
66								
67	PADC		ND		ND		ND	
68								
69	POST/SERVICE		0	0.0%	\$0.00	0.0%	1	0.0%
70								
71	SBA		NA		NA		NA	
72								
73	TVA		320	3.0%	\$2,500.00	0.1%	12	0.1%
74								
75	TRANSPORTATION							
76		FAA	15 <sup>8</sup>	0.1%	ND		10	0.1%
77		FHWA	1500	14.2%	\$300,000.00	12.3%	1500	9.1%
78		FRA	1	0.0%	ND <sup>9</sup>		1	0.0%
79		UMTA	0	0.0%	ND		NA	
80								
81	VA		10	0.1%	\$5,000.00 <sup>10</sup>	0.2%	6	0.0%
82								
83								
84	TOTALS		10581		\$2,445,565.00		16572	

NA = NOT APPLICABLE  
 ND = NO DATA  
 85SURVEY  
 8/21/87

TABLE A.4 (continued)

	9	10	11	12	13	14	15	16
	DEPARTMENTS	AGENCIES	COST OF SURVEYS FOR ARCHEOLOGICAL PROPERTIES		NEW SITES RECORDED AS A RESULT OF SURVEYS FOR ARCHEOLOGICAL PROPERTIES		ACREAGE SURVEYED FOR ARCHEOLOGICAL PROPERTIES	
14	AGRICULTURE							
15		ASCA	0	0.0%	0	0.0%	0	0.0%
16		FmHA	\$123,680.00	0.4%	56	0.2%	630	0.0%
17		FS	\$5,500,000.00	27.2%	7993	28.5%	1560000	28.8%
18		REA	\$85,000.00	0.4%	71	0.3%	3600	0.1%
19		SCS	\$149,330.00	0.7%	83	0.3%	757599	14.0%
21	COMMERCE							
22		ECON DEVEL	NA		NA		NA	
23		NOAA	\$150,000.00	0.7%	12	0.0%	64000	1.2%
25	DEFENSE							
26		AIR FORCE	\$297,000.00	1.5%	223	0.8%	36000	0.7%
27		ARMY	\$1,080,855.00 <sup>11</sup>	5.3%	1228	4.4%	111755	2.1%
28		ARMY COE	\$5,000,000.00	24.7%	6000	21.4%	250000	4.6%
29		MARINES	\$20,000.00	0.1%	5	0.0%	3000	0.1%
30		NAVY	\$200,000.00	1.0%	ND		ND	
32	EDUCATION		NA		NA		NA	
34	ENERGY		\$105,000.00	0.5%	75	0.3%	4100	0.1%
35		FERC	NA		NA		NA	
37	EPA		\$569,500.00	2.8%	421	1.5%	48346	0.9%
39	FCC		ND		ND		ND	
41	GSA		ND		ND		ND	
43	H&HS		\$130,000.00	0.6%	147	0.5%	2550	0.0%
45	HUD		NA		NA		NA	
47	INTERIOR							
48		BIA	\$675,000.00	3.3%	859	3.1%	60017	1.1%
49		BLM	\$1,297,950.00	6.4%	6705	23.9%	472992	8.7%
50		BOR	\$600,172.00	3.0%	1139	4.1%	117062	2.2%
51		FWS	\$150,000.00	0.7%	200	0.7%	6300	0.1%
52		MMS	\$0.00 <sup>12</sup>	0.0%	0 <sup>13</sup>	0.0%	1800000	33.3%
53		USGS	\$0.00	0.0%	0	0.0%	0	0.0%

TABLE A.4 (continued)

	9	10	11	12	13	14	15	16
54			NPS \$1,652,150.00	8.2%	2276	8.1%	64097	1.2%
55			OSM \$0.00	0.0%	15	0.1%	300	0.0%
56								
57	JUSTICE		\$20,000.00	0.1%	14	0.0%	628.5	0.0%
58								
59	LABOR		NA		NA		NA	
60								
61	NASA		\$0.00	0.0%	0	0.0%	0	0.0%
62								
63	NAT CAP PLAN		NA		NA		NA	
64								
65	NRC		ND		118	0.4%	ND	
66								
67	PADC		ND		ND		ND	
68								
69	POST/SERVICE		\$115,000.00	0.6%	0	0.0%	1	0.0%
70								
71	SBA		NA		NA		NA	
72								
73	TVA		\$40,000.00	0.2%	75	0.3%	7000	0.1%
74								
75	TRANSPORTATION							
76			FAA ND <sup>14</sup>		ND		0	0.0%
77			FHWA \$2,250,000.00	11.1%	300	1.1%	37500	0.7%
78			FRA ND <sup>15</sup>		3	0.0%	20	0.0%
79			UMTA NA		NA		NA	
80								
81	VA		\$8,000.00 <sup>16</sup>	0.0%	0	0.0%	600	0.0%
82								
83								
84	TOTALS		\$20,218,637.00		28018		5408097.5	
85								
86								
87								
88								
89								
90								

TABLE A.4 (continued)

	17	18	19	20	21	22	23	24
1								
2								
3	-----							
4	DEPARTMENTS	AGENCIES	SITES		SITES		SITES	
5			CONSIDERED		DETERMINED		NOMINATED	
6			ELIGIBLE		ELIGIBLE		TO THE	
7			FOR THE		FOR THE		NATIONAL	
8			NATIONAL		NATIONAL		REGISTER	
9			REGISTER		REGISTER			
10								
11								
12	-----							
13								
14	AGRICULTURE							
15		ASCA	0	0.0%	0	0.0%	0	0.0%
16		FaHA	3	0.0%	3	0.2%	3	1.2%
17		FS	404 <sup>17</sup>	5.1%	ND		8	3.1%
18		REA	47	0.6%	0	0.0%	0	0.0%
19		SCS	11 <sup>18</sup>	0.1%	1 <sup>19</sup>	0.1%	1 <sup>20</sup>	0.4%
20								
21	COMMERCE							
22		ECON DEVEL	NA		NA		0	0.0%
23		NOAA	0	0.0%	0	0.0%	0	0.0%
24								
25	DEFENSE							
26		AIR FORCE	80	1.0%	8	0.6%	2	0.8%
27		ARMY	484	6.1%	216	16.6%	22	8.5%
28		ARMY COE	1216	15.3%	182	14.0%	4	1.5%
29		MARINES	2	0.0%	0	0.0%	0	0.0%
30		NAVY	15	0.2%	0	0.0%	0	0.0%
31								
32	EDUCATION							
33			NA		NA		NA	
34	ENERGY							
35		FERC	33	0.4%	25	1.9%	0	0.0%
36			NA		NA		NA	
37	EPA							
38			292	3.7%	344	26.4%	ND	
39	FCC							
40			ND		ND		ND	
41	GSA							
42			ND		ND		ND	
43	H&HS							
44			116	1.5%	0	0.0%	0	0.0%
45	HUD							
46			NA		NA		NA	
47	INTERIOR							
48		BIA	626	7.9%	5	0.4%	0	0.0%
49		BLM	2155	27.1%	51	3.9%	13	5.0%
50		BOR	919	11.6%	199	15.3%	0	0.0%
51		FWS	70	0.9%	0	0.0%	1	0.4%
52		MMS	0 <sup>21</sup>	0.0%	0	0.0%	0 <sup>22</sup>	0.0%
53		USGS	0	0.0%	0	0.0%	0	0.0%

TABLE A.4 (continued)

	17	18	19	20	21	22	23	24	
54			NPS	1265	15.9%	115	8.8%	205	79.2%
55			BSM	3	0.0%	0	0.0%	0	0.0%
56									
57	JUSTICE			6	0.1%	0	0.0%	0	0.0%
58									
59	LABOR			NA		NA		NA	
60									
61	NASA			0	0.0%	0	0.0%	0	0.0%
62									
63	NAT CAP PLAN			NA		NA		NA	
64									
65	NRC			45	0.6%	0	0.0%	0	0.0%
66									
67	PADC			ND		ND		ND	
68									
69	POST/SERVICE			ND		ND		ND	
70									
71	SBA			NA		NA		NA	
72									
73	TVA			0	0.0%	0	0.0%	0	0.0%
74									
75	TRANSPORTATION								
76		FAA		0	0.0%	0	0.0%	0	0.0%
77		FHWA		150	1.9%	150	11.5%	0	0.0%
78		FRA		3	0.0%	3	0.2%	ND <sup>23</sup>	
79		UMTA		2	0.0%	1	0.1%	0	0.0%
80									
81	VA			ND		ND		ND <sup>24</sup>	
82									
83									
84	TOTALS			7947		1303		259	
85									
86									
87									
88									
89									
90									

TABLE A.5

Data Recovery, FY 1985

1	2	3	4	5	6	7	8
4	DEPARTMENTS	AGENCIES	SITES	SITES		PROJECTS	
5			ADVERSELY	SUBJECT TO		CONDUCTED	
6			AFFECTED BY	ADDITIONAL		BY AGENCY	
7			DEVELOPMENT	DATA		PERSONNEL	
8			SUBSEQUENT TO	RECOVERY			
9			SEC. 106				
10			COMPLIANCE				
15	AGRICULTURE						
17		ASCS	0	0	0	0	0
18		FmHA	0	0.0%	11	0.4%	17
19		FS	473	18.0%	988	38.6%	560
20		REA	5	0.2%	0	0.0%	0
21		SCS	16 <sup>1</sup>	0.6%	11	0.4%	0
23	COMMERCE						
24		ECON DEVEL	NA		NA		NA
25		NOAA	NA		NA		NA
27	DEFENSE						
28		AIR FORCE	23	0.9%	20	0.8%	3
29		ARMY	202 <sup>2</sup>	7.7%	160 <sup>3</sup>	6.2%	2
30		ARMY COE	66	2.5%	53	2.1%	46
31		MARINES	0	0.0%	0	0.0%	0
32		NAVY	ND		ND		ND
34	EDUCATION		NA		NA		NA
36	ENERGY		3		2		1
37		FERC	NA		NA		NA
40	EPA		23	0.9%	23	0.9%	0
42	FCC		ND		ND		ND
44	BSA		0	0.0%	0	0.0%	0
46	H&HS		0	0.0%	1	0.0%	1
48	HUD		NA		NA		NA
50	INTERIOR						
51		BIA	33	1.3%	52	2.0%	15
52		BLM	637 <sup>4</sup>	24.2%	286	11.2%	110
53		BDR	903	34.3%	576	22.5%	9

TABLE A.5 (continued)

	1	2	3	4	5	6	7	8	
54			FWS	1	0.0%	7	0.3%	1	0.1%
55			MMS	0 <sup>5</sup>	0.0%	0 <sup>6</sup>	0.0%	0	0.0%
56			USGS	ND		ND		ND	
57			NPS	94	3.6%	59	2.3%	22	2.8%
58			OSM	150	5.7%	100	3.9%	0	0.0%
59									
60		JUSTICE		0	0.0%	0	0.0%	0	0.0%
61									
62		LABOR		NA		NA		NA	
63									
64		NASA		0	0.0%	0	0.0%	0	0.0%
65									
66		NAT CAP PLAN		NA		NA		NA	
67									
68		NRC		0	0.0%	7	0.3%	0	0.0%
69									
70	2	PADC		ND		ND		ND	
71									
72		POST/SERVICE		0	0.0%	1	0.0%	0	0.0%
73									
74		SBA		NA		NA		NA	
75									
76		TVA		0	0.0%	0	0.0%	0	0.0%
77									
78		TRANSPORTATION							
79			FAA	1	0.0%	1	0.0%	0	0.0%
80			FHWA	0 <sup>7</sup>	0.0%	200 <sup>8</sup>	7.8%	0	0.0%
81			FRA	0	0.0%	0	0.0%	0	0.0%
82			UMTA	1	0.0%	4	0.2%	2	0.3%
83									
84		VA		0	0.0%	0	0.0%	0	0.0%
85									
86		TOTALS		2631		2562		789	

NA = NOT APPLICABLE  
 ND = NO DATA  
 BSRECOVE  
 8/6/87

TABLE A.5 (continued)

	9	10	11	12	13	14	15	16
	DEPARTMENTS	AGENCIES	PROJECTS CONDUCTED UNDER CONTRACT OR OTHER AGREEMENT		PROJECTS CONDUCTED BY THIRD PARTY		COST OF DATA RECOVERY PROJECTS BY AGENCY	
15	AGRICULTURE							
17		ASCS	0	0	0	0	0	0
18		FHHA	0	0.0%	0	0.0%	\$40000.00	0.6%
19		FS	10	2.3%	1	1.1%	\$380000.00	5.3%
20		REA	0	0.0%	0	0.0%	\$0.00	0.0%
21		SCS	11	2.6%	0	0.0%	\$35000.00	0.5%
23	COMMERCE							
24		ECON DEVEL	NA		NA		NA	
25		NDAA	ND		ND		ND	
27	DEFENSE							
28		AIR FORCE	7	1.6%	2	2.1%	\$720.00	0.0%
29		ARMY	14	3.3%	3	3.2%	\$28787.00	0.4%
30		ARMY COE	24	5.6%	2	2.1%	\$300000.00	4.2%
31		MARINES	0	0.0%	0	0.0%	\$0.00	0.0%
32		NAVY	ND		ND		ND	
34	EDUCATION		NA		NA		NA	
36	ENERGY		1		0	0.0%	\$95000.00	
37		FERC	NA		NA		NA	
40	EPA		17	4.0%	1	1.1%	ND	
42	FCC		ND		ND		ND	
44	GSA		0	0.0%	0	0.0%	\$0.00	0.0%
46	H&HS		0	0.0%	0	0.0%	\$1800.00	0.0%
48	HUD		NA		NA		NA	
50	INTERIOR							
51		BIA	25	5.8%	1	1.1%	\$120711.00	1.7%
52		BLM	71	16.5%	53	56.4%	\$181030.00	2.5%
53		BOR	36	8.4%	1	1.1%	\$45500.00	0.6%

TABLE A.5 (continued)

	9	10	11	12	13	14	15	16	
54			FWS	5	1.2%	0	0.0%	\$40000.00	0.6%
55			MMS	0	0.0%	0	0.0%	\$0.00	0.0%
56			USGS	0	0.0%	0	0.0%	\$0.00	0.0%
57			NPS	5	1.2%	0	0.0%	\$520500.00	7.3%
58			OSM	0	0.0%	20	21.3%	\$0.00	0.0%
59									
60		JUSTICE		0	0.0%	0	0.0%	\$0.00	0.0%
61									
62		LABOR		NA		NA		NA	
63									
64		NASA		0	0.0%	0	0.0%	\$0.00	0.0%
65									
66		NAT CAP PLAN		NA		NA		NA	
67									
68		NRC		0	0.0%	7	7.4%	\$0.00	0.0%
69									
70		PADC		ND		ND		ND	
71									
72		POST/SERVICE		1	0.2%	0	0.0%	\$100000.00	1.4%
73									
74		SBA		0		NA		NA	
75									
76		TVA		0	0.0%	0	0.0%	\$0.00	0.0%
77									
78		TRANSPORTATION							
79			FAA	0	0.0%	1	1.1%	\$0.00	0.0%
80			FHWA	200	46.5%	0	0.0%	\$4900000.00	68.9%
81			FRA	1	0.2%	0	0.0%	\$0.00	0.0%
82			UMTA	2	0.5%	2	2.1%	\$323921.00	4.6%
83									
84		VA		0	0.0%	0	0.0%	\$0.00	0.0%
85									
86		TOTALS		430		94		\$7112969.00	
87									
88									
89									
90									
91									
92									
93									

TABLE A.5 (continued)

	17	18	19	20	21	22	23	24
	DEPARTMENTS	AGENCIES	COST OF DATA RECOVERY PROJECTS BY CONTRACT OR OTHER AGREEMENT		COST OF DATA RECOVERY PROJECTS BY THIRD PARTY		SITES PROTECTED BY OTHER MEANS (REDESIGN, STABILIZATION PATROL, FENCES, ETC.)	
15	AGRICULTURE							
16		ASCS	0	0	0	0	0	0
17		FmHA	\$50.00	0.0%	\$50.00	0.0%	ND	
18		FS	\$82000.00	0.9%	\$2000.00	0.1%	1601	2.4%
19		REA	\$0.00	0.0%	\$0.00	0.0%	5	0.0%
20		SCS	\$104571.00	1.1%	\$0.00	0.0%	13	0.0%
21								
22								
23	COMMERCE							
24		ECON DEVEL	NA		NA		NA	
25		NOAA	ND		ND		ND	
26								
27	DEFENSE							
28		AIR FORCE	\$300000.00	3.1%	ND		11	0.0%
29		ARMY	\$639396.00	6.7%	\$92883.00	2.7%	50	0.1%
30		ARMY CDE	\$2125000.00	22.2%	\$30000.00	0.9%	49	0.1%
31		MARINES	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
32		NAVY	ND		ND		ND	
33								
34	EDUCATION		NA		NA		NA	
35								
36	ENERGY		\$0.00	0.0%	\$0.00	0.0%	25	
37		FERC	NA		NA		NA	
38								
39								
40	EPA		\$499000.00	5.2%	\$150000.00	4.4%	5	0.0%
41								
42	FCC		ND		ND		ND	
43								
44	GSA		\$0.00	0.0%	\$0.00	0.0%	0	0.0%
45								
46	H&HS		\$0.00	0.0%	\$0.00	0.0%	ND	
47								
48	HUD		NA		NA		NA	
49								
50	INTERIOR							
51		BIA	\$198000.00	2.1%	\$50000.00	1.5%	126	0.2%
52		BLM	\$415050.00	4.3%	\$2792270.00 <sup>9</sup>	81.7%	64975	96.5%
53		BOR	\$3041707.00 <sup>10</sup>	31.7%	\$300000.00	8.8%	46	0.1%

TABLE A.5 (continued)

	17	18	19	20	21	22	23	24
54			FWS \$0.00	0.0%	\$0.00	0.0%	1	0.0%
55			MMS \$0.00	0.0%	\$0.00	0.0%	0	0.0%
56			USGS \$0.00	0.0%	\$0.00		0	0.0%
57			NPS \$75960.00	0.8%	\$0.00	0.0%	219	0.3%
58			OSM \$0.00	0.0%	ND		50	0.1%
59								
60	JUSTICE		\$0.00	0.0%	\$0.00	0.0%	0	0.0%
61								
62	LABOR		NA		NA		NA	
63								
64	NASA		\$0.00	0.0%	\$0.00	0.0%	0	0.0%
65								
66	NAT CAP PLAN		NA		NA		NA	
67								
68	NRC		\$0.00	0.0%	ND		45	0.1%
69								
70	PADC		ND		ND		ND	
71								
72	POST/SERVICE		NA		\$0.00	0.0%	1	0.0%
73								
74	SBA		NA		NA		NA	
75								
76	TVA		\$0.00	0.0%	\$0.00	0.0%	0	0.0%
77								
78	TRANSPORTATION							
79			FAA \$0.00	0.0%	\$0.00		0	0.0%
80			FHWA \$2100000.00	21.9%	\$0.00	0.0%	100 <sup>11</sup>	0.1%
81			FRA ND		\$0.00	0.0%	0	0.0%
82			UNTA \$0.00	0.0%	\$0.00	0.0%	0	0.0%
83								
84	VA		\$0.00	0.0%	\$0.00	0.0%	0	0.0%
85								
86	TOTALS		\$9580734.00		\$3417203.00		67322	
87								
88								
89								
90								
91								
92								
93								

TABLE A.6

Unanticipated Discoveries, FY 1985

1	2	3	4	5	6	7	8	9	
4	DEPARTMENTS	AGENCIES	DISCOVERIES		DISCOVERIES		DISCOVERIES		
5			OF		IN WHICH		SUBJECT TO		
6			UNANTICIPATED		SIGNIFICANT		DATA		
7			ARCHEOLOGICAL		ARCHEOLOGICAL		RECOVERY		
8			RESOURCES		RESOURCES		PURSUANT TO		
9			SUBSEQUENT		WERE		P.L. 93-291		
10			TO SEC. 106		IDENTIFIED				
11			COMPLIANCE						
12									
13									
14									
15									
16									
17	AGRICULTURE								
18		ASCS	0	0.0%	0	0.0%	0	0.0%	\$0.00
19		FHA	4	2.2%	2	1.9%	1	5.6%	\$0.00
20		FS	ND		ND		ND		ND
21		REA	0	0.0%	0	0.0%	0	0.0%	\$0.00
22		SCS	12	6.6%	2	1.9%	2	11.1%	\$2000.00
23									
24	COMMERCE								
25		ECON DEVEL	NA		NA		NA		NA
26		NOAA	NA		NA		NA		NA
27									
28	DEFENSE								
29		AIR FORCE	2	1.1%	2	1.9%	0	0.0%	\$0.00
30		ARMY	2	1.1%	2	1.9%	0	0.0%	\$0.00
31		ARMY COE	30	16.4%	10	9.4%	6	33.3%	\$41000.00
32		MARINES	0	0.0%	0	0.0%	0	0.0%	\$0.00
33		NAVY	0	0.0%	0	0.0%	0	0.0%	\$0.00
34									
35	EDUCATION		NA		NA		NA		NA
36									
37	ENERGY		10	5.5%	10	9.4%	0	0.0%	\$0.00
38		FERC	NA		NA		NA		NA
39									
40		EPA	6	3.3%	4	3.8%	0	0.0%	\$0.00
41									
42		FCC	NA		NA		NA		NA
43									
44		GSA	0	0.0%	0	0.0%	0	0.0%	\$0.00
45									
46		H&HS	3	1.6%	3	2.8%	0	0.0%	\$0.00
47									
48		HUD	NA		NA		NA		NA
49									
50	INTERIOR								
51		BIA	33	18.0%	17	16.0%	0	0.0%	\$0.00
52		BLM	52	28.4%	36	34.0%	1	5.6%	\$103500.00
53		BOR	11	6.0%	11	10.4%	5	27.8%	\$8500.00

TABLE A.6 (continued)

	1	2	3	4	5	6	7	8	9
54		FWS	0	0.0%	0	0.0%	0	0.0%	\$0.00
55		MMS	NA		NA		NA		NA
56		USGS	0	0.0%	0	0.0%	0	0.0%	\$0.00
57		NPS	7	3.8%	4	3.8%	3	16.7%	\$500.00
58		OSM	3	1.6%	0	0.0%	0	0.0%	\$0.00
59									
60		JUSTICE	0	0.0%	0	0.0%	0	0.0%	\$0.00
61									
62		LABOR	NA		NA		NA		NA
63									
64		NASA	0	0.0%	0	0.0%	0	0.0%	\$0.00
65									
66		NAT CAP PLAN	NA		NA		NA		NA
67									
68		NRC	0	0.0%	0	0.0%	0	0.0%	\$0.00
69									
70		PADC	NA		NA		NA		NA
71									
72		POST/SERVICE	1	0.5%	1	0.9%	0	0.0%	\$0.00
73									
74		SBA	NA		NA		NA		NA
75									
76		TVA	0	0.0%	0	0.0%	0	0.0%	\$0.00
77									
78		TRANSPORTATION							
79		FAA	5	2.7%	0	0.0%	0	0.0%	\$0.00
80		FHWA	2	1.1%	2	1.9%	0	0.0%	\$0.00
81		FRA	0	0.0%	0	0.0%	0	0.0%	\$0.00
82		UMTA	0	0.0%	0	0.0%	0	0.0%	\$0.00
83									
84		VA	0	0.0%	0	0.0%	0	0.0%	\$0.00
85									
86		TOTALS	183		106		18		\$155500.00
87									
88									
89									
90									
91		NA = NOT APPLICABLE							
92		ND = NO DATA							
93		85DISCOV							
94		8/28/87							

TABLE A.6 (continued)

	10	11	12	13	14	15	16	17	18
1	-----								
2	-----								
3	-----								
4	DEPARTMENTS	AGENCIES	COST OF		COST OF		DISCOVERIES		
5			DATA		DATA		SUBJECT TO		
6			RECOVERY		RECOVERY		DATA		
7			UNDER		BY THIRD		RECOVERY		
8			CONTRACT OR		PARTY		UNDER		
9			OTHER				OTHER		
10			AGREEMENT				AUTHORITY		
11	-----								
12	-----								
13	-----								
14	-----								
15	-----								
16	-----								
17	AGRICULTURE								
18		ASCS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
19		FmHA	0.0%	\$0.00	0.0%	\$68000.00	59.9%	0	0.0%
20		FS		ND		ND		ND	
21		REA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
22		SCS	1.3%	\$85000.00	33.6%	\$3000.00	2.6%	0	0.0%
23									
24	COMMERCE								
25		ECON DEVEL		NA		NA		NA	
26		NOAA		NA		NA		NA	
27									
28	DEFENSE								
29		AIR FORCE	0.0%	\$0.00	0.0%	\$0.00	0.0%	2	6.7%
30		ARMY	0.0%	\$0.00	0.0%	\$0.00	0.0%	1	3.3%
31		ARMY COE	26.4%	\$47000.00	18.6%	\$0.00	0.0%	0	0.0%
32		MARINES	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
33		NAVY	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
34									
35	EDUCATION			NA		NA		NA	
36									
37	ENERGY								
38		FERC	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
39				NA		NA		NA	
40		EPA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
41									
42		FCC		NA		NA		NA	
43									
44		GSA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
45									
46		H&HS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
47									
48		HUD		NA		NA		NA	
49									
50	INTERIOR								
51		BIA	0.0%	\$0.00	0.0%	\$42500.00	37.4%	0	0.0%
52		BLM	66.6%	\$0.00	0.0%	\$0.00	0.0%	23	76.7%
53		BOR	5.5%	\$121000.00	47.8%	\$0.00	0.0%	0	0.0%

TABLE A.6 (continued)

	10	11	12	13	14	15	16	17	18
54			FWS 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
55			MMS	NA		NA		NA	
56			USGS 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
57			NPS 0.3%	\$0.00	0.0%	\$0.00	0.0%	1	3.3%
58			OSM 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
59									
60		JUSTICE	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
61									
62		LABOR		NA		NA		NA	
63									
64		NASA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
65									
66		NAT CAP PLAN		NA		NA		NA	
67									
68		NRC	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
69									
70		PADC		NA		NA		NA	
71									
72		POST/SERVICE	0.0%	\$0.00	0.0%	\$0.00	0.0%	1	3.3%
73									
74		SBA		NA		NA		NA	
75									
76		TVA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
77									
78		TRANSPORTATION							
79			FAA 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
80			FHWA 0.0%	\$0.00	0.0%	\$0.00	0.0%	2	6.7%
81			FRA 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
82			UMTA 0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
83									
84		VA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
85									
86		TOTALS		\$253000.00		\$113500.00		30	
87									
88									
89									
90									
91									
92									
93									
94									

TABLE A.6 (continued)

	19	20	21	22	23	24	25	26	27
1									
2									
3	-----								
4	DEPARTMENTS	AGENCIES	COST OF		COST OF		COST OF		COMPENSATION
5			DISCOVERIES		DISCOVERIES		DISCOVERIES		BY AGENCY
6			SUBJECT TO		SUBJECT TO		SUBJECT TO		FOR DELAYS
7			DATA		DATA		DATA		IN PROJECT
8			RECOVERY		RECOVERY		RECOVERY		CONSTRUCTION
9			UNDER OTHER		UNDER OTHER		BY THIRD		NECESSITATED
10			AUTHORITY		AUTHORITY		PARTY		BY DATA
11			BY AGENCY		UNDER				RECOVERY
12					CONTRACT OR				
13					OTHER				
14					AGREEMENT				
15	-----								
16									
17	AGRICULTURE								
18		ASCS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
19		FmHA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
20		FS	ND		ND		ND		ND
21		REA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
22		SCS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
23									
24	COMMERCE								
25		ECON DEVEL	NA		NA		NA		NA
26		NOAA	NA		NA		NA		NA
27									
28	DEFENSE								
29		AIR FORCE	\$1800.00	1.0%	\$0.00	0.0%	\$0.00	0.0%	\$20000.00
30		ARMY	\$0.00	0.0%	\$100000.00	80.6%	\$0.00	0.0%	\$3000.00
31		ARMY CDE	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$5000.00
32		MARINES	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
33		NAVY	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
34									
35	EDUCATION		NA		NA		NA		NA
36									
37	ENERGY		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
38		FERC	NA		NA		NA		NA
39									
40	EPA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	NA
41									
42	FCC		NA		NA		NA		NA
43									
44	GSA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
45									
46	H&HS		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
47									
48	HUD		NA		NA		NA		NA
49									
50	INTERIOR								
51		BIA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
52		BLM	\$2900.00	1.6%	\$0.00	0.0%	\$45000.00	100.0%	\$0.00
53		BDR	\$2775.00	1.5%	\$0.00	0.0%	\$0.00	0.0%	\$0.00

TABLE A.6 (continued)

	19	20	21	22	23	24	25	26	27	
54			FWS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
55			MMS	NA		NA		NA		NA
56			USGS	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
57			NPS	\$2600.00	1.4%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
58			OSM	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
59										
60		JUSTICE		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
61										
62		LABOR		NA		NA		NA		NA
63										
64		NASA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
65										
66		NAT CAP PLAN		NA		NA		NA		NA
67										
68		NRC		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
69										
70		PADC		NA		NA		NA		NA
71										
72		POST/SERVICE		\$100000.00	53.7%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
73										
74		SBA		NA		NA		NA		NA
75										
76		TVA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
77										
78		TRANSPORTATION								
79			FAA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
80			FHWA	\$76000.00	40.8%	\$24000.00	19.4%	\$0.00	0.0%	\$140000.00
81			FRA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
82			UMTA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
83										
84		VA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
85										
86		TOTALS		\$186075.00		\$124000.00		\$45000.00		\$168000.00
87										
88										
89										
90										
91										
92										
93										
94										

TABLE A.6 (continued)

	28	29	30
1			
2			
3	-----		
4	DEPARTMENTS	AGENCIES	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15	-----		
16			
17	AGRICULTURE		
18		ASCS	0.0%
19		FmHA	0.0%
20		FS	
21		REA	0.0%
22		SCS	0.0%
23			
24	COMMERCE		
25		ECON DEVEL	
26		NOAA	
27			
28	DEFENSE		
29		AIR FORCE	11.9%
30		ARMY	1.8%
31		ARMY COE	3.0%
32		MARINES	0.0%
33		NAVY	0.0%
34			
35	EDUCATION		
36			
37	ENERGY		0.0%
38		FERC	
39			
40	EPA		
41			
42	FCC		
43			
44	BSA		0.0%
45			
46	H&HS		0.0%
47			
48	HUD		
49			
50	INTERIOR		
51		BIA	0.0%
52		BLM	0.0%
53		BOR	0.0%

TABLE A.6 (continued)

	28	29	30	
54			FWS	0.0%
55			MMS	
56			USGS	0.0%
57			NPS	0.0%
58			OSM	0.0%
59				
60	JUSTICE			0.0%
61				
62	LABOR			
63				
64	NASA			0.0%
65				
66	NAT CAP PLAN			
67				
68	NRC			0.0%
69				
70	PADC			
71				
72	POST/SERVICE			0.0%
73				
74	SBA			
75				
76	TVA			0.0%
77				
78	TRANSPORTATION			
79			FAA	0.0%
80			FHWA	83.3%
81			FRA	0.0%
82			UMTA	0.0%
83				
84	VA			0.0%
85	-----			
86	TOTALS			
87				
88				
89				
90				
91				
92				
93				
94				

**TABLE A.7**  
**Permitting, FY 1986**

1	2	3	4	5	6	7	8	9
2								
3								
4	DEPARTMENTS	AGENCIES	PERMITS		PERMITS		PERMITS	
5			ISSUED OR		ISSUED		ISSUED	
6			IN EFFECT		UNDER		UNDER	
7			DURING FY 86		ARPA		ANTIQUITIES	UNDER OTHER
8							ACT	AGENCY
9								AUTHORITY
10	=====							
11								
12	AGRICULTURE							
13		ASCS	0	0.0%	0	0.0%	0	0.0%
14		FmHA	NA		NA		NA	NA
15		FS	141	17.1%	65	18.7%	35	71.4%
16		REA	NA		NA		NA	NA
17		SCS	NA		NA		NA	NA
18								
19	COMMERCE							
20		ECON DEVEL	NA		NA		NA	NA
21		NOAA	3	0.4%	0	0.0%	0	0.0%
22								
23	DEFENSE							
24		AIR FORCE	2	0.2%	2	0.6%	0	0.0%
25		ARMY	11	1.3%	2	0.6%	5	10.2%
26		COE	12	1.5%	7	2.0%	0	0.0%
27		MARINES	0	0.0%	0	0.0%	0	0.0%
28		NAVY <sup>2</sup>	1	0.1%	1	0.3%	0	0.0%
29								
30	EDUCATION		NA		NA		NA	NA
31								
32	ENERGY		NA		NA		NA	NA
33		FERC	NA		NA		NA	NA
34								
35	EPA		NA		NA		NA	NA
36								
37	FCC		ND		ND		ND	ND
38								
39	GSA		0	0.0%	0	0.0%	0	0.0%
40								
41	H&HS <sup>3</sup>		1	0.1%	0	0.0%	0	0.0%
42								
43	HUD		NA		NA		NA	NA
44								
45	INTERIOR							
46		BIA	176	21.4%	53	15.2%	3	6.1%
47		BLM	398	48.4%	173	49.7%	0	0.0%
48		BOR	15	1.8%	12	3.4%	2	4.1%
49		FWS	34	4.1%	16	4.6%	1	2.0%
50		MMS	NA		NA		NA	NA
51		USGS	0	0.0%	0	0.0%	0	0.0%
52		NPS	20	2.4%	12	3.4%	1	2.0%
53		OSM	NA		NA		NA	NA

TABLE A.7 (Continued)

	1	2	3	4	5	6	7	8	9
54									
55	JUSTICE		2	0.2%	0		2	4.1%	0
56									
57	LABOR		NA		NA		NA		NA
58									
59	NASA		0	0.0%	0	0.0%	0	0.0%	0
60									
61	NAT CAP PLAN		NA		NA		NA		NA
62									
63	NRC		NA		NA		NA		NA
64									
65	PADC		ND		ND		ND		ND
66									
67	POSTAL SERVICE		0	0.0%	0	0.0%	0	0.0%	0
68									
69	SBA		0	0.0%	0	0.0%	0	0.0%	0
70									
71	TVA		3	0.4%	3	0.9%	0	0.0%	0
72									
73	TRANSPORTATION								
74		FAA	0	0.0%	0	0.0%	0	0.0%	0
75		FHWA	NA		NA		NA		NA
76		FRA	ND		ND		ND		ND
77		UMTA	NA		NA		NA		NA
78									
79	VA		4	0.5%	2	0.6%	0	0.0%	2
80									
81									
82	TOTALS		823		348		49		467
83									
84									
85		NA = NOT APPLICABLE							
86		ND = NO DATA							
87		B6PERMIT							
88		9/24/87							

TABLE A.7 (continued)

	10	11	12	13	14	15	16	17	18
	DEPARTMENTS	AGENCIES	% OF FIELD-CHECKED PERMITTEES	COMPLIANCE RELATED PERMITS	RESEARCH RELATED PERMITS	NON-PERMIT ACTIVITIES COMPLYING WITH ARPA			
11	AGRICULTURE								
13		ASCS	0.0%	0	0	0.0%	0	0.0%	0
14		FmHA		NA	NA		NA		NA
15		FS	16.9%	54	101	14.3%	7	8.2%	559
16		REA		NA	NA		NA		NA
17		SCS		NA	NA		NA		NA
19	COMMERCE								
20		ECON DEVEL		NA	NA		NA		NA
21		NOAA	0.6%	100	0	0.0%	3	3.5%	0
23	DEFENSE								
24		AIR FORCE	0.0%	100	1	0.1%	0	0.0%	58
25		ARMY	1.3%	100	12	1.7%	1	1.2%	20
26		COE	1.1%	87	2	0.3%	6	7.1%	394
27		MARINES	0.0%	0	0	0.0%	0	0.0%	0
28		NAVY	0.0%	0	0	0.0%	0	0.0%	3
30	EDUCATION			NA	NA		NA		NA
32	ENERGY			NA	NA		NA		NA
33		FERC		NA	NA		NA		NA
35	EPA			NA	NA		NA		NA
37	FCC			ND	ND		ND		ND
39	BSA		0.0%	0	3	0.4%	0	0.0%	0
41	H&HS		0.2%	100	1	0.1%	0	0.0%	2
43	HUD			NA	NA		NA		NA
45	INTERIOR								
46		BIA	25.7%	26	163	23.2%	13	15.3%	493
47		BLM	48.2%	54	376	53.4%	22	25.9%	616
48		BOR	0.2%	0-100	12	1.7%	2	2.4%	90
49		FWS	3.6%	50	20	2.8%	14	16.5%	59
50		MMS		NA	NA		NA		NA
51		USGS	0.0%	0	0	0.0%	0	0.0%	0
52		NPS	1.7%	60 <sup>4</sup>	4	0.6%	16	18.8%	289
53		OSM		NA	NA		NA		NA

TABLE A.7 (continued)

	10	11	12	13	14	15	16	17	18
54									
55	JUSTICE		0.0%	100	3	0.4%	0	0.0%	0
56									
57	LABOR			NA	NA		NA		NA
58									
59	NASA		0.0%	0	0	0.0%	0	0.0%	0
60									
61	NAT CAP PLAN			NA	NA		NA		NA
62									
63	NRC			NA	NA		NA		NA
64									
65	PADC			ND	ND		ND		ND
66									
67	POSTAL SERVICE		0.0%	0	0	0.0%	0	0.0%	0
68									
69	SBA		0.0%	0	0	0.0%	0	0.0%	0
70									
71	TVA		0.0%	66	3	0.4%	0	0.0%	22
72									
73	TRANSPORTATION								
74		FAA	0.0%	0	0	0.0%	0	0.0%	0
75		FHWA		NA	NA		NA		NA
76		FRA		ND	ND		ND		ND
77		UMTA		NA	NA		NA		NA
78									
79	VA		0.4%	50	3	0.4%	1	1.2%	1
80									
81									
82	TOTALS				704		85		2606
83									
84									
85									
86									
87									
88									

TABLE A.7 (continued)

	19	20	21	22	23	24	25	26	27
1									
2									
3	-----								
4	DEPARTMENTS	AGENCIES	NON-PERMIT		NON-PERMIT		PERMIT		
5			ACTIVITIES		ACTIVITIES		APPLICATIONS		
6			CONDUCTED		CONDUCTED BY		RECEIVED		
7			BY AGENCY		CONTRACTORS		ALL TYPES		
8	-----								
9									
10	-----								
11									
12	AGRICULTURE								
13		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
14		FaHA		NA		NA		NA	
15		FS	21.5%	456	21.6%	80	16.7%	84	13.2%
16		REA		NA		NA		NA	
17		SCS		NA		NA		NA	
18									
19	COMMERCE								
20		ECON DEVEL		NA		NA		NA	
21		NOAA	0.0%	0	0.0%	0	0.0%	5	0.8%
22									
23	DEFENSE								
24		AIR FORCE	2.2%	24	1.1%	34	7.1%	2	0.3%
25		ARMY	0.8%	7	0.3%	15	3.1%	1	0.2%
26		COE	15.1%	229	10.9%	165	34.4%	10	1.6%
27		MARINES	0.0%	0	0.0%	0	0.0%	0	0.0%
28		NAVY	0.1%	0	0.0%	3	0.6%	1	0.2%
29									
30	EDUCATION								
31				NA		NA		NA	
32	ENERGY								
33		FERC		NA		NA		NA	
34									
35	EPA								
36				NA		NA		NA	
37	FCC								
38				ND		ND		ND	
39	GSA								
40			0.0%	0	0.0%	0		0	0.0%
41	H&HS								
42			0.1%	0	0.0%	2	0.4%	1	0.2%
43	HUD								
44				NA		NA		NA	
45	INTERIOR								
46		BIA	18.9%	476 <sup>5</sup>	22.6%	19	4.0%	134	21.1%
47		BLM	23.6%	597	28.3%	19	4.0%	334	52.6%
48		BOR	3.5%	44	2.1%	46	9.6%	9	1.4%
49		FWS	2.3%	34	1.6%	25	5.2%	31	4.9%
50		MMS		NA		NA		NA	
51		USGS	0.0%	0	0.0%	0	0.0%	0	0.0%
52		NPS	11.1%	228	10.8%	61	12.7%	18	2.8%
53		OSM		NA		NA		NA	

TABLE A.7 (continued)

	19	20	21	22	23	24	25	26	27
54									
55	JUSTICE		0.0%	0	0.0%	3	0.6%	0	0.0%
56									
57	LABOR			NA		NA		NA	
58									
59	NASA		0.0%	0	0.0%	0	0.0%	0	0.0%
60									
61	NAT CAP PLAN			NA		NA		NA	
62									
63	NRC			NA		NA		NA	
64									
65	PADC			ND		ND		ND	
66									
67	POSTAL SERVICE		0.0%	0	0.0%	0	0.0%	0	0.0%
68									
69	SBA		0.0%	0	0.0%	0	0.0%	0	0.0%
70									
71	TVA		0.8%	14	0.7%	8	1.7%	3	0.5%
72									
73	TRANSPORTATION								
74		FAA	0.0%	0	0.0%	0	0.0%	0	0.0%
75		FHWA		NA		NA		NA	
76		FRA		ND		ND		ND	
77		UMTA		NA		NA		NA	
78									
79	VA		0.0%	1	0.0%	0 <sup>6</sup>	0.0%	2	0.3%
80									
81									
82	TOTALS			2110		480		635	
83									
84									
85									
86									
87									
88									

TABLE A.7 (continued)

	28	29	30	31	32	33	34	35	36
1									
2									
3	-----								
4	DEPARTMENTS	AGENCIES	PERMIT		PERMITS		APPEALS OF		NOTIFICATIONS
5			APPLICATIONS		SUSPENDED		DENIAL OR		TO INDIAN
6			DENIED				SUSPENSION		TRIBES OF
7			ALL TYPES						ARPA PERMIT
8									APPLICATIONS
9									UNDER SEC. 4C
10	-----								
11									
12	AGRICULTURE								
13		ASCS	0	0.0%	0	0.0%	0	0.0%	0
14		FmHA	NA		NA		NA		NA
15		FS	0	0.0%	0	0.0%	0	0.0%	36
16		REA	NA		NA		NA		NA
17		SCS	NA		NA		NA		NA
18									
19	COMMERCE								
20		ECON DEVEL	NA		NA		NA		NA
21		NOAA	2	20.0%	0	0.0%	0	0.0%	0
22									
23	DEFENSE								
24		AIR FORCE	0	0.0%	0	0.0%	0	0.0%	1
25		ARMY	ND		16	84.2%	ND		0
26		CDE	0	0.0%	0	0.0%	0	0.0%	1
27		MARINES	0	0.0%	0	0.0%	0	0.0%	0
28		NAVY	0	0.0%	0	0.0%	0	0.0%	0
29									
30	EDUCATION		NA		NA		NA		NA
31									
32	ENERGY		NA		NA		NA		NA
33		FERC	NA		NA		NA		NA
34									
35	EPA		NA		NA		NA		NA
36									
37	FCC		ND		ND		ND		ND
38									
39	GSA		0	0.0%	0	0.0%	0	0.0%	0
40									
41	H&HS		0	0.0%	0	0.0%	0	0.0%	0
42									
43	HUD		NA		NA		NA		NA
44									
45	INTERIOR								
46		BIA	1	10.0%	1	5.3%	1	33.3%	24
47		BLM	5	50.0%	2	10.5%	2	66.7%	73
48		BOR	0	0.0%	0	0.0%	0	0.0%	2
49		FWS	2	20.0%	0	0.0%	0	0.0%	4
50		MMS	NA		NA		NA		NA
51		USGS	0	0.0%	0	0.0%	0	0.0%	0
52		NFS	0	0.0%	0	0.0%	0	0.0%	3
53		OSM	NA		NA		NA		NA

TABLE A.7 (continued)

	28	29	30	31	32	33	34	35	36
54									
55	JUSTICE		0	0.0%	0	0.0%	0	0.0%	1
56									
57	LABOR		NA		NA		NA		NA
58									
59	NASA		0	0.0%	0	0.0%	0	0.0%	0
60									
61	NAT CAP PLAN		NA		NA		NA		NA
62									
63	NRC		NA		NA		NA		0
64									
65	PADC		ND		ND		ND		ND
66									
67	POSTAL SERVICE		0	0.0%	0	0.0%	0	0.0%	0
68									
69	SBA		0	0.0%	0	0.0%	0	0.0%	0
70									
71	TVA		0	0.0%	0	0.0%	0	0.0%	0
72									
73	TRANSPORTATION								
74		FAA	0	0.0%	0	0.0%	0	0.0%	0
75		FHWA	NA		NA		NA		NA
76		FRA	ND		ND		ND		ND
77		UMTA	NA		NA		NA		NA
78									
79	VA		0	0.0%	0	0.0%	0	0.0%	0
80									
81									
82	TOTALS		10		19		3		145
83									
84									
85									
86									
87									
88									

TABLE A.7 (continued)

	37	38	39	40	41
1					
2					
3	=====				
4	DEPARTMENTS	AGENCIES		NOTIFICATIONS	
5				TO INDIAN	
6				TRIBES OF	
7				OF NON-PERMIT	
8				ACTIVITIES	
9					
10	=====				
11					
12	AGRICULTURE				
13		ASDS	0.0%	0	0.0%
14		FmHA		NA	
15		FS	24.8%	102	16.5%
16		REA		NA	
17		SCS		NA	
18					
19	COMMERCE				
20		ECON DEVEL		NA	
21		NOAA	0.0%	0	0.0%
22					
23	DEFENSE				
24		AIR FORCE	0.7%	1	0.2%
25		ARMY	0.0%	5	0.8%
26		COE	0.7%	42	6.8%
27		MARINES	0.0%	0	0.0%
28		NAVY	0.0%	0	0.0%
29					
30	EDUCATION			NA	
31					
32	ENERGY			NA	
33		FERC		NA	
34					
35	EPA			NA	
36					
37	FCC			ND	
38					
39	GSA		0.0%	0	0.0%
40					
41	H&HS		0.0%	1	0.2%
42					
43	HUD			NA	
44					
45	INTERIOR				
46		BIA	16.6%	430	69.7%
47		BLM	50.3%	30	4.9%
48		BDR	1.4%	1	0.2%
49		FWS	2.8%	1	0.2%
50		MMS		NA	
51		USGS	0.0%	0	0.0%
52		NPS	2.1%	3	0.5%
53		OSM		NA	

TABLE A.7 (continued)

	37	38	39	40	41
54					
55	JUSTICE		0.7%	0	0.0%
56					
57	LABOR			NA	
58					
59	NASA		0.0%	0	0.0%
60					
61	NAT CAP PLAN			NA	
62					
63	NRC		0.0%	0	0.0%
64					
65	PADC			ND	
66					
67	POSTAL SERVICE		0.0%	0	0.0%
68					
69	SBA		0.0%	0	0.0%
70					
71	TVA		0.0%	1	0.2%
72					
73	TRANSPORTATION				
74		FAA	0.0%	0	0.0%
75		FHWA		NA	
76		FRA		ND	
77		UMTA		NA	
78					
79	VA		0.0%	0	0.0%
80					
81	-----				
82	TOTALS			617	
83					
84					
85					
86					
87					
88					

**TABLE A.8**  
**Enforcement, FY 1986**

1	2	3	4	5	6	7	8	9
1								
2								
3	=====							
4	DEPARTMENTS	AGENCIES	DOCUMENTED		ARRESTS MADE		CITATIONS	PROSECUTIONS
5			VIOLATION		FOR		ISSUED FOR	IN CASES OF
6			OF ARPA,		VANDALISM		VANDALISM	VANDALISM
7			ANTIQUITIES		OR LOOTING		OR LOOTING	OR LOOTING
8			ACT OR OTHER					
9			STATUTES					
10								
11	=====							
12								
13								
14	AGRICULTURE							
15		AS&CS	0	0.0%	0	0.0%	0	0.0%
16		FHA	NA		NA		NA	NA
17		FS	86	13.7%	0	0.0%	13	35.1%
18		REA	NA		NA		NA	NA
19		SCS	NA		NA		NA	NA
20								
21	COMMERCE							
22		ECON DEVEL	NA		NA		NA	NA
23		NOAA	0	0.0%	0	0.0%	0	0.0%
24								
25	DEFENSE							
26		AIR FORCE	1	0.2%	0	0.0%	0	0.0%
27		ARMY	6	1.0%	2	33.3%	2	5.4%
28		COE	45	7.2%	0	0.0%	2	5.4%
29		MARINES	0	0.0%	0	0.0%	0	0.0%
30		NAVY <sup>1</sup>	0	0.0%	0	0.0%	0	0.0%
31								
32	EDUCATION		NA		NA		NA	NA
33								
34	ENERGY		NA		NA		NA	NA
35		FERC	NA		NA		NA	NA
36								
37	EPA		NA		NA		NA	NA
38								
39	FCC		ND		ND		ND	ND
40								
41	GSA		0	0.0%	0	0.0%	0	0.0%
42								
43	H&HS <sup>2</sup>		0	0.0%	0	0.0%	0	0.0%
44								
45	HUD		NA		NA		NA	NA
46								
47	INTERIOR							
48		BIA	39	6.2%	1	16.7%	0	0.0%
49		BLM	349	55.7%	2	33.3%	6	16.2%
50		BOR	3	0.5%	0	0.0%	0	0.0%
51		FWS	11	1.8%	0	0.0%	0	0.0%
52		MMS	NA		NA		NA	NA
53		USGS	0	0.0%	0	0.0%	0	0.0%

TABLE A.8 (continued)

	1	2	3	4	5	6	7	8	9	
54		NPS	67 <sup>3</sup>	10.7%		1	16.7%	14	37.8%	6
55		OSM	NA			NA		NA		NA
56										
57		JUSTICE	0	0.0%		0	0.0%	0	0.0%	0
58										
59		LABOR	NA			NA		NA		NA
60										
61		NASA	0	0.0%		0	0.0%	0	0.0%	0
62										
63		NAT CAP PLAN.	NA			NA		NA		NA
64										
65		NRC	NA			NA		NA		NA
66										
67		PADC	ND			ND		ND		ND
68										
69		POSTAL SERVICE	0			0	0.0%	0	0.0%	0
70										
71		SBA	0	0.0%		0	0.0%	0	0.0%	0
72										
73		TVA	20	3.2%		0	0.0%	0	0.0%	2
74										
75		TRANSPORTATION								
76		FAA	0	0.0%		0	0.0%	0	0.0%	0
77		FHWA	NA			NA		NA		NA
78		FRA	ND			ND		ND		ND
79		UMTA	NA			NA		NA		NA
80										
81										
82		VA	0	0.0%		0	0.0%	0	0.0%	0
83										
84										
85		TOTALS	627			6		37		31

NA = NOT APPLICABLE  
 ND = NO DATA  
 86ENFORC  
 9/27/87

TABLE A.8 (continued)

	10	11	12	13	14	15	16	17	18
	DEPARTMENTS	AGENCIES	CONVICTIONS UNDER APRA		MISDEMEANOR CONVICTIONS UNDER APRA		FELONY CONVICTIONS UNDER ARPA		
14	AGRICULTURE								
15		AS&CS	0.0%	0	0.0%	0	0.0%	0	0.0%
16		FHA		NA		NA		NA	
17		FS	38.7%	1	11.1%	1	14.3%	0	0.0%
18		REA		NA		NA		NA	
19		SCS		NA		NA		NA	
21	COMMERCE								
22		ECON DEVEL		NA		NA		NA	
23		NOAA	0.0%	0	0.0%	0	0.0%	0	0.0%
25	DEFENSE								
26		AIR FORCE	0.0%	0	0.0%	0	0.0%	0	0.0%
27		ARMY	6.5%	2	22.2%	0	0.0%	2	100.0%
28		COE	0.0%	0	0.0%	0	0.0%	0	0.0%
29		MARINES	0.0%	0	0.0%	0	0.0%	0	0.0%
30		NAVY	0.0%	0	0.0%	0	0.0%	0	0.0%
32	EDUCATION			NA		NA		NA	
34	ENERGY			NA		NA		NA	
35		FERC		NA		NA		NA	
37	EPA			NA		NA		NA	
39	FCC			ND		ND		ND	
41	GSA		0.0%	0	0.0%	0	0.0%	0	0.0%
43	H&HS		0.0%	0	0.0%	0	0.0%	0	0.0%
45	HUD			NA		NA		NA	
47	INTERIOR								
48		BIA	0.0%	0	0.0%	0	0.0%	0	0.0%
49		BLM	29.0%	4	44.4%	4	57.1%	0	0.0%
50		BOR	0.0%	0	0.0%	0	0.0%	0	0.0%
51		FWS	0.0%	0	0.0%	0	0.0%	0	0.0%
52		MMS		NA		NA		NA	
53		USGS	0.0%	0	0.0%	0	0.0%	0	0.0%

TABLE A.8 (continued)

	10	11	12	13	14	15	16	17	18	
54			NPS	19.4%	0	0.0%	0	0.0%	0	0.0%
55			DSM		NA		NA		NA	
56										
57	JUSTICE			0.0%	0	0.0%	0	0.0%	0	0.0%
58										
59	LABOR				NA		NA		NA	
60										
61	NASA			0.0%	0	0.0%	0	0.0%	0	0.0%
62										
63	NAT CAP PLAN.				NA		NA		NA	
64										
65	NRC				NA		NA		NA	
66										
67	FADC				ND		ND		ND	
68										
69	POSTAL SERVICE			0.0%	0	0.0%	0	0.0%	0	0.0%
70										
71	SBA			0.0%	0	0.0%	0	0.0%	0	0.0%
72										
73	TVA			6.5%	2	22.2%	2	28.6%	0	0.0%
74										
75	TRANSPORTATION									
76			FAA	0.0%	0	0.0%	0	0.0%	0	0.0%
77			FHWA		NA		NA		NA	
78			FRA		ND		ND		ND	
79			UNTA		NA		NA		NA	
80										
81										
82	VA			0.0%	0	0.0%	0	0.0%	0	0.0%
83										
84										
85	TOTALS				9		7		2	
86										
87										
88										
89										
90										
91										

TABLE A.8 (continued)

19	20	21	22	23	24	25	26	27
DEPARTMENTS	AGENCIES	SECOND ARPA OFFENSES	PROSECUTIONS UNDER AUTHORITIES OTHER THAN ARPA		AMOUNT COLLECTED IN CRIMINAL FINES		CIVIL PENALTIES UNDER ARPA SEC. 7	
14	AGRICULTURE							
15		AS&CS	0	0	0.0%	\$0.00	0.0%	0 0.0%
16		FHA	NA	NA		NA	NA	
17		FS	0	11	36.7%	\$550.00	4.2%	1 25.0%
18		REA	NA	NA		NA	NA	
19		SCS	NA	NA		NA	NA	
21	COMMERCE							
22		ECON DEVEL	NA	NA		NA	NA	
23		NOAA	0	0	0.0%	\$0.00	0.0%	0 0.0%
25	DEFENSE							
26		AIR FORCE	0	0	0.0%	\$0.00	0.0%	0 0.0%
27		ARMY	0	2	6.7%	\$300.00	2.3%	ND
28		CDE	0	2	6.7%	\$2300.00	17.7%	0 0.0%
29		MARINES	0	0	0.0%	\$0.00	0.0%	0 0.0%
30		NAVY	0	0	0.0%	\$0.00	0.0%	0 0.0%
32	EDUCATION		NA	NA		NA	NA	
34	ENERGY		NA	NA		NA	NA	
35		FERC	NA	NA		NA	NA	
37	EPA		NA	NA		NA	NA	
39	FCC		ND	ND		ND	ND	
41	GSA		0	0	0.0%	\$0.00	0.0%	0 0.0%
43	H&HS		0	0	0.0%	\$0.00	0.0%	0 0.0%
45	HUD		NA	NA		NA	NA	
47	INTERIOR							
48		BIA	0	1	3.3%	\$0.00	0.0%	0 0.0%
49		BLM	0	7	23.3%	\$7846.00	60.2%	3 75.0%
50		BOR	0	0	0.0%	\$0.00	0.0%	0 0.0%
51		FWS	0	2	6.7%	\$0.00	0.0%	0 0.0%
52		MMS	NA	NA		NA	NA	
53		USGS	0	0	0.0%	\$0.00	0.0%	0 0.0%

TABLE A.8 (continued)

	19	20	21	22	23	24	25	26	27	
54			NPS	0	5	16.7%	\$2035.00	15.6%	0	0.0%
55			DSM	NA	NA		NA		NA	
56										
57	JUSTICE			0	0	0.0%	\$0.00	0.0%	0	0.0%
58										
59	LABOR			NA	NA		NA		NA	
60										
61	NASA			0	0	0.0%	\$0.00	0.0%	0	0.0%
62										
63	NAT CAP PLAN.			NA	NA		NA		NA	
64										
65	NRC			NA	NA		NA		NA	
66										
67	PADC			ND	ND		ND		ND	
68										
69	POSTAL SERVICE			0	0	0.0%	\$0.00	0.0%	0	0.0%
70										
71	SRA			0	0	0.0%	\$0.00	0.0%	0	0.0%
72										
73	TVA			0	0	0.0%	ND		0	0.0%
74										
75	TRANSPORTATION									
76			FAA	0	0	0.0%	\$0.00	0.0%	0	0.0%
77			FHWA	NA	NA		NA		NA	
78			FRA	ND	ND		ND		ND	
79			UMTA	NA	NA		NA		NA	
80										
81										
82	VA			0	0	0.0%	\$0.00	0.0%	0	0.0%
83										
84	-----									
85	TOTALS			0	30		\$13051.00		4	
86										
87										
88										
89										
90										
91										

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DEPARTMENTS	AGENCIES	AMOUNT COLLECTED IN CIVIL PENALTIES			COSTS FOR RESTORING ARCHEOLOGICAL RESOURCES UNDER APRA OR OTHER AUTHORITY		REWARDS GIVEN UNDER APRA SEC. 8		COMMERCIAL VALUE OF ARTIFACTS SEIZED AND RETAINED BY GOVERNMENT
AGRICULTURE	AS&CS	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	FHA	NA			NA		NA		NA
	FS	\$500.00	18.0%		\$101700.00	81.3%	\$200.00	100.0%	\$400.00
	REA	NA			NA		NA		NA
	SCS	NA			NA		NA		NA
COMMERCE	ECON DEVEL	NA			NA		NA		NA
	NOAA	\$0.00	0.0%		ND		ND		ND
DENFENSE	AIR FORCE	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	ARMY	ND			ND		ND		ND
	COE	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$100.00
	MARINES	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	NAVY	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
EDUCATION		NA			NA		NA		NA
ENERGY	FERC	NA			NA		NA		NA
EPA		NA			NA		NA		NA
FCC		ND			ND		ND		ND
GSA		\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
H&HS		\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
HUD		NA			NA		NA		NA
INTERIOR	BIA	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	BLM	\$2175.00	78.4%		\$22928.00	18.3%	\$0.00	0.0%	\$89344.00
	BOR	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	FWS	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00
	MMS	NA			NA		NA		NA
	USGS	\$0.00	0.0%		\$0.00	0.0%	\$0.00	0.0%	\$0.00

TABLE A.8 (continued)

	28	29	30	31	32	33	34	35	36	
54			NPS	\$100.00	3.6%	\$431.00	0.3%	\$0.00	0.0%	\$200.00
55			OSM	NA		NA		NA		NA
56										
57		JUSTICE		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
58										
59		LABOR		NA		NA		NA		NA
60										
61		NASA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
62										
63		NAT CAP PLAN.		NA		NA		NA		NA
64										
65		NRC		NA		NA		NA		NA
66										
67		PADC		ND		ND		ND		ND
68										
69		POSTAL SERVICE		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
70										
71		SBA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
72										
73		TVA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
74										
75		TRANSPORTATION								
76			FAA	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
77			FHWA	NA		NA		NA		NA
78			FRA	ND		ND		ND		ND
79			UMTA	NA		NA		NA		NA
80										
81										
82		VA		\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
83										
84										
85		TOTALS		\$2775.00		\$125059.00		\$200.00		\$90044.00
86										
87										
88										
89										
90										
91										

TABLE A.8 (continued)

	37	38	39	40	41	42	43	44
	DEPARTMENTS	AGENCIES		COMMERCIAL VALUE OF PROPERTY SEIZED AND RETAINED BY GOVERNMENT		COST OF LAW ENFORCEMENT FOR ARCH- EOLOGICAL RESOURCE PROTECTION		OVERALL % COST OF ARPA AND ANTIQUITIES ACT LAW ENFORCEMENT FOR AGENCY
14	AGRICULTURE							
15		AS&CS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
16		FHA		NA		NA		NA
17		FS	0.4%	\$0.00	0.0%	\$32058.00	3.3%	10%
18		REA		NA		NA		NA
19		SCS		NA		NA		NA
21	COMMERCE							
22		ECON DEVEL		NA		NA		NA
23		NOAA		ND		\$0.00	0.0%	0
25	DEFENSE							
26		AIR FORCE	0.0%	\$0.00	0.0%	\$25000.00	2.6%	1%
27		ARMY		ND		\$30500.00	3.2%	9%
28		CDE	0.1%	\$0.00	0.0%	\$35000.00	3.6%	1%
29		MARINES	0.0%	\$0.00	0.0%	\$0.00	0.0%	0
30		NAVY	0.0%	\$0.00	0.0%	NA		NA
32	EDUCATION			NA		NA		NA
34	ENERGY			NA		NA		NA
35		FERC		NA		NA		NA
37	EPA			NA		NA		NA
39	FCC			ND		ND		ND
41	GSA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
43	H&HS		0.0%	\$0.00	0.0%	\$0.00	0.0%	0%
45	HUD			NA		NA		NA
47	INTERIOR							
48		BIA	0.0%	\$0.00	0.0%	\$18000.00	1.9%	1%
49		BLM	99.2%	\$360.00		\$153950.00	16.0%	7-10%
50		BDR	0.0%	\$0.00		\$0.00	0.0%	0
51		FWS	0.0%	\$0.00	0.0%	\$8200.00	0.9%	1%
52		MMS		NA		NA		NA
53		USGS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0

TABLE A.8 (continued)

	37	38	39	40	41	42	43	44
54			NPS	\$30000.00	98.8%	\$639300.00	66.6%	4.7%
55			OSM	NA		NA		NA
56								
57	JUSTICE		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
58								
59	LABOR			NA		NA		NA
60								
61	NASA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
62								
63	NAT CAP PLAN.			NA		NA		NA
64								
65	NRC			NA		NA		NA
66								
67	PADC			ND		ND		ND
68								
69	POSTAL SERVICE		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
70								
71	SBA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
72								
73	TVA		0.0%	\$0.00	0.0%	\$17500.00	1.8%	1%
74								
75	TRANSPORTATION							
76			FAA	0.0%	\$0.00	0.0%	\$0.00	0.0%
77			FHWA		NA		NA	NA
78			FRA		ND		ND	ND
79			UMTA		NA		NA	NA
80								
81								
82	VA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0
83								
84								
85	TOTALS			\$30360.00		\$959508.00		
86								
87								
88								
89								
90								
91								

**TABLE A.9**  
**Education, FY 1986**

	1	2	3	4	5	6	7	8
	DEPARTMENTS	AGENCIES	LAW ENFORC PERSONNEL FLETC OR OTHER 40 HR COURSE	% LAW ENFORC PERSONNEL FLETC OR OTHER 40 HR COURSE	CULTURAL RESOURCE PERSONNEL FLETC OR OTHER 40 COURSE	% OF CULTURAL RESOURCE PERSONNEL FLETC OR OTHER 40 HR COURSE	OTHER PERSONNEL FLETC OR OTHER 40 HR COURSE	% OF OTHER PERSONNEL FLETC OR OTHER 40 HR COURSE
12	AGRICULTURE							
14		AS&CS	0	0.0%	0	0.0%	0	0.0%
15		FHA	NA	NA	NA	NA	NA	NA
16		FS	7	ND	10	ND	1	ND
17		REA	0	0.0%	0	0.0%	0	0.0%
18		SCS	ND	ND	ND	ND	ND	ND
20	COMMERCE							
21		ECON DEVEL	NA	NA	NA	NA	NA	NA
22		NDAA	0	0.0%	0	0.0%	0	0.0%
25	DEFENSE							
26		AIR FORCE	0	0.0%	0	0.0%	0	0.0%
27		ARMY	ND	ND	ND	ND	ND	ND
28		COE	NA	NA	2	3.0%	1	0.3%
29		MARINES	ND	ND	ND	ND	ND	ND
30		NAVY <sup>1</sup>	NA	NA	0	0.0%	0	0.0%
32	EDUCATION							
34	ENERGY							
36		FERC	NA	NA	NA	NA	NA	NA
38		EPA	NA	NA	NA	NA	NA	NA
40		FCC	ND	ND	ND	ND	ND	ND
42		GSA	0	0.0%	0	0.0%	0	0.0%
44		H&HS <sup>2</sup>	0	0.0%	0	0.0%	0	0.0%
46		HUD	NA	NA	NA	NA	NA	NA
48	INTERIOR							
49		BIA	29	ND <sup>3</sup>	2	17.0%	0	0.0%
50		BLM	4	10.0%	2	2.0%	0	0.0%
51		BOR	0	0.0%	0	0.0%	0	0.0%
52		FWS	13	NA	1	NA	0	NA
53		MMS	NA	NA	NA	NA	NA	NA

TABLE A.9 (continued)

	1	2	3	4	5	6	7	8
54		USBS	0	0.0%	0	0.0%	0	0.0%
55		NPS <sup>4</sup>	5	ND	2	ND	0	ND
56		OSM	0	0.0%	0	0.0%	0	0.0%
57								
58	JUSTICE		ND	ND	ND	ND	ND	ND
59								
60	LABOR		NA	NA	NA	NA	NA	NA
61								
62	NASA		0	0.0%	0	0.0%	0	0.0%
63								
64	NAT CAP PLAN.		NA	NA	NA	NA	NA	NA
65								
66	NRC		NA	NA	NA	NA	NA	NA
67								
68	PADC		ND	ND	ND	ND	ND	ND
69								
70	POSTAL SERVICE		NA	NA	NA	NA	NA	NA
71								
72	SBA		NA	NA	NA	NA	NA	NA
73								
74	TVA		0	0.0%	0	0.0%	0	0.0%
75								
76	TRANSPORTATION							
77		FAA	0	0	0	0	0	0
78		FHWA	NA	NA	NA	NA	NA	NA
79		FRA	ND	ND	ND	ND	ND	ND
80		UMTA	NA	NA	NA	NA	NA	NA
81								
82								
83	VA		0	0.0%	0	0.0%	0	0.0%
84								
85								
86								
87	TOTAL		58		19		2	
88								
89	NA = NOT APPLICABLE							
90	ND = NO DATA							
91	86EDUCA							
92	9/27/87							

TABLE A.9 (continued)

	9	10	11	12	13	14	15	16
1								
2								
3	=====							
4	DEPARTMENTS	AGENCIES	LAW	% OF	CULTURAL	% OF	OTHER	% OTHER
5			ENFORCE	LAW	RESOURCE	CULTURAL	PERSONNEL	PERSONNEL
6			PERSONNEL	ENFORC	PERSONNEL	RESOURCE	OTHER COURSE	OTHER COURSE
7			OTHER COURSE	PERSONNEL	OTHER COURSE	PERSONNEL	8-16 HRS	8-16 HRS
8			8-16 HRS	OTHER COURSE	8-16 HRS	OTHER COURSE		
9				8-16 HRS		8-16 HRS		
10								
11	=====							
12								
13	AGRICULTURE							
14		AS&CS	0	0.0%	0	0.0%	0	0.0%
15		FHA	NA	NA	NA	NA	NA	NA
16		FS	27	ND	4	ND	3	ND
17		REA	0	0.0%	0	0.0%	0	0.0%
18		SCS	ND	ND	ND	ND	ND	ND
19								
20	COMMERCE							
21		ECON DEVEL	NA	NA	NA	NA	NA	NA
22		NOAA	0	0.0%	0	0.0%	0	0.0%
23								
24								
25	DEFENSE							
26		AIR FORCE	0	0.0%	0	0.0%	0	0.0%
27		ARMY	1	ND	3	ND	ND	ND
28		COE	NA	NA	6	9.0%	40	10.0%
29		MARINES	ND	ND	ND	5.0%	ND	ND
30		NAVY	NA	NA	6	20.0%	0	0.0%
31								
32	EDUCATION		NA	NA	NA	NA	NA	NA
33								
34	ENERGY		NA	NA	NA	NA	1	33.0%
35								
36		FERC	NA	NA	NA	NA	NA	NA
37								
38	EPA		NA	NA	NA	NA	NA	NA
39								
40	FCC		ND	ND	ND	ND	ND	ND
41								
42	GSA		0	0.0%	0	0.0%	0	0.0%
43								
44	H&HS		0	0.0%	0	0.0%	0	0.0%
45								
46	HUD		NA	NA	NA	NA	NA	NA
47								
48	INTERIOR							
49		BIA	0	0.0%	3	25.0%	0	0.0%
50		BLM	0	0.0%	0	0.0%	0	0.0%
51		BOR	0	0.0%	0	0.0%	0	0.0%
52		FWS	400	NA	1	NA	6	NA
53		MMS	NA	NA	NA	NA	NA	NA

TABLE A.9 (continued)

	9	10	11	12	13	14	15	16	
54			USGS	0	0.0%	0	0.0%	0	0.0%
55			NPS	131	ND	4	ND	27	ND
56			OSM	0	0.0%	0	0.0%	0	0.0%
57									
58		JUSTICE		ND	ND	ND	ND	ND	ND
59									
60		LABOR		NA	NA	NA	NA	NA	NA
61									
62		NASA		0	0.0%	0	0.0%	0	0.0%
63									
64		NAT CAP PLAN.		NA	NA	NA	NA	NA	NA
65									
66		NRC		NA	NA	NA	NA	NA	NA
67									
68		PADC		ND	ND	ND	ND	ND	ND
69									
70		POSTAL SERVICE		NA	NA	NA	NA	NA	NA
71									
72		SBA		NA	NA	NA	NA	NA	NA
73									
74		TVA		0	0.0%	0	0.0%	1	NA
75									
76		TRANSPORTATION							
77			FAA	0	0	0	0	0	0
78			FHWA	NA	NA	NA	NA	NA	NA
79			FRA	ND	ND	ND	ND	ND	ND
80			UMTA	NA	NA	NA	NA	NA	NA
81									
82									
83		VA		0	0.0%	0	0.0%	0	0.0%
84									
85									
86									
87		TOTAL		559		27		78	
88									
89									
90									
91									
92									

TABLE A.10

Identification and Evaluation, FY 1986

1	2	3	4	5	6	7	8	9	
DEPARTMENTS	AGENCIES	LITERATURE OR MAP RESEARCH OF ARCHEOLOGICAL PROPERTIES BY AGENCY	FTE USED FOR LITERATURE OR MAP RESEARCH OF ARCHEOLOGICAL PROPERTIES BY AGENCY			COST OF FTES FOR LITERATURE OR MAP RESEARCH OF ARCHEOLOGICAL PROPERTIES BY AGENCY		COST OF SUPPORT FOR LITERATURE OR MAP RESEARCH OF ARCHEOLOGICAL PROPERTIES BY AGENCY	
16	AGRICULTURE								
17		ASCS	0	0.0%	0.0	0.0%	0	0.0%	0
18		FaHA	2315	11.5%	ND		\$19077.00	0.3%	\$1684.00
19		FS	1669 <sup>1</sup>	8.3%	101.0	33.0%	\$622000.00	10.9%	\$223000.00
20		REA <sup>2</sup>	590	2.9%	0.0	0.0%	\$0.00	0.0%	\$0.00
21		SCS <sup>3</sup>	118	0.6%	4.0	1.3%	\$140000.00	2.4%	\$15000.00
23	COMMERCE								
24		ECON DEVEL	NA		NA		NA		NA
25		NOAA	2	0.0%	1.0	0.3%	\$60000.00	1.0%	\$40000.00
28	DEFENSE								
29		AIR FORCE	149	0.7%	3.0	1.0%	\$42315.00	0.7%	\$10000.00
30		ARMY	500	2.5%	10.0	3.3%	\$150000.00	2.6%	\$75000.00
31		CDE	2350	11.7%	25.0	8.2%	\$1100000.00	19.2%	\$350000.00
32		MARINES	1	0.0%	1.0	0.3%	\$5000.00	0.1%	\$0.00
33		NAVY <sup>4</sup>	20	0.1%	2.0	0.7%	\$100000.00	1.7%	NA
35	EDUCATION		NA		NA		NA		NA
37	ENERGY		NA		NA		NA		NA
38		FERC	NA		NA		NA		NA
40	EPA		197	1.0%	ND		ND		ND
42	FCC		ND		ND		ND		ND
44	BSA		1	0.0%	0.1	0.0%	\$2000.00	0.0%	\$1000.00
46	H&HS <sup>5</sup>		168	0.8%	4.5	1.5%	32000	0.6%	3100
48	HUD		NA		NA		NA		NA
50	INTERIOR								
51		BIA	895	4.4%	24.0	7.8%	\$507186.00	8.9%	\$121295.00 <sup>6</sup>
52		BLM	4481	22.2%	8.4	2.7%	\$226800.00	4.0%	NA
53		BOR	188	0.9%	4.2	1.4%	\$121000.00	2.1%	\$27240.00

TABLE A.10 (continued)

1	2	3	4	5	6	7	8	9	
54		FMS	214	1.1%	3.8	1.2%	\$125000.00	2.2%	\$63000.00
55		MMS	165	0.8%	4.0	1.3%	\$100000.00	1.7%	\$5000.00
56		USGS	2	0.0%	0.3	0.1%	\$1950.00	0.0%	\$1950.00
57		NPS	643	3.2%	13.0	4.2%	\$213979.00	3.7%	\$111461.00
58		OSM	15 <sup>7</sup>	0.1%	0.3	0.1%	\$9000.00	0.2%	\$0.00
59									
60	JUSTICE		3	0.0%	0.0	0.0%	\$0.00	0.0%	NA
61									
62	LABOR		NA		NA		NA		NA
63									
64	NASA		0	0.0%	0	0.0%	0	0.0%	0
65									
66	NAT CAP PLAN		NA		NA		NA		NA
67									
68	NRC		NA		NA		NA		NA
69									
70	PADC		ND		ND		ND		ND
71									
72	POSTAL SERVICE		8	0.0%	0.0	0.0%	\$100000.00	1.7%	\$0.00
73									
74	SBA		0	0.0%	0.0	0.0%	0	0.0%	0
75									
76	TVA		400	2.0%	ND		\$32000.00	0.6%	\$1000.00
77									
78	TRANSPORTATION								
79		FAA	8	0.0%	0.1	0.0%	\$950.00	0.0%	\$0.00
80		FHWA	5000	24.8%	95.0	31.1%	\$2000000.00	35.0%	\$400000.00
81		FRA	ND		ND		ND		ND
82		UMTA	2	0.0%	1.0	0.3%	\$200.00	0.0%	NA
83									
84									
85	VA		50 <sup>8</sup>	0.2%	0.3	0.1%	\$10000.00	0.2%	\$1000.00
86									
87									
88									
89	TOTAL		20154		305.6		\$5720457.00		\$1450730.00

NA = NOT APPLICABLE  
 ND = NO DATA  
 8&INVEST  
 9/27/87

TABLE A.10 (continued)

	10	11	12	13	14	15	16	17	18
1									
2									
3	-----								
4	DEPARATMENTS	AGENCIES		COST OF		COST OF		AGENCY	
5				LITERATURE		LITERATURE		STUDIES TO	
6				OR MAP		OR MAP		IDENTIFY AND	
7				RESEARCH OF		RESEARCH OF		EVALUATE	
8				ARCHEOLOGICAL		ARCHEOLOGICAL		ARCHEOLOGICAL	
9				PROPERTIES		PROPERTIES		PROPERTIES	
10				BY CONTRACT		BY LAND USE			
11						APPLICANT			
12	-----								
13									
14									
15									
16	AGRICULTURE								
17		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
18		FHA	0.1%	\$630.00	0.0%	\$281665.00	12.6%	399	2.0%
19		FS	15.4%	\$75500.00 <sup>9</sup>	1.3%	\$22760.00 <sup>10</sup>	1.0%	6303 <sup>11</sup>	31.4%
20		REA	0.0%	\$0.00	0.0%	\$12000.00	0.5%	80	0.4%
21		SCS	1.0%	\$232726.00	3.9%	ND		96	0.5%
22									
23	COMMERCE								
24		ECON DEVEL		NA		NA		NA	
25		NOAA	2.8%	\$15000.00	0.2%	\$0.00		3	0.0%
26									
27									
28	DEFENSE								
29		AIR FORCE	0.7%	\$192235.00	3.2%	\$19500.00	0.9%	90	0.4%
30		ARMY	5.2%	\$500000.00	8.3%	\$50000.00	2.2%	200	1.0%
31		COE	24.1%	\$1500000.00	25.0%	\$160000.00	7.2%	800	4.0%
32		MARINES	0.0%	\$20000.00	0.3%	\$0.00	0.0%	0	0.0%
33		NAVY		NA		\$0.00	0.0%	5	0.0%
34									
35	EDUCATION			NA		NA		NA	
36									
37	ENERGY			NA		NA		NA	
38		FERC		NA		NA		NA	
39									
40	EPA			ND		ND		ND	
41									
42	FCC			ND		ND		ND	
43									
44	SSA		0.1%	\$15000.00	0.2%	NA		3	0.0%
45									
46	H&HS		0.2%	5100	0.1%	2950	0.1%	107	0.5%
47									
48	HUD			NA		NA		NA	
49									
50	INTERIOR								
51		BIA	8.4%	\$110500.00	1.8%	\$130000.00 <sup>12</sup>	5.8%	886	4.4%
52		BLM		\$24350.00	0.4%	\$38300.00	1.7%	6769	33.7%
53		BOR	1.9%	\$244049.00	4.1%	\$8200.00	0.4%	165	0.8%

TABLE A.10 (continued)

	10	11	12	13	14	15	16	17	18	
54			FNS	4.3%	\$141000.00	2.3%	\$35000.00	1.6%	104	0.5%
55			MMS	0.3%	\$250000.00	4.2%	\$1150000.00	51.4%	0	0.0%
56			USGS	0.1%	\$0.00	0.0%	\$0.00	0.0%	1	0.0%
57			NPS	7.7%	\$32300.00	0.5%	\$25000.00	1.1%	302	1.5%
58			OSM	0.0%	\$0.00	0.0%	NA		7 <sup>13</sup>	0.0%
59										
60		JUSTICE			\$30000.00	0.5%	\$0.00	0.0%	3	0.0%
61										
62		LABOR			NA		NA		NA	
63										
64		NASA		0.0%	0	0.0%	0	0.0%	0	0.0%
65										
66		NAT CAP PLAN			NA		NA		NA	
67										
68		NRC			NA		NA		NA	
69										
70		FADC			ND		ND		ND	
71										
72		POSTAL SERVICE		0.0%	\$100000.00	1.7%	\$0.00	0.0%	8	0.0%
73										
74		SBA		0.0%	0	0.0%	0	0.0%	0	0.0%
75										
76		TVA		0.1%	\$6000.00	0.1%	\$0.00	0.0%	22	0.1%
77										
78		TRANSPORTATION								
79			FAA	0.0%	\$5700.00	0.1%	\$0.00	0.0%	7	0.0%
80			FHWA	27.6%	\$2500000.00	41.7%	\$300000.00	13.4%	3700	18.4%
81			FRA		ND		ND		ND	
82			UMTA		\$1200.00	0.0%	NA		1	0.0%
83										
84										
85		VA		0.1%	\$0.00 <sup>14</sup>	0.0%	\$0.00	0.0%	2 <sup>15</sup>	0.0%
86										
87										
88										
89		TOTAL			\$6001290.00		\$2235375.00		20063	
90										
91										
92										
93										
94										

TABLE A.10 (continued)

	19	20	21	22	23	24	25	26	27
1									
2									
3									
4	DEPARATMENTS	AGENCIES	FTEs USED TO		COST OF FTEs		COST OF		COST TO
5			IDENTIFY AND		TO IDENTIFY		SUPPORT TO		IDENTIFY AND
6			EVALUATE		AND EVALUATE		IDENTIFY AND		EVALUATE
7			ARCHEOLOGICAL		ARCHEOLOGICAL		EVALUATE		ARCHEOLOGICAL
8			PROPERTIES		PROPERTIES		ARCHEOLOGICAL		PROPERTIES
9			BY AGENCY		BY AGENCY		PROPERTIES		BY CONTRACT
10							BY AGENCY		
11									
12									
13									
14									
15									
16	AGRICULTURE								
17		ASCS	0.0	0.0%	0	0.0%	0	0.0%	0
18		FmHA	ND		\$44198.00	0.3%	\$3976.00	0.1%	\$68.00
19		FS	177.0 <sup>16</sup>	27.1%	\$4976000.00 <sup>16</sup>	34.4%	\$538000.00 <sup>16</sup>	16.5%	\$475000.00 <sup>16</sup>
20		REA	0.0	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
21		SCS	ND		ND		ND		\$245183.00
22									
23	COMMERCE								
24		ECON DEVEL	NA		NA		NA		NA
25		NDAA	3.0	0.5%	\$45000.00	0.3%	\$15000.00	0.5%	\$60000.00
26									
27									
28	DEFENSE								
29		AIR FORCE	6.0	0.9%	\$31707.00	0.2%	\$4093.00	0.1%	\$534633.00
30		ARMY	10.0	1.5%	\$200000.00	1.4%	\$125000.00	3.8%	\$2000000.00
31		COE	35.0	5.4%	\$1500000.00	10.4%	\$800000.00	24.5%	\$5000000.00
32		MARINES	0.0	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
33		NAVY	1.0	0.2%	\$50000.00	0.3%	NA		\$250000.00
34									
35	EDUCATION		NA		NA		NA		NA
36									
37	ENERGY		NA		NA		NA		NA
38		FERC	NA		NA		NA		NA
39									
40	EPA		127.0	19.5%	ND		ND		ND
41									
42	FCC		ND		ND		ND		ND
43									
44	BSA		0.4	0.1%	\$12000.00	0.1%	\$3000.00	0.1%	\$110000.00
45									
46	H&HS		0.4	0.1%	\$23600.00	0.2%	B2B0	0.3%	\$181200.00
47									
48	HUD		NA		NA		NA		NA
49									
50	INTERIOR								
51		BIA	22.0	3.4%	\$448159.00	3.1%	\$91295.00 <sup>17</sup>	2.8%	\$198434.00 <sup>18</sup>
52		BLM	58.7	9.0%	\$1584900.00	10.9%	NA		\$191183.00
53		BOR	8.8	1.3%	\$249009.00	1.7%	\$74360.00	2.3%	\$1035071.00

TABLE A.10 (continued)

	19	20	21	22	23	24	25	26	27	
54			FWS	5.0	0.8%	\$155000.00	1.1%	\$49000.00	1.5%	\$85000.00
55			MMS	0.0	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00
56			US66	NA		\$0.00	0.0%	\$0.00	0.0%	\$0.00
57			NPS	47.0	7.2%	\$835025.00	5.8%	\$648449.00	19.9%	\$436800.00
58			DSM	0.3	0.0%	\$9000.00	0.1%	\$3500.00	0.1%	\$0.00
59										
60		JUSTICE		0.0	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$30000.00
61										
62		LABDR		NA		NA		NA		NA
63										
64		NASA		0	0.0%	0	0.0%	0	0.0%	0
65										
66		NAT CAP PLAN		NA		NA		NA		NA
67										
68		NRC		NA		NA		NA		NA
69										
70		PADC		ND		ND		ND		ND
71										
72		POSTAL SERVICE		0.0	0.0%	\$100000.00	0.7%	\$100000.00	3.1%	\$0.00
73										
74		SBA		0	0.0%	0	0.0%	0	0.0%	0
75										
76		TVA		NA		\$175000.00	1.2%	\$1000.00	0.0%	\$3000.00
77										
78		TRANSPORTATION								
79			FAA	NA		\$3500.00	0.0%	\$0.00	0.0%	\$0.00
80			FHWA	150.0	23.0%	\$4000000.00	27.6%	\$800000.00	24.5%	\$5500000.00
81			FRA	ND		ND		ND		ND
82			UMTA	NA		NA		NA		\$1000.00
83										
84										
85		VA		0.8	0.1%	\$32000.00	0.2%	\$1500.00	0.0%	\$86000.00 <sup>19</sup>
86										
87										
88										
89		TOTAL		652.3		\$14474098.00		\$3266453.00		\$16422572.00
90										
91										
92										
93										
94										

TABLE A.10 (continued)

	28	29	30	31	32	33	34	35	36
1	-----								
2	-----								
3	-----								
4	DEPARATMENTS	AGENCIES	COST TO		ACRES		NEW SITES		
5			IDENTIFY AND		INSPECTED		IDENTIFIED		
6			EVALUATE						
7			ARCHEOLOGICAL						
8			PROPERTIES						
9			BY LAND USE						
10			APPLICANTS						
11	-----								
12	-----								
13	-----								
14	-----								
15	-----								
16	AGRICULTURE								
17		ASCS	0.0%	0	0.0%	0.0	0.0%	0	0.0%
18		FmHA	0.0%	\$288995.00	13.0%	22327.0	0.3%	125	0.4%
19		FS	2.9%	\$150000.00	6.7%	1460000.0 <sup>20</sup>	19.1%	12689 <sup>20</sup>	36.1%
20		REA	0.0%	\$160000.00	7.2%	12350.0	0.2%	116	0.3%
21		SCS	1.5%	ND		3268569.0	42.7%	1688	4.8%
22	-----								
23	COMMERCE								
24		ECON DEVEL		NA		NA		NA	
25		NOAA	0.4%	\$0.00	0.0%	0.0	0.0%	0	0.0%
26	-----								
27	-----								
28	DEFENSE								
29		AIR FORCE	3.3%	\$44000.00	2.0%	360519.0	4.7%	208	0.6%
30		ARMY	12.2%	\$100000.00	4.5%	46000.0	0.6%	1000	2.8%
31		COE	30.4%	\$300000.00	13.5%	500000.0	6.5%	3700	10.5%
32		MARINES	0.0%	\$0.00	0.0%	500.0	0.0%	0	0.0%
33		NAVY	1.5%	\$0.00	0.0%	NA		3	0.0%
34	-----								
35	EDUCATION			NA		NA		NA	
36	-----								
37	ENERGY			NA		NA		NA	
38		FERC		NA		NA		NA	
39	-----								
40	EPA			ND		23749.0	0.3%	383	1.1%
41	-----								
42	FCC			ND		ND		ND	
43	-----								
44	GSA		0.7%	\$0.00	0.0%	2.5	0.0%	1	0.0%
45	-----								
46	H&HS		1.1%	\$23100.00	1.0%	10140.0	0.1%	231	0.7%
47	-----								
48	HUD			NA		NA		NA	
49	-----								
50	INTERIOR								
51		BIA	1.2%	\$60000.00	2.7%	72319.0	0.9%	1790 <sup>21</sup>	5.1%
52		BLM	1.2%	\$574200.00	25.8%	587478.0	7.7%	6979 <sup>22</sup>	19.9%
53		BOR	6.3%	\$24800.00	1.1%	89555.0	1.2%	1705	4.9%

TABLE A.10 (continued)

	28	29	30	31	32	33	34	35	36	
54			FWS	0.5%	\$24300.00	1.1%	45000.0	0.6%	199	0.6%
55			MMS	0.0%	\$0.00	0.0%	904000.0	11.8%	0	0.0%
56			USGS	0.0%	\$0.00	0.0%	400.0	0.0%	0	0.0%
57			NPS	2.7%	\$47000.00	2.1%	43211.0	0.6%	1100	3.1%
58			OSM	0.0%	NA		300.0	0.0%	20	0.1%
59										
60		JUSTICE		0.2%	\$0.00	0.0%	560.5	0.0%	8	0.0%
61										
62		LABOR			NA		NA		NA	
63										
64		NASA		0.0%	0	0.0%	0	0.0%	0	0.0%
65										
66		NAT CAP PLAN			NA		NA		NA	
67										
68		NRC			NA		7034	0.1%	0	0.0%
69										
70		PADC			ND		ND		ND	
71										
72		POSTAL SERVICE		0.0%	\$0.00	0.0%	100.0	0.0%	0	0.0%
73										
74		SBA		0.0%	0	0.0%	0	0.0%	0	0.0%
75										
76		TVA		0.0%	\$25000.00	1.1%	8000.0	0.1%	200	0.6%
77										
78		TRANSPORTATION								
79			FAA	0.0%	\$3500.00	0.2%	1014.0	0.0%	3	0.0%
80			FHWA	33.5%	\$400000.00	18.0%	200000.0	2.6%	3000	8.5%
81			FRA		ND		ND		ND	
82			UMTA	0.0%	\$74.00	0.0%	NA		NA	
83										
84										
85		VA		0.5%	\$0.00	0.0%	160.0	0.0%	2	0.0%
86										
87										
88										
89		TOTAL			\$2224969.00		7663288.0		35150	
90										
91										
92										
93										
94										

TABLE A.10 (continued)

	37	38	39	40
1				
2				
3	=====			
4	DEPARTMENTS	AGENCIES	SITES	
5			DETERMINED	
6			ELIGIBLE	
7			FOR THE	
8			NATIONAL	
9			REGISTER	
10				
11				
12	=====			
13				
14				
15				
16	AGRICULTURE			
17		ASCS	0	0.0%
18		FmHA	28	0.7%
19		FS	1199 <sup>23</sup>	27.9%
20		REA	66	1.5%
21		SCS	241	5.6%
22				
23	COMMERCE			
24		ECON DEVEL	NA	
25		NOAA	0	0.0%
26				
27				
28	DEFENSE			
29		AIR FORCE	24	0.6%
30		ARMY	40	0.9%
31		CDE	340	7.9%
32		MARINES	1	0.0%
33		NAVY	3	0.1%
34				
35	EDUCATION		NA	
36				
37	ENERGY		NA	
38		FERC	NA	
39				
40	EPA		165	3.8%
41				
42	FCC		ND	
43				
44	BSA		0	0.0%
45				
46	H&HS		174	4.0%
47				
48	HUD		NA	
49				
50	INTERIOR			
51		BIA	88	2.0%
52		BLM	923 <sup>24</sup>	21.5%
53		BOR	176	4.1%

TABLE A.10 (continued)

37	38	39	40	
54		FWS	87	2.0%
55		MMS	0	0.0%
56		USGS	0	0.0%
57		NPS	382	8.9%
58		OSM	5	0.1%
59				
60	JUSTICE		0	0.0%
61				
62	LABOR		NA	
63				
64	NASA		0	0.0%
65				
66	NAT CAP PLAN		NA	
67				
68	NRC		0	0.0%
69				
70	PADC		ND	
71				
72	POSTAL SERVICE		8	0.2%
73				
74	SBA		0	0.0%
75				
76	TVA		0	0.0%
77				
78	TRANSPORTATION			
79		FAA	0	0.0%
80		FHWA	350	8.1%
81		FRA	ND	
82		UMTA	NA	
83				
84				
85	VA		1	0.0%
86				
87				
88				
89	TOTAL		4301	
90				
91				
92				
93				
94				

TABLE A.11

Data Recovery, FY 1986

1	2	3	4	5	6	7	8	9
DEPARTMENTS	AGENCIES	ARCHEOLOGICAL DATA RECOVERY PROJECTS	FTES USED FOR ARCHEOLOGICAL DATA RECOVERY PROJECTS BY AGENCY	COST OF FTES FOR ARCHEOLOGICAL DATA RECOVERY PROJECTS BY AGENCY	COST OF SUPPORT FOR ARCHEOLOGICAL DATA RECOVERY PROJECTS BY AGENCY			
AGRICULTURE								
	ASCS	0	0.0%	0.0	0.0%	\$0.00	0.0%	\$0.00
	FoNA	78	7.9%	ND		\$3223.00	0.1%	ND
	FS	134	13.6%	41.0	17.7%	\$315700.00	7.0%	\$15700.00
	REA <sup>1</sup>	6	0.6%	0.0	0.0%	\$0.00	0.0%	\$0.00
	SCS	3	0.3%	NA		\$18500.00	0.4%	\$2600.00
COMMERCE								
	ECON DEVEL	NA		NA		NA		NA
	NDAA	0	0.0%	0	0.0%	\$0.00	0.0%	\$0.00
DEFENSE								
	AIR FORCE	7	0.7%	3.0	1.3%	\$6866.00	0.2%	\$5074.00
	ARMY	20	2.0%	4.0	1.7%	\$36000.00	0.8%	\$12000.00
	CDE	108	11.0%	11.0	4.7%	\$400000.00	8.8%	\$151000.00
	MARINES	0	0.0%	0.0	0.0%	\$0.00	0.0%	\$0.00
	NAVY <sup>2</sup>	3	0.3%	1.0	0.4%	\$50000.00	1.1%	\$0.00
EDUCATION		NA		NA		NA		NA
ENERGY		14	1.4%	2.0	0.9%	\$106000.00	2.3%	\$10000.00
	FERC	NA		NA		NA		NA
EPA		45	4.6%	ND		ND		ND
FCC		ND		ND		ND		ND
GSA		3	0.3%	0.2	0.1%	\$4000.00	0.1%	\$2000.00
H&HS <sup>3</sup>		3	0.3%	0.6	0.2%	\$15000.00	0.3%	\$2100.00
HUD		NA		NA		NA		NA
INTERIOR								
	BIA	31 <sup>4</sup>	3.1%	6.0	2.6%	\$149358.00	3.3%	\$26000.00
	BLM	268	27.2%	13.4	5.8%	\$361260.00	8.0%	\$146325.00
	BDR	44	4.5%	9.5	4.1%	\$276200.00	6.1%	\$177670.00

TABLE A.10 (continued)

1	2	3	4	5	6	7	8	9	
54		FWS	12	1.2%	1.5	0.6%	\$71500.00	1.6%	\$40500.00
55		MMS	NA		NA		NA		NA
56		USGS	0	0.0%	0	0.0%	\$0.00	0.0%	\$0.00
57		NPS	70	7.1%	28.0	12.1%	\$512500.00	11.3%	\$184600.00
58		OSM	0	0.0%	0.0	0.0%	\$0.00	0.0%	\$0.00
59									
60	JUSTICE		2	0.2%	0.0	0.0%	\$0.00	0.0%	\$10000.00
61									
62	LABOR		NA		NA		NA		NA
63									
64	NASA		0	0.0%	0	0.0%	\$0.00	0.0%	\$0.00
65									
66	NAT CAP PLAN		NA		NA		NA		NA
67									
68	NRC		1	0.1%	0.0	0.0%	\$0.00	0.0%	\$0.00
69									
70	PADC		ND		ND		ND		ND
71									
72	POSTAL SERVICE		1	0.1%	0.0	0.0%	\$75000.00	1.7%	\$0.00
73									
74	SBA		0	0.0%	0.0	0.0%	\$0.00	0.0%	\$0.00
75									
76	TVA		1	0.1%	0.0	0.0%	\$0.00	0.0%	\$0.00
77									
78	TRANSPORTATION								
79		FAA	0	0.0%	0	0.0%	\$0.00	0.0%	\$0.00
80		FHWA	130	13.2%	110.0	47.4%	\$2000000.00	44.1%	\$200000.00
81		FRA	ND		ND		ND		ND
82		UMTA	2 <sup>5</sup>	0.2%	1.0	0.4%	\$134243.00	3.0%	\$0.00
83									
84									
85	VA		0	0.0%	0	0.0%	\$0.00	0.0%	\$0.00
86									
87	-----								
88		TOTAL	986		232.11		\$4535350.00		\$984969.00

91 NA = NOT APPLICABLE

92 ND = NO DATA

93 86RECOV

94 9/27/87

TABLE A.11

Data Recovery, FY 1986

10	11	12	13	14	15	16	17	18	
DEPARTMENTS	AGENCIES	COST OF ARCHEOLOGICAL DATA RECOVERY PROJECTS BY CONTRACT		COST OF ARCHEOLOGICAL DATA RECOVERY PROJECTS BY LAND USE APPLICANTS		ARCHEOLOGICAL DATA RECOVERY PROJECTS CONDUCTED BY AGENCY			
16	AGRICULTURE								
17		ASCS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
18		FmHA		ND		\$28050.00	0.8%	ND	
19		FS	1.6%	\$316000.00	2.1%	\$48300.00	1.3%	115	27.4%
20		REA	0.0%	\$0.00	0.0%	\$45000.00	1.3%	0	0.0%
21		SCS	0.2%	\$77845.00	0.5%	NA		0	0.0%
23	COMMERCE								
24		ECON DEVEL		NA		NA		NA	
25		NOAA	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
28	DEFENSE								
29		AIR FORCE	0.5%	\$1950.00	0.0%	\$295000.00	8.2%	0	0.0%
30		ARMY	1.2%	\$1100000.00	7.3%	\$40000.00	1.1%	1	0.2%
31		CDE	15.3%	\$4210000.00	27.9%	\$1100000.00	30.7%	15	3.6%
32		MARINES	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
33		NAVY	0.0%	\$200000.00	1.3%	\$0.00	0.0%	0	0.0%
35	EDUCATION			NA		NA		NA	
37	ENERGY		1.0%	\$830400.00	5.5%	\$0.00	0.0%	0	0.0%
38		FERC		NA		NA		NA	
40	EPA			ND		ND		0	0.0%
42	FCC			ND		ND		ND	
44	GSA		0.2%	\$20000.00	0.1%	\$0.00	0.0%	0	0.0%
46	H&HS		0.2%	\$0.00	0.0%	\$22000.00	0.6%	0	0.0%
48	HUD			NA		NA		NA	
50	INTERIOR								
51		BIA	2.6%	\$596043.00	3.9%	\$100000.00 <sup>6</sup>	2.8%	22	5.2%
52		BLM	14.9%	\$266606.00	1.8%	\$1325200.00	37.0%	177	42.1%
53		BDR	18.0%	\$2673009.00	17.7%	\$256000.00	7.1%	5	1.2%

TABLE A.11 (continued)

	10	11	12	13	14	15	16	17	18	
54			FWS	4.1%	\$18800.00	0.1%	\$1000.00	0.0%	8	1.9%
55			MMS		NA		NA		NA	
56			USGS	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
57			NPS	18.7%	\$113700.00	0.8%	\$0.00	0.0%	57	13.6%
58			DSM	0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
59										
60		JUSTICE		1.0%	\$87000.00	0.6%	\$0.00	0.0%	0	0.0%
61										
62		LABOR			NA		NA		NA	
63										
64		NASA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
65										
66		NAT CAP PLAN			NA		NA		NA	
67										
68		NRC		0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
69										
70		PADC			ND		ND		ND	
71										
72		POSTAL SERVICE		0.0%	\$75000.00	0.5%	\$0.00	0.0%	0	0.0%
73										
74		SBA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
75										
76		TVA		0.0%	\$0.00	0.0%	\$25000.00	0.7%	0	0.0%
77										
78		TRANSPORTATION								
79			FAA	0.0%	\$0.00	0.0%	\$0.00		0	0.0%
80			FHWA	20.3%	\$4500000.00	29.8%	\$300000.00	8.4%	20	4.8%
81			FRA		ND		ND		ND	
82			UMTA	0.0%	\$3700.00	0.0%	\$0.00	0.0%	0	0.0%
83										
84										
85		VA		0.0%	\$0.00	0.0%	\$0.00	0.0%	0	0.0%
86										
87	-----									
88		TOTAL			\$15090053.00		\$3585550.00		420	
89										
90										
91										
92										
93										
94										

TABLE A.11 (continued)

	19	20	21	22	23	24	25	26	27
1									
2									
3	-----								
4	DEPARTMENTS	AGENCIES	ARCHEOLOGICAL		ARCHEOLOGICAL		ARCHEOLOGICAL		RESEARCH
5			DATA RECOVERY		DATA RECOVERY		DATA RECOVERY		TYPE
6			PROJECTS		PROJECTS		PROJECTS		ECONOMY
7			FUNDED BY		FUNDED BY		FUNDED BY		
8			AGENCY		LAND USE		ANY		
9			THROUGH		APPLICANTS		COMBINATION		
10			CONTRACTS				OF FACTORS		
11									
12	-----								
13									
14									
15									
16	AGRICULTURE								
17		ASCS	0	0.0%	0	0.0%	0	0.0%	0
18		FmHA	ND		ND		ND		28
19		FS	19	6.5%	1	0.5%	0	0.0%	ND
20		REA	0	0.0%	6	3.2%	0	0.0%	3
21		SCS	3	1.0%	0	0.0%	0	0.0%	1
22									
23	COMMERCE								
24		ECON DEVEL	NA		NA		NA		NA
25		NDAA	0	0.0%	0	0.0%	0	0.0%	0
26									
27									
28	DEFENSE								
29		AIR FORCE	2	0.7%	4	2.2%	1	0.6%	4
30		ARMY	15	5.2%	0	0.0%	4	2.5%	5
31		COE	71	24.4%	16	8.6%	6	3.8%	37
32		MARINES	0	0.0%	0	0.0%	0	0.0%	0
33		NAVY	3	1.0%	0	0.0%	0	0.0%	0
34									
35	EDUCATION		NA		NA		NA		NA
36									
37	ENERGY		16	5.5%	0	0.0%	9	5.7%	14
38		FERC	NA		NA		NA		NA
39									
40	EPA		3	1.0%	0	0.0%	42	26.8%	16
41									
42	FCC		ND		ND		ND		ND
43									
44	GSA		3	1.0%	NA		NA		0
45									
46	H&HS		0	0.0%	1	0.5%	0	0.0%	1
47									
48	HUD		NA		NA		NA		NA
49									
50	INTERIOR								
51		BIA	4	1.4%	7 <sup>7</sup>	3.8%	20 <sup>8</sup>	12.7%	5
52		BLM	NA		91	49.2%	NA		73
53		BOR	23	7.9%	2	1.1%	0	0.0%	10

TABLE A.11 (continued)

	19	20	21	22	23	24	25	26	27	
54			FWS	4	1.4%	3	1.6%	7	4.5%	3
55			MMS	NA		NA		NA		NA
56			USGS	0	0.0%	0	0.0%	0	0.0%	0
57			NPS	11	3.8%	0	0.0%	26	16.6%	53
58			OSM	0	0.0%	50	27.0%	0	0.0%	10
59										
60		JUSTICE		2	0.7%	0	0.0%	0	0.0%	1
61										
62		LABDR		NA		NA		NA		NA
63										
64		NASA		0	0.0%	0	0.0%	0	0.0%	0
65										
66		NAT CAP PLAN		NA		NA		NA		NA
67										
68		NRC		0	0.0%	1	0.5%	0	0.0%	1
69										
70		PADC		ND		ND		ND		ND
71										
72		POSTAL SERVICE		1	0.3%	0	0.0%	0	0.0%	0
73										
74		SBA		0	0.0%	0	0.0%	0	0.0%	0
75										
76		IVA		0	0.0%	1	0.5%	0	0.0%	0
77										
78		TRANSPORTATION								
79			FAA	0	0.0%	0	0.0%	0	0.0%	0
80			FHWA	110	37.8%	2	1.1%	40	25.5%	50
81			FRA	ND		ND		ND		ND
82			UMTA	1	0.3%	0	0.0%	2	1.3%	2
83										
84										
85		VA		0	0.0%	0	0.0%	0	0.0%	0
86										
87	-----									
88		TOTAL		291		185		157		317
89										
90										
91										
92										
93										
94										

TABLE A.11 (continued)

	28	29	30	31	32	33	34	35	36
	DEPARTMENTS	AGENCIES	RESEARCH TYPE SITE/ SETTLEMENT		RESEARCH TYPE CULTURAL ADAPTATION		RESEARCH TYPE PALED- DEMOGRAPHY		
16	AGRICULTURE								
17		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
18		FmHA	8.8%	71	14.8%	ND		28	21.9%
19		FS		ND		ND		ND	
20		REA	0.9%	6	1.3%	5	1.7%	0	0.0%
21		SCS	0.3%	3	0.6%	2	0.7%	1	0.8%
23	COMMERCE								
24		ECON BEVEL		NA		NA		NA	
25		NOAA	0.0%	0	0.0%	0	0.0%	0	0.0%
26									
27									
28	DEFENSE								
29		AIR FORCE	1.3%	5	1.0%	5	1.7%	3	2.3%
30		ARMY	1.6%	9	1.9%	4	1.4%	2	1.6%
31		DDE	11.7%	53	11.0%	63	22.0%	17	13.3%
32		MARINES	0.0%	0	0.0%	0	0.0%	0	0.0%
33		NAVY	0.0%	1	0.2%	1	0.3%	0	0.0%
34									
35	EDUCATION			NA		NA		NA	
36									
37	ENERGY		4.4%	16	3.3%	13	4.5%	13	10.2%
38		FERC		NA		NA		NA	
39									
40	EPA		5.0%	19	4.0%	5	1.7%	4	3.1%
41									
42	FCC			ND		ND		ND	
43									
44	GSA		0.0%	2	0.4%	1	0.3%	0	0.0%
45									
46	H&HS		0.3%	1	0.2%	1	0.3%	1	0.8%
47									
48	HUD			NA		NA		NA	
49									
50	INTERIOR								
51		BIA	1.6%	26	5.4%	24	8.4%	2	1.6%
52		BLM	23.0%	75	15.6%	53	18.5%	9	7.0%
53		BOR	3.2%	37	7.7%	24	8.4%	14	10.9%

TABLE A.11 (continued)

	28	29	30	31	32	33	34	35	36	
54			FWS	0.9%	6	1.3%	8	2.8%	5	3.9%
55			MMS		NA		NA		NA	
56			USGS	0.0%	1	0.2%	0	0.0%	0	0.0%
57			NPS	16.7%	44	9.2%	26	9.1%	6	4.7%
58			OSM	3.2%	20	4.2%	10	3.5%	5	3.9%
59										
60		JUSTICE		0.3%	1	0.2%	0	0.0%	0	0.0%
61										
62		LABOR			NA		NA		NA	
63										
64		NASA		0.0%	0	0.0%	0	0.0%	0	0.0%
65										
66		NAT CAP PLAN			NA		NA		NA	
67										
68		NRC		0.3%	1	0.2%	0	0.0%	0	0.0%
69										
70		PADC			ND		ND		ND	
71										
72		POSTAL SERVICE		0.0%	0	0.0%	0	0.0%	0	0.0%
73										
74		SBA		0.0%	0	0.0%	0	0.0%	0	0.0%
75										
76		TVA		0.0%	0	0.0%	1	0.3%	1	0.8%
77										
78		TRANSPORTATION								
79			FAA	0.0%	0	0.0%	0	0.0%	0	0.0%
80			FHWA	15.8%	80	16.7%	40	14.0%	15	11.7%
81			FRA		ND		ND		ND	
82			UMTA	0.6%	3	0.6%	0	0.0%	2	1.6%
83										
84										
85		VA		0.0%	0	0.0%	0	0.0%	0	0.0%
86										
87	-----									
88			TOTAL		480		286		128	
89										
90										
91										
92										
93										
94										

TABLE A.11 (continued)

	37	38	39	40	41	42	43	44	45
1									
2									
3	-----								
4	DEPARTMENTS	AGENCIES	RESEARCH TYPE		RESEARCH TYPE		RESEARCH TYPE		RESEARCH TYPE
5			CULTURAL		SOCIAL		CULTURAL		TECHNOLOGY
6			PROCESSES		ORGANIZATION		CHRONOLOGY		
7									
8									
9									
10									
11									
12	-----								
13									
14									
15									
16	AGRICULTURE								
17		ASCS	0	0.0%	0	0.0%	0	0.0%	0
18		FaHA	3	1.3%	20	9.9%	5	1.3%	5
19		FS	ND		ND		ND		ND
20		REA	4	1.7%	1	0.5%	6	1.5%	3
21		SCS	3	1.3%	1	0.5%	2	0.5%	1
22									
23	COMMERCE								
24		ECON DEVEL	NA		NA		NA		NA
25		NOAA	0	0.0%	0	0.0%	0	0.0%	0
26									
27									
28	DEFENSE								
29		AIR FORCE	4	1.7%	2	1.0%	6	1.5%	6
30		ARMY	8	3.4%	9	4.4%	11	2.8%	9
31		COE	42	17.7%	33	16.3%	35	8.9%	42
32		MARINES	0	0.0%	0	0.0%	0	0.0%	0
33		NAVY	0	0.0%	0	0.0%	0	0.0%	1
34									
35	EDUCATION		NA		NA		NA		NA
36									
37	ENERGY		10	4.2%	4	2.0%	15	3.8%	7
38		FERC	NA		NA		NA		NA
39									
40	EPA		14	5.9%	9	4.4%	13	3.3%	16
41									
42	FCC		ND		ND		ND		ND
43									
44	GSA		1	0.4%	1	0.5%	1	0.3%	1
45									
46	H&HS		1	0.4%	0	0.0%	1	0.3%	1
47									
48	HUD		NA		NA		NA		NA
49									
50	INTERIOR								
51		BIA	3	1.3%	24	11.8%	14	3.6%	5
52		BLM	26	11.0%	11	5.4%	94	23.9%	80
53		BOR	30	12.7%	18	8.9%	19	4.8%	19

TABLE A.11 (continued)

	37	38	39	40	41	42	43	44	45
54		FWS	6	2.5%	5	2.5%	6	1.5%	5
55		MMS	NA		NA		NA		NA
56		USGS	0	0.0%	0	0.0%	0	0.0%	0
57		NPS	25	10.5%	24	11.8%	55	14.0%	34
58		OSM	10	4.2%	10	4.9%	30	7.6%	3
59									
60	JUSTICE		0	0.0%	0	0.0%	0	0.0%	0
61									
62	LABOR		NA		NA		NA		NA
63									
64	NASA		0	0.0%	0	0.0%	0	0.0%	0
65									
66	NAT CAP PLAN		NA		NA		NA		NA
67									
68	NRC		0	0.0%	1	0.5%	0	0.0%	0
69									
70	PADC		ND		ND		ND		ND
71									
72	POSTAL SERVICE		0	0.0%	0	0.0%	8	2.0%	0
73									
74	SBA		0	0.0%	0	0.0%	0	0.0%	0
75									
76	TVA		0	0.0%	0	0.0%	0	0.0%	1
77									
78	TRANSPORTATION								
79		FAA	0	0.0%	0	0.0%	0	0.0%	0
80		FHWA	45	19.0%	30	14.8%	70	17.8%	70
81		FRA	ND		ND		ND		ND
82		UMTA	2	0.8%	0	0.0%	3	0.8%	3
83									
84									
85	VA		0	0.0%	0	0.0%	0	0.0%	0
86									
87									
88		TOTAL	237		203		394		312
89									
90									
91									
92									
93									
94									

TABLE A.11 (continued)

	46	47	48	49	50	51	52	53	54
1	=====								
2	=====								
3	=====								
4	DEPARTMENTS	AGENCIES	RESEARCH		RESEARCH		RESEARCH		
5			TYPE		TYPE		TYPE		
6			TRADE/		RITUAL/		ARCHITECTURE		
7			EXCHANGE		CEREMONIAL				
8	=====								
9	=====								
10	=====								
11	=====								
12	=====								
13	=====								
14	=====								
15	=====								
16	AGRICULTURE								
17		ASCS	0.0%	0	0.0%	0	0.0%	0	0.0%
18		FmHA	1.6%	ND		4	4.2%	38	20.8%
19		FS		ND		ND		ND	
20		REA	1.0%	3	1.4%	2	2.1%	0	0.0%
21		SCS	0.3%	ND		ND		ND	
22	=====								
23	COMMERCE								
24		ECON DEVEL		NA		NA		NA	
25		NOAA	0.0%	0	0.0%	0	0.0%	0	0.0%
26	=====								
27	=====								
28	DEFENSE								
29		AIR FORCE	1.9%	5	2.4%	2	2.1%	1	0.5%
30		ARMY	2.9%	5	2.4%	4	4.2%	3	1.6%
31		COE	13.5%	37	17.5%	8	8.3%	30	16.4%
32		MARINES	0.0%	0	0.0%	0	0.0%	0	0.0%
33		NAVY	0.3%	0	0.0%	0	0.0%	0	0.0%
34	=====								
35	EDUCATION								
36				NA		NA		NA	
37	ENERGY								
38		FERC	2.2%	6	2.8%	8	6.3%	9	4.9%
39				NA		NA		NA	
40	EPA								
41			5.1%	9	4.3%	7	7.3%	6	3.3%
42	FCC								
43				ND		ND		ND	
44	BSA								
45			0.3%	0	0.0%	0	0.0%	0	0.0%
46	H&HS								
47			0.3%	0	0.0%	0	0.0%	0	0.0%
48	HUD								
49				NA		NA		NA	
50	INTERIOR								
51		BIA	1.6%	9	4.3%	1	1.0%	5	2.7%
52		BLM	25.6%	57	27.0%	22	22.9%	13	7.1%
53		BOR	6.1%	13	6.2%	4	4.2%	8	4.4%

TABLE A.11 (continued)

	46	47	48	49	50	51	52	53	54
54			FWS 1.6%		5 2.4%		12 12.5%		2 1.1%
55			MMS		NA		NA		NA
56			USGS 0.0%		0 0.0%		0		0 0.0%
57			NPS 10.9%		23 10.9%		4 4.2%		22 12.0%
58			OSM 1.0%		5 2.4%		3 3.1%		15 8.2%
59									
60		JUSTICE	0.0%		1 0.5%		NA		1 0.5%
61									
62		LABOR			NA		NA		NA
63									
64		NASA	0.0%		0 0.0%		0 0.0%		0 0.0%
65									
66		NAT CAP PLAN			NA		NA		NA
67									
68		NRC	0.0%		0 0.0%		0 0.0%		0 0.0%
69									
70		PADC			ND		ND		ND
71									
72		POSTAL SERVICE	0.0%		0 0.0%		0 0.0%		0 0.0%
73									
74		SBA	0.0%		0 0.0%		0 0.0%		0 0.0%
75									
76		TVA	0.3%		0 0.0%		0 0.0%		0 0.0%
77									
78		TRANSPORTATION							
79			FAA 0.0%		0 0.0%		0 0.0%		0 0.0%
80			FHWA 22.4%		30 14.2%		15 15.6%		30 16.4%
81			FRA		ND		ND		ND
82			UMTA 1.0%		3 1.4%		0 0.0%		0 0.0%
83									
84									
85		VA	0.0%		0 0.0%		0 0.0%		0 0.0%
86									
87	-----								
88		TOTAL			211		96		183
89									
90									
91									
92									
93									
94									

TABLE A.11 (continued)

	55	56	57	58	59	60	61	62
1								
2								
3	=====							
4	DEPARTMENTS	AGENCIES	RESEARCH		RESERACH		RESEARCH	
5			TYPE		TYPE		TYPE	
6			CULTURAL		SIGNIFICANCE/		PALEO-	
7			ECOLOGY		MANAGEMENT		ENVIRONMENTAL	
8								
9								
10								
11								
12	=====							
13								
14								
15								
16	AGRICULTURE							
17		ASCS	0	0.0%	0	0.0%	0	0.0%
18		FWS	ND		10	2.7%	27	12.4%
19		FS	ND		ND		ND	
20		REA	5	2.3%	6	1.6%	3	1.4%
21		SCS	3	1.4%	ND		2	0.9%
22								
23	COMMERCE							
24		ECON DEVEL	NA		NA		NA	
25		NOAA	0	0.0%	0	0.0%	0	0.0%
26								
27								
28	DEFENSE							
29		AIR FORCE	6	2.7%	5	1.3%	4	1.8%
30		ARMY	3	1.4%	13	3.5%	4	1.8%
31		COE	49	22.1%	39	10.4%	21	9.6%
32		MARINES	0	0.0%	0	0.0%	0	0.0%
33		NAVY	0	0.0%	0	0.0%	0	0.0%
34								
35	EDUCATION		NA		NA		NA	
36								
37	ENERGY		13	5.9%	3	0.8%	1	0.5%
38		FERC	NA		NA		NA	
39								
40	EPA		14	6.3%	11	2.9%	3	1.4%
41								
42	FCC		ND		ND		ND	
43								
44	GSA		1	0.5%	1	0.3%	0	0.0%
45								
46	H&HS		0	0.0%	1	0.3%	0	0.0%
47								
48	HUD		NA		NA		NA	
49								
50	INTERIOR							
51		BIA	3	1.4%	27	7.2%	8	3.7%
52		BLM	48	21.6%	82	21.8%	40	18.3%
53		BOR	19	8.6%	29	7.7%	15	6.9%

TABLE A.11 (continued)

	55	56	57	58	59	60	61	62	
54			FWS	4	1.8%	11	2.9%	2	0.9%
55			MMS	NA		NA		NA	
56			USGS	0	0.0%	0	0.0%	0	0.0%
57			NPS	12	5.4%	93	24.7%	41	18.8%
58			GSM	10	4.5%	5	1.3%	10	4.6%
59									
60		JUSTICE		0	0.0%	0	0.0%	0	0.0%
61									
62		LABOR		NA		NA		NA	
63									
64		NASA		0	0.0%	0	0.0%	0	0.0%
65									
66		NAT CAP PLAN		NA		NA		NA	
67									
68		NRC		0	0.0%	0	0.0%	0	0.0%
69									
70		PADC		ND		ND		ND	
71									
72		POSTAL SERVICE		0	0.0%	0	0.0%	0	0.0%
73									
74		SBA		0	0.0%	0	0.0%	0	0.0%
75									
76		TVA		0	0.0%	1	0.3%	0	0.0%
77									
78		TRANSPORTATION							
79			FAA	0	0.0%	0	0.0%	0	0.0%
80			FHWA	30	13.5%	35	9.3%	35	16.1%
81			FRA	ND		ND		ND	
82			UMTA	2	0.9%	4	1.1%	2	0.9%
83									
84									
85		VA		0	0.0%	0	0.0%	0	0.0%
86									
87	-----								
88		TOTAL		222		376		218	
89									
90									
91									
92									
93									
94									

TABLE A.12

Unanticipated Discoveries, FY 1986

1	2	3	4	5	6	7	8	9	
4	DEPARTMENTS	AGENCIES	DISCOVERIES	RESOURCES	FTES USED	COST OF			
5			OF	SIGNIFICANT	FOR	FTES FOR			
6			UNANTICIPATED	AND DATA	UNANTICIPATED	UNANTICIPATED			
7			ARCHEOLOGICAL	COLLECTION OR	ARCHEOLOGICAL	ARCHEOLOGICAL			
8			RESOURCES	AVOIDANCE	RESOURCES	RESOURCES			
9			SUBSEQUENT TO	IMPLEMENTED	BY AGENCY	BY AGENCY			
10			SEC. 106						
11			COMPLIANCE						
15	AGRICULTURE								
16		ASCS	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
17		FaHA	65	25.5%	1	0.7%	ND		ND
18		FS	30	11.8%	20	14.6%	7.0	18.6%	\$80000.00
19		REA	2	0.8%	1	0.7%	0.0	0.0%	\$0.00
20		SCS	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
22	COMMERCE								
23		ECON DEVEL	NA		NA		NA		NA
24		NOAA	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
26	DEFENSE								
27		AIR FORCE	27	10.6%	15	10.9%	2.0	5.3%	\$23400.00
28		ARMY	3	1.2%	3	2.2%	4.3	11.4%	\$4150.00
29		COE	10	3.9%	5	3.6%	0.6	1.6%	\$30000.00
30		MARINES	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
31		NAVY <sup>1</sup>	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
33	EDUCATION		NA		NA		NA		NA
35	ENERGY		2	0.8%	1	0.7%	0.0	0.0%	\$0.00
36		FERC	NA		NA		NA		NA
38	EPA		2	0.8%	2	1.5%	ND		ND
40	FCC		ND		ND		ND		ND
42	GSA		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
44	H&HS <sup>2</sup>		3	1.2%	2	1.5%	0.0	0.0%	\$0.00
46	HUD		NA		NA		NA		NA
48	INTERIOR								
49		BIA	23 <sup>3</sup>	9.0%	12	8.8%	3.0	8.0%	\$20866.00
50		BLM	30	11.8%	27	19.7%	0.5	1.3%	\$13500.00
51		BOR	3	1.2%	1	0.7%	3.2	8.5%	\$1200.00
52		FWS	1	0.4%	1	0.7%	1.0	2.7%	\$500.00
53		MMS	NA		NA		NA		NA

TABLE A.12 (continued)

	1	2	3	4	5	6	7	8	9
54		USBS	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
55		NPS	12	4.7%	10	7.3%	2.0	5.3%	\$41500.00
56		OSM	4	1.6%	1	0.7%	0.1	0.1%	\$1500.00
57									
58	JUSTICE		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
59									
60	LABOR		NA		NA		NA		NA
61									
62	NASA		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
63									
64	NAT CAP PLAN		NA		NA		NA		NA
65									
66	NRC		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
67									
68	PADC		ND		ND		ND		ND
69									
70	POSTAL SERVICE		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
71									
72	SBA		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
73									
74	TVA		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
75									
76	TRANSPORTATION								
77		FAA	0	0.0%	0	0.0%	0.0	0.0%	\$0.00
78		FHWA	38	14.9%	27	19.7%	14.0	37.2%	\$200000.00
79		FRA	ND		ND		ND		ND
80		UMTA	0	0.0%	8	5.8%	0.0	0.0%	\$31805.00
81									
82	VA		0	0.0%	0	0.0%	0.0	0.0%	\$0.00
83									
84									
85	TOTALS		255		137		37.65		\$448421.00
86									
87	NA = NOT APPLICABLE								
88	ND = NO DATA								
89	86DISCOV								
90	9/27/87								

TABLE A.12 (continued)

	10	11	12	13	14	15	16	17	18
	DEPARTMENTS	AGENCIES	COST OF SUPPORT FOR UNANTICIPATED ARCHAEOLOGICAL RESOURCES BY AGENCY		COST OF UNANTICIPATED ARCHAEOLOGICAL RESOURCES BY CONTRACT		COST OF UNANTICIPATED ARCHAEOLOGICAL RESOURCES BY LAND USE APPLICANT		
15	AGRICULTURE								
16		ASCS	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
17		FmHA		ND		ND		\$500.00	0.3%
18		FS	17.8%	\$400.00	0.6%	\$0.00	0.0%	\$0.00	0.0%
19		REA	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$1500.00	0.8%
20		SCS	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
22	COMMERCE								
23		ECON DEVEL		NA		NA		NA	
24		NOAA	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
26	DEFENSE								
27		AIR FORCE	5.2%	\$2000.00	2.8%	\$0.00	0.0%	\$5000.00	2.8%
28		ARMY	0.9%	\$5000.00	6.9%	\$5100.00	0.9%	\$100000.00	56.6%
29		COE	6.7%	\$6500.00	9.0%	\$65000.00	11.0%	\$15000.00	8.5%
30		MARINES	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
31		NAVY	0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
33	EDUCATION			NA		NA		NA	
35	ENERGY		0.0%	\$0.00	0.0%	\$0.00	0.0%	\$100.00	0.1%
36		FERC		NA		NA		NA	
38	EPA			ND		ND		ND	
40	FCC			ND		ND		ND	
42	GSA		0.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
44	H&HS		0.0%	\$0.00	0.0%	\$400.00	0.1%	\$0.00	0.0%
46	HUD			NA		NA		NA	
48	INTERIOR								
49		BIA	4.7%	\$16000.00	22.0%	\$3500.00	0.6%	\$0.00 <sup>4</sup>	0.0%
50		BLM	3.0%	\$3400.00	4.7%	\$3000.00	0.5%	\$51500.00	29.2%
51		BOR	0.3%	\$300.00	0.4%	\$1300.00	0.2%	\$0.00	0.0%
52		FWS	0.1%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
53		MMS		NA		NA		NA	

TABLE A.12 (continued)

	1	2	3	4	5	6	7	8	
54		NPS	76000000	8.0%	0.5	4.0	12.0	83.0	
55		OSM	0		0.0	0.0	0.0	0.0	
56									
57		JUSTICE	23446	0.0%	10.0	20.0	20.0	50.0	
58									
59		LABOR	NA		NA	NA	NA	NA	
60									
61		NASA	134939	0.0%	10.0	25.0	15.0	50.0	
62									
63		NAT CAP PLAN	NA		NA	NA	NA	NA	
64									
65		NRC	25000 <sup>10</sup>	0.0%	100.0	0.0	0.0	0.0	
66									
67		PADC	ND		ND	ND	ND	ND	
68									
69		POST/SERVICE	4752	0.0%	100.0	100.0	0.0	0.0	
70									
71		SBA	ND		ND	ND	ND	ND	
72									
73		TVA	1000000	0.1%	1.0	10.0	1.0	89.0	
74									
75		TRANSPORTATION							
76		FAA	24142	0.0%	11.0	0.0	0.0	100.0	
77		FHWA	NA		NA	NA	NA	NA	
78		FRA	ND		ND	ND	ND	ND	
79		UMTA	NA		NA	NA	NA	NA	
80									
81		VA	26253	0.0%	2.6 <sup>11</sup>	9.0 <sup>12</sup>	7.0 <sup>13</sup>	81.4 <sup>14</sup>	
82									
83	-----								
84									
85		TOTAL	946759086						
86									
87									
88		NA= NOT APPLICABLE							
89		ND = NO DATA							
90		B&BASE							
91		9/27/87							

TABLE A.13

Archeological Resource Base, FY 1986

1	2	3	4	5	6	7	8
1							
2							
3	-----						
4	DEPARTMENTS	AGENCIES	ACRES	% OF ACRES	% OF ACRES	% OF ACRES	% OF ACRES
5			CONTROLLED	INVESTIGATED	INVESTIGATED	INVESTIGATED	NOT
6			BY	TO IDENTIFY	TO IDENTIFY	TO IDENTIFY	INVESTIGATED
7			AGENCY	100% OF	MORE THAN	LESS THAN	FOR
8				ARCHEOLOGICAL	50% OF	50% OF	ARCHEOLOGICAL
9				PROPERTIES	ARCHEOLOGICAL	ARCHEOLOGICAL	RESOURCES
10					PROPERTIES	PROPERTIES	
11							
12	-----						
13							
14	AGRICULTURE						
15		ASCS	0	0.0%	0.0	0.0	0.0
16		FMA	1500000	0.2%	20.0	40.0	10.0
17		FS	190685089	20.1%	ND	ND	90.0
18		REA	NA		NA	NA	NA <sup>1</sup>
19		SCS	1731	0.0%	7.0	0.0	93.0
20							
21	COMMERCE						
22		ECON DEVEL	NA		NA	NA	NA
23		NOAA	1352400 <sup>2</sup>	0.1%	1.0	10.0	79.0
24							
25	DEFENSE						
26		AIR FORCE	9164884	1.0%	1.0	9.0	82.0
27		ARMY	12000000	1.3%	5.0	15.0	60.0 <sup>3</sup>
28		CDE	8500000	0.9%	30.0	10.0	40.0
29		MARINES	1500000	0.2%	3.0	7.0	80.0
30		NAVY <sup>4</sup>	1200000	0.1%	10.0	25.0	35.0
31							
32	EDUCATION		NA		NA	NA	NA
33							
34	ENERGY		2021679	0.2%	7.0	4.0	84.0
35		FERC	NA		NA	NA	NA
36							
37	EPA		ND		ND	ND	ND
38							
39	FCC		ND		ND	ND	ND
40							
41	GSA <sup>5</sup>		15000	0.0%	ND	ND	ND
42							
43	H&HS <sup>6</sup>		3804	0.0%	15.0	0.0	85.0
44							
45	HUD		NA		NA	NA	NA
46							
47	INTERIOR						
48		BIA	53000000	5.6%	0.2 <sup>7</sup>	0.4	98.4
49		BLM	340000000	35.9%	ND <sup>8</sup>	ND	98.0
50		BOR	5060446	0.5%	14.0 <sup>8</sup>	13.0 <sup>8</sup>	67.0 <sup>8</sup>
51		FWS	90515521	9.6%	0.2 <sup>9</sup>	4.0	88.8
52		MMS	153000000	16.2%	0.0	0.0	99.0
53		USGS	0		0.0	0.0	0.0

TABLE A.13 (continued)

	1	2	3	4	5	6	7	8	
54		NFS	76000000	8.0%	0.5	4.0	12.0	83.0	
55		OSM	0		0.0	0.0	0.0	0.0	
56									
57		JUSTICE	23446	0.0%	10.0	20.0	20.0	50.0	
58									
59		LABOR	NA		NA	NA	NA	NA	
60									
61		NASA	134939	0.0%	10.0	25.0	15.0	50.0	
62									
63		NAT CAP PLAN	NA		NA	NA	NA	NA	
64									
65		NRC	25000 <sup>10</sup>	0.0%	100.0	0.0	0.0	0.0	
66									
67		FADC	ND		ND	ND	ND	ND	
68									
69		POST/SERVICE	4752	0.0%	100.0	100.0	0.0	0.0	
70									
71		SBA	ND		ND	ND	ND	ND	
72									
73		TVA	1000000	0.1%	1.0	10.0	1.0	89.0	
74									
75		TRANSPORTATION							
76		FAA	24142	0.0%	11.0	0.0	0.0	100.0	
77		FHWA	NA		NA	NA	NA	NA	
78		FRA	ND		ND	ND	ND	ND	
79		UMTA	NA		NA	NA	NA	NA	
80									
81		VA	26253	0.0%	2.6 <sup>11</sup>	9.0 <sup>12</sup>	7.0 <sup>13</sup>	81.4 <sup>14</sup>	
82									
83	-----								
84									
85		TOTAL	946759086						
86									
87									
88		NA= NOT APPLICABLE							
89		ND = NO DATA							
90		86BASE							
91		9/27/87							

TABLE A.13 (continued)

	9	10	11	12	13	14	15	16	17
	DEPARTMENTS	AGENCIES	KNOWN	% OF					
		ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL	ARCHEOLOGICAL
		PROPERTIES	PROPERTIES	PROPERTIES	PROPERTIES	PROPERTIES	PROPERTIES	PROPERTIES	PROPERTIES
		ON LANDS	LISTED ON THE	DETERMINED	EVALUATED	DETERMINED	NOT	EVALUATED	NOT
		CONTROLLED	NATIONAL	ELIGIBLE FOR	BUT NOT	INELIGIBLE	EVALUATED	FOR	FOR
		BY AGENCY	REGISTER	THE NATIONAL	LISTED ON	NATIONAL	NATIONAL	NATIONAL	NATIONAL
				REGISTER	NATIONAL	REGISTER	REGISTER	REGISTER	REGISTER
14	AGRICULTURE								
15		ASCS	0	0.0%	0.0	0.0	0.0	0.0	0.0
16		FmHA	149	0.0%	5.0	5.0	30.0	20.0	40.0
17		FS	110950	27.1%	0.4	7.2	11.7	ND	80.7
18		REA	NA		NA	NA	NA	NA	NA
19		SCS	1	0.0%	0.0	100.0	0.0	0.0	0.0
21	COMMERCE								
22		ECON DEVEL	NA		NA	NA	NA	NA	NA
23		NOAA	NA		NA	NA	NA	NA	NA
25	DEFENSE								
26		AIR FORCE	3871	0.9%	0.4	3.0	22.0	2.0	73.0
27		ARMY	18000	4.4%	5.0	1.0	15.0	0.5	80.0
28		CDE	36000 <sup>15</sup>	8.8%	3.0	23.0	19.0	8.0	47.0
29		MARINES	500	0.1%	0.5	9.5	40.0	20.0	30.0
30		NAVY	5000	1.2%	50.0	40.0	10.0	0.0	0.0
32	EDUCATION		NA		NA	NA	NA	NA	NA
34	ENERGY		3932	1.0%	0.5	23.0	33.0	0.2	42.0
35		FERC	NA		NA	NA	NA	NA	NA
37	EPA		ND		ND	ND	ND	ND	ND
39	FCC		ND		ND	ND	ND	ND	ND
41	GSA		ND		ND	ND	ND	ND	ND
43	H&HS		NA		5.0	NA	NA	NA	95.0
45	HUD		NA		NA	NA	NA	NA	NA
47	INTERIOR								
48		BIA	48930 <sup>16</sup>	12.0%	0.1	24.0	5.0	3.0	67.9
49		BLM	128941	31.5%	0.3	3.3	20.0	ND	76.4
50		BOR	7065 <sup>17</sup>	1.7%	3-40	2-32	0-85	0-44	3-56
51		FWS	6359	1.6%	2.0	4.0	6.0	17.0	71.0
52		MMS	240 <sup>18</sup>	0.1%	1.0	0.0	0.0	1.0	99.0
53		USGS	0	0.0%	0.0	0.0	0.0	0.0	0.0

TABLE A.13 (continued)

	9	10	11	12	13	14	15	16	17	
54			NPS	37000	9.0%	56.0	1.0	0.5	1.0	39.0
55			OSM	0	0.0%	0.0	0.0	0.0	0.0	0.0
56										
57		JUSTICE		2	0.0%	0.0	0.0	0.0	100.0	0.0
58										
59		LABOR		NA		NA	NA	NA	NA	N
60										
61		NASA		1	0.0%	100.0	100.0	0.0	0.0	0.0
62										
63		NAT CAP PLAN		NA		NA	NA	NA	NA	N
64										
65		NRC		486	0.1%	0.0 <sup>19</sup>	40.0 <sup>20</sup>	0.0	60.0	0.0
66										
67		PADC		ND		ND	ND	ND	ND	N
68										
69		POST/SERVICE		2	0.0%	100.0	100.0	100.0	0.0	0.0
70										
71		SBA		1	0.0%	ND	ND	ND	ND	N
72										
73		TVA		2000	0.5%	1.0	1.0	1.0	1.0	98.5
74										
75		TRANSPORTATION								
76			FAA	0	0.0%	0.0	0.0	0.0	0.0	0.0
77			FHWA	NA		NA	NA	NA	NA	N
78			FRA	ND		ND	ND	ND	ND	N
79			UMTA	NA		NA	NA	NA	NA	N
80										
81		VA		6	0.0% <sup>21</sup>	33.0	33.0	16.0	16.0	0.0
82										
83	-----									
84				409436						
85		TOTAL								
86										
87										
88										
89										
90										
91										

14. Local newspaper releases on the importance of compliance and the need to protect sites from vandalism, a mini-course on archeological preservation techniques taught to thirty interagency fire boss trainees within the framework of a course on prescribed burns. Special programs at parks and schools use volunteers on excavations, special brochures, talks to university classes, preservation groups and visitors, articles in National Parks magazine, articles in local newsletters, and ARPA posters.
15. NPS does on-site interpretation during a project. Project leaders are encouraged to give special evening talks. When working on or adjacent to Indian lands, people from that tribe are often hired.
16. Several courses for park staff are taught each year.
17. One-day training programs for state staff and industry.
18. One-day training programs.
19. None in FY85. However, interpretive displays have sometimes been specified in the memoranda of agreement reached in the Section 106 process.
20. Talks in schools, attendance at conferences, direct one-on-one contacts.
21. Not on a formal basis. Formal training not specific to archeology.
22. Exception: Fort Hood has a regularly scheduled seminar on archeology.
23. Not bureauwide, but State specific. Sometimes in cooperation with other agencies such as the Forest Service.
24. This figure may include permit reports, major survey/mitigation reports, as well as routine BLM activities.
25. Several courses for park staff are taught each year.
26. For employees of state mining regulatory agencies, not OSM personnel.
27. The FHWA training course is not intended to produce para-professional archeologists. The training does increase awareness of and for archeological and historical resources.
28. The FHWA training introduces highway engineers, planners, and managers to historic and archeological resources.
29. Many reports are one or two page summaries of negative findings.
30. Ten for the Guadalupe LRT Project, one for the MARTA system.
31. University, newspapers, clearinghouse.
32. If REA prepares an EIS or EA under the National Environmental Policy Act, relevant reports are referenced in these documents and points of contact for the public to obtain or review such information are provided. Typically, whenever a report is prepared, copies are maintained by the SHPO, REA, and the rural electric or telephone utility constructing the project. If the Advisory Council on Historic Preservation becomes involved, it also is provided with a copy of the report.
33. Reports are available from NOAA's Marine and Estuarine Management Division on request.
34. Advisory Council and Library of Congress.

35. Not published but available on inquiry.
36. Tribes.
37. GPO distribution and sales, local museum and public distribution.
38. Agency.
39. The reports are not available to the public since they are paid for by the oil industry, and the industry often considers the information included in the reports to be proprietary or confidential. These reports may also contain specific data on possible historic shipwreck locations and, as such, are excluded from the provisions of the Freedom of Information Act.

Archeological study reports resulting from the OCS studies program are made available through NTIS. However, no such reports were generated by MMS during FY 1985.

40. In the Alaska, Atlantic, and Pacific Regions this has been a regular procedure. In the Gulf of Mexico Region, due to heavy workload, reports have not been sent to the SHPOs. The Gulf of Mexico Region is presently coordinating with all of the Gulf of Mexico SHPOs regarding filing of the OCS archeological reports with the SHPO. An alternative to filing the reports with the SHPO would be to inform the SHPO of all reports received and to make the reports available to the SHPO upon request.
41. Reports sold to public by TVA at actual publication cost.
42. Made available as appendices to EAs.
43. Through NPS, SHPO, and Advisory Council.
44. Through a State clearinghouse in California. Also placed in public libraries and libraries of local colleges and universities.

**Table A.4: Identification and Evaluation Footnotes FY 1985**

1. Conducted in conjunction with SHPO.
2. Some survey contracts include literature searches and testing.
3. *This figure is often difficult to derive when part of a larger contract package.*
4. Navy's literature searches are **always** combined with surveys.
5. Generally includes direct program subactivity costs only.
6. The individual companies which have leased the areas in question hire contractors to perform the literature surveys and to perform field surveys of the leased blocks. These surveys are not the typical archeological site field survey, but are surveys to ascertain the presence or absence of potential archeological sites on the leased blocks.
7. A total of 326 field surveys were conducted. These surveys were required by MMS, but the cost was borne by the oil and gas industry.
8. Conducted by consultants.
9. Surveys conducted by NJDOT at its own expense as part of a cooperative agreement (informal) for preparation of Atlantic City-Philadelphia Environmental Assessment.

10. Three of the literature searches were components of EISs. Their costs cannot be broken out, so based on their magnitude, a guess figure of \$2500 has been assigned. The remaining seven searches were done in-house for an estimated cost of \$2500 in staff time.
11. This figure includes some of the costs for literature searches that could not be disjoined to place under question concerning acreage surveyed by project.
12. A total of 326 field surveys were conducted. These surveys were required by MMS, but cost was borne by the oil and gas industry.
13. Numerous potential historic shipwrecks and areas having a high potential for the occurrence of prehistoric sites were recorded as a result of the OCS lease block and pipeline surveys. However, the indicators of potential sites, which were recorded by the remote-sensing equipment (i.e. magnetometer, side-scan sonar, and subbottom profiler) were subsequently avoided by oil and gas development, and not investigated. Therefore, the number of these representing actual archeological sites is unknown.
14. Conducted by consultants as part of EA process.
15. Surveys conducted by NJDOT at its own expense as part of a cooperative agreement (informal) for preparation of Atlantic City-Philadelphia Environmental. To be nominated by NJDOT.
16. All six surveys were conducted in-house. The cost estimate is for staff time and travel.
17. Out of 596 sites evaluated.
18. *Some new sites have not been evaluated yet.*
19. SCS does not distinguish "formal eligibility" determinations from SHPO concurrence in its automated data base.
20. SCS does not distinguish "formal eligibility" determinations from SHPO concurrence in its automated data base.
21. Since none of the potential sites located were investigated further, National Register eligibility could not be determined.
22. Since none of the potential sites located were investigated further, National Register eligibility could not be determined.
23. Surveys conducted by NJDOT at its own expense as part of a cooperative agreement (informal) for preparation of Atlantic City-Philadelphia Environmental. To be nominated by NJDOT.
24. Five of the six properties surveyed are either on or eligible for the National Register as historic districts. The surveys were largely reconnaissance for known historic features and for prehistoric sites. One involved intensive testing of a one acre site.

**Table A.5: Data Recovery Footnotes FY 1985**

1. These sites had some protection action taken under a "no adverse effect" determination with the appropriate SHPO and the Advisory Council.
2. Eight of these are not reported as data recovery projects.
3. See footnote 2.

4. Includes non-eligible site.
5. All development activities were relocated to avoid potential sites recorded by the predevelopment remote-sensing surveys. Therefore, it is assumed that no sites were adversely affected by development activities.
6. See footnote 5.
7. All projects were fully evaluated in regard to effect and were found to be in compliance with Section 106. No projects caused any adverse effects.
8. This is an estimate of the number of data recovery projects (Section 106--no adverse effects).
9. Estimate only and does not include mitigation for All America Pipeline in Arizona.
10. Includes funds (\$293,089) expended as part of Small Reclamation Project Loan Program for Data Recovery, Ak Chin Indian Community, Arizona, with Arizona Projects Office serving as contract technical monitor.
11. This is an estimate of the number of sites saved through efforts such as project redesign.

**Table A.7: Permitting Footnotes FY 1986**

1. Title III, MRPSA.
2. Records not kept in this format.
3. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
4. Percentages have been averaged.
5. One area office reported this as unknown.
6. The VA's contracts specifically state that the contract itself is an ARPA permit.

**Table A.8: Enforcement Footnotes FY 1986**

1. Records not kept in this format.
2. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
3. Two cases were too weak to prosecute.

**Table A.9: Education Footnotes FY 1986**

1. Records not kept in this format.
2. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
3. Percentage BIA-wide cannot be determined. The breakdown as represented by the area offices is as follows: Navajo Area, 100%; Minnesota Agency (Minneapolis Area) 14%; Albuquerque Office, 1%. No activity reported by the remaining area offices.
4. Data is incomplete. Percentages were not calculated.

**Table A.10: Identification and Evaluation Footnotes FY 1986**

1. Only half of regions responded- totals should be approximately double these figures.
2. REA does not use its own staff for literature searches or field studies. Such research is performed by REA's financial assistance applicants. The results are reviewed by REA.
3. Expenditures marked "5" are combined.
4. Records not kept in this format.
5. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
6. One area office reported this as unknown.
7. In-house. Does not include mining company work or state abandoned mine land projects.
8. Nothing on grants on non-Federal lands. Multiple undertakings within a limited number of parcels.
9. Only half of regions responded- totals should be approximately double these figures.
10. See footnote 9.
11. All regions responded.
12. Two area offices reported this as unknown.
13. In-house. Does not include mining company work or state abandoned mine land projects.
14. Not separate from field survey contracts or EIS contracts where figures for this are not available.
15. Nothing on grants on non-Federal land.
16. All regions responded.
17. One area office reported this as unknown.
18. Two area offices reported this as unknown. \$50,000 of this is P.L. 93-68 contracting.
19. Does not include figures for EIS contracts where a separate figure is not available.
20. All regions responded.
21. Navajo Area reports that the figure they submitted does not include hundreds of resources recorded by consultants in FY 1986.
22. Eligibility for many of sites listed to be made in FY 1987.
23. All regions responded.
24. Eligibility for many sites listed to be made in FY 1987.

**Table A.11: Data Recovery Footnotes FY 1986**

1. REA staff does not perform data recovery. However, it reviews the results of any such work performed by its financial assistance applicants.
2. Records not kept in this format.
3. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
4. Some area offices have not conducted any data recovery.
5. Expenditures for one of these projects were for preparation of a contract for a project archeologist for the Los Angeles Rail Rapid Transit District.
6. One area office reported this as unknown.
7. Two area offices reported this as unknown.
8. See footnote 6.

**Table A.12: Unanticipated Discoveries Footnotes FY 1986**

1. Records not kept in this format.
2. Includes responses from only three parts of PHS: IHS, FDA, and NIH.
3. Navajo Area states that they are not including discovery situations when other agencies are the lead Federal agency. They report that Indian Health Service alone accounted for approximately twelve discovery situations in FY 1986.
4. One area office reported this as unknown.

**Table A.13: Archeological Resource Base Footnotes FY 1986**

1. SCS is in the process of surveying the remaining 1,468 acres that it holds in 11 states.
2. The National Marine Sanctuary Program administered by the Marine and Estuarine Management Division, National Oceanic and Atmospheric Administration consists of eight National Marine Sanctuaries varying in size from one nautical mile to 1,200 nautical miles.
3. This includes approximately one million acres that will never be surveyed due to the existence of hazardous and toxic materials.
4. Records are not kept in this format.
5. An estimate of GSA's archeological resource base is not available at this time, and is not readily expressed in the terms presented by this section. GSA "controls" an inventory of approximately 5,000 buildings on sites from a few thousand square feet to under several acres. Also, at any given time, there may be hundreds or thousands of sites under temporary GSA control in the process of transfer through Federal stewardship. Because most of the sites are built over, relatively little acreage is investigated, and the number of known archeological properties is extremely low. A data element may be introduced into GSA's computerized inventory format for archeological reporting purposes.
6. Includes responses from only two parts of PHS; IHS, and NIH.

7. One area office reported this as unknown.

8. The acreages shown are public lands withdrawn for reclamation purposes under various reclamation legislation. Reclamation retains the title but does not necessarily "control" or administer this land directly. The majority of these lands are administered by other entities or agencies such as the Bureau of Land Management, and the Fish and Wildlife Service. The acreage shown is a total estimate for all Reclamation regions. Likewise, the percentages are also listed as they reflect the variability in specific regional programs.

In the Bureau of Reclamation's cultural resource program, surveys are generally conducted in project areas during the planning process prior to agency purchase or withdrawal of lands. Hence, until purchase or withdrawal, the number of sites "on land controlled by the agency" may not reflect the actual number of sites in the project area, or those currently surveyed. In addition, private lands are sometimes impacted by a project although never owned or controlled by the agency. Sites on these lands, likewise, are not included in these figures. In summary, the numbers and percentages listed above mostly reflect a site universe totally different from the sites and acreage listed in the Identification and Evaluation section of the questionnaire.

9. None. The Federal Government has not claimed ownership of archeological resources on the Outer Continental Shelf (OCS). Federal agencies issuing leases and permits on the OCS have the responsibility of protecting actual and probable archeological resources. It is MMS policy that identifying and evaluating archeological resources is the responsibility of the lessee. When potential archeological resources have been identified as a result of required MMS remote sensing surveys (i.e., magnetometer, side scan sonar, and subbottom profiler), the lessee has always taken the option of avoiding those resources rather than conducting additional archeological investigations.

10. Plants surveyed: Millstone 3, Humbolt Bay, Sab Onofre 2/3, Vogtle, Hope Creek, Susquehanna, Diablo Canyon, Braidwood, Palo Verde, Callaway, and Waterford 3. In regard to the Hope Creek Plant, the land in question is an artificial island dredged up from the Delaware River at the turn of the century.

11. This parcel contained no archeological sites.

12. While the VA believes surveys of these parcels have located all feasibly locatable resources, they hesitate to claim 100% identification.

13. This is based on the total acreage of parcels on which only project specific surveys (of less than total parcels) have been conducted.

14. This includes closed National Cemeteries (or sections of National Cemeteries), properties where the SHPO has concurred it is "highly unlikely" that their approval will be requested, and properties identified for future survey.

15. Many of the archeological properties under agency control are on lands that are permanently inundated; therefore, the extent of the Corps' knowledge about them is limited.

16. One area office reported this as unknown.

17. See footnote 8.

18. Estimates are known for historic shipwrecks for which there are known locations. Many others are known to exist, but exact locations are not known.

The number of prehistoric sites on the continental shelf cannot be estimated because inadequate information on prehistoric populations during the late Wisconsin glacial period is not available. As a result of an MMS-funded study on inundated prehistoric sites, two sites have been located on the Gulf of Mexico OCS.

19. One cultural property (Vogtle plant), not 1%.

20. With respect to the Callaway Plant, there are approximately 19 sites considered to be potentially eligible for the National Register. Recommendations presented in the Licensee's Management Plan are to carry out Phase II testing as an aide to determine eligibility when, and if, the archeological sites are threatened with adverse impacts. Documented agreement has not been received from SHPO.
  
21. The VA has also conducted surveys on land under consideration for acquisition which may or may not come under VA control within the next few reporting years. The form does not provide for this information.

**APPENDIX B. QUESTIONNAIRES FY 1985 AND FY 1986**

**QUESTIONNAIRE FOR THE ANNUAL REPORT  
TO CONGRESS ON THE FEDERAL ARCHEOLOGY PROGRAM,  
FY 1985**

A. Permitting	NUMBER	YES	NO	OTHER
1. Number of ARPA permit applications.....				
2. Number of ARPA permits issued.....				
3. Number of these which were for <i>basic</i> research (Research conducted primarily for scientific or scholarly purposes).....				
4. Number of permits for <i>applied</i> research				
a. Research conducted for statutory compliance or management purposes by agency personnel.....				
b. Research conducted for statutory compliance or management purposes under contract.....				
c. Research conducted for statutory compliance or management purposes by a third party.....				
5. Number of permits denied.....				
6. Number of permits revoked.....				
7. Number of appeals				
a. Within agency.....				
b. Other (e.g., Interior Board of Land Appeals).....				
8. Number of permits suspended.....				
9. Number of permits reinstated.....				
10. What kind of hardware and software are you using?.....				
11. If not, do you intend to automate it?.....				
12. If so, when?.....				
13. Do you have a system for "pre-certifying" permit applicants?.....				
14. Number of permits for archeological activities issued under other authorities (non-collection surveys, etc.).....				
Specify authorities.....				
15. Number of contracts considered to be a permit for purposes of ARPA?.....				
16. Number of contracts considered to be a permit under other authorities?.....				
Specify authorities.....				
17. Number of times an Indian tribe was notified of an impending permit?.....				
18. Number of times an Indian tribe was notified of an impending contract which constituted a permit.....				
<b>B. Enforcement</b>	<b>NUMBER</b>	<b>YES</b>	<b>NO</b>	<b>OTHER</b>
1. Percent of cultural resource personnel that have received ARPA training?				
a. FLETC.....				
b. Other (specify).....				
2. Percent of law enforcement personnel that have received ARPA training?				
a. FLETC.....				
b. Other (specify).....				
3. What training courses do you use?.....				
4. Documented violations of ARPA				
Number of cases of documented vandalism.....				
Number of arrests?.....				
Number of citations?.....				
5. Number of civil penalties applied?.....				
6. How much was in fines?.....				
7. How much was given in rewards?.....				
8. What was the monetary value of archeological resources seized and retained by the government?.....				

B. Enforcement (Continued)	NUMBER	YES	NO	OTHER
9. What was the monetary value of other personal property seized and retained by the government?.....				
10. How many criminal convictions?.....				
Misdemeanors.....				
Felonies.....				
Second offenses.....				
11. Amount of restitution costs?.....				
12. How many cases of vandalism, destruction, theft, etc., of cultural resources were prosecuted under other authorities?.....				
13. Which authorities?.....				
14. Estimate of the number and types of cultural resources owned and controlled by your agency?.....				
15. Is this inventory automated?.....				
16. What is the hardware and software you use?.....				
17. Do you have an estimate of the extent of vandalism, theft, etc., of these resources?.....				
18. If so, what is the extent?.....				
19. Estimate the savings to law enforcement, maintenance, etc., that resulted from your enforcement efforts?.....				
20. Have you used any remote sensing equipment in site protection (magnetic sensors, etc.).....				
If yes, identify.....				
21. Were they useful?.....				
22. Were there any problems with the equipment?.....				
23. Have you developed any innovative methods of dealing with resource protection that you would like discussed in the report to Congress? For example: patrol, fencing, gates, stabilization, vegetation, etc.....				
If so, please provide a short description.				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				
_____				

C. Public and In-House Education	NUMBER	YES	NO	OTHER
1. Have you undertaken any public education activities regarding preservation of archeological resources?.....				
2. Are these initiatives local, regional, or national?.....				
3. Will you send us copies of any such material for the archeology public relations clearinghouse? (Available as a lending library to any Federal agency).....				
Please describe a few examples of your choice. If you have a separate agency report on your public outreach efforts, please provide a copy.				
_____				
_____				
_____				
_____				

C. Public and In-House Education (Continued)	NUMBER	YES	NO	OTHER
4. Does your agency require public outreach activities for archeological work, including that conducted under Federal contract?.....				
5. Have you undertaken any in-house education activities regarding preservation of archeological resources?.....				
6. Does your agency have in-house para-professional courses in archeology?.....				
7. Does your agency have cultural resource sensitivity classes or seminars for personnel employed in other than the cultural resource field?.....				
8. How many archeological reports were produced as a result of projects conducted on your agency's lands, or as a result of agency licensed or assisted projects?.....				
9. How are these reports made available to the public?.....				
NTIS?.....				
DTIS?.....				
Other?.....				
10. Are copies of these reports filed with the SHPOs?.....				
D. Survey and Evaluation	NUMBER	YES	NO	OTHER
1. Approximately how many literature searches of archeological or other historic properties did you conduct?.....				
2. Approximate total cost of such activities?.....				
3. Approximately how many field surveys of archeological properties did you conduct?.....				
4. Approximate total cost of these survey projects?.....				
5. Approximate number of new sites recorded as a result of these surveys?.....				
6. Approximate total acreage surveyed by these projects?.....				
7. How many of these sites were considered eligible for the National Register of Historic Places (NRHP)?.....				
8. How many of these sites were formally determined eligible for the NRHP?.....				
9. How many of these sites were nominated to the NRHP?.....				
E. Data Recovery	NUMBER	YES	NO	OTHER
1. Subsequent to 106 compliance, how many sites were adversely effected by development activities?.....				
2. How many of these sites were subjected to additional research (data recovery) or other recording?.....				
3. How many individual data recovery projects does this represent?				
a. Number conducted by agency personnel?.....				
b. Number conducted by contract or other agreement?.....				
c. Number conducted by third parties?.....				
4. Approximate total cost of these data recovery projects?				
a. Agency costs?.....				
b. Contract--or other agreement--costs?.....				
c. Third party costs (if available)?.....				
5. How many of these sites were protected in some other manner (project redesign, stabilization, patrols, fences, gates, etc.)?.....				
6. Please list all projects conducted, and individual project costs.....				

**F. Discoveries**

**NUMBER    YES    NO    OTHER**

1. Subsequent to 106 compliance, how many of your agency's projects, or its assisted, licensed or permitted projects, resulted in the discovery of unexpected resources.....
2. How many of these resources were considered to be important because of their data content?.....
3. How many of these discoveries were subjected to data recovery under the 1% clause of P.L. 93-291?.....
4. What was the cost of this data recovery?
  - a. Agency costs?.....
  - b. Contract--or other agreement--costs?.....
  - c. Third party costs (if available)?.....
5. How many of these discoveries were subjected to data recovery under other authorities?.....
6. What was the cost of this data recovery?
  - a. Agency costs?.....
  - b. Contract--or other agreement--costs?.....
  - c. Third party costs (if available)?.....
7. Did your agency compensate any person, association, or public entity damaged as a result of any delays in construction or loss of the use of land necessitated by this data recovery?.....
8. If so, how much?.....



**B. Enforcement**

**NUMBER**

This section aims to summarize the amount of destruction of archeological properties due to vandalism and looting that is detected, and the extent to which vandals and others are being apprehended and successfully prosecuted for their activities.

1. Number of documented violations of ARPA, the Antiquities Act, or other statutes protecting archeological properties reported during FY 1986 on land administered or owned by your agency (as defined in Sec. 6 of ARPA, a violation is any excavation, removal, damage to, alteration, or defacement of an archeological property on Federal land without a permit issued or an exemption listed in Sec. 4 of ARPA. Examples of violations are fresh holes dug into a site or vehicle tracks from someone having run over a site.).....
2. Number of arrests made in cases of documented vandalism or looting.....
3. Number of citations issued in cases of documented vandalism or looting.....
4. Number of prosecutions in cases of documented vandalism or looting.....
5. Number of convictions under ARPA during FY 1986.....  
(NOTE: This number should be the sum of 5.a. plus 5.b. It is recognized that some convictions may be the result of arrests and citations made during previous fiscal years)
  - a. Number of misdemeanors.....
  - b. Number of felonies.....
  - c. Number of second offenses included in 5.a. or 5.b.....
6. Number of cases of vandalism, destruction, theft, etc. of archeological property that were prosecuted using an authority other than ARPA.....
7. Amount of money that was collected in criminal fines..... \$
8. Number of civil penalties applied (as permitted by Sec. 7 of ARPA or other authorities).....
9. Amount of money that was collected in civil penalties..... \$
10. What were the estimated costs for restoring or repairing archeological properties in cases in which civil penalties have been assessed for violations of ARPA or other authorities..... \$
11. Amount of money given in rewards (as permitted by Sec. 8 of ARPA)..... \$
12. What was the commercial value of artifacts seized and retained by the government?..... \$
13. What was the commercial value of other personal property seized and retained by the government?..... \$
14. What was the estimated cost to your agency of law enforcement for archeological resource protection?..... \$
15. What percentage of the overall cost of law enforcement within your agency is associated directly with ARPA or the Antiquities Act?..... %

**C. Agency Personnel Education**

This section aims to collect information on the extent to which agencies are making their personnel, especially law enforcement personnel, aware of ARPA and able to enforce it effectively and efficiently.

1. Number and percentage (put % in parentheses following number) of agency personnel who have received ARPA enforcement training during the fiscal year:

	Law Enforcement Personnel	Cultural Resource Personnel	Others
a. FLETC or other comparable 40-hour course	_____ ( )%	_____ ( )%	_____ ( )%
b. Other course or portion (8-16 hours)	_____ ( )%	_____ ( )%	_____ ( )%

**D. Identification and Evaluation Investigations**

**NUMBER**

This section aims to provide data for the estimation of the level of effort put into identification and evaluation of archeological investigations by agency personnel or contractors working for agencies.

1. Approximately how many agency undertakings included documented literature or map research of archeological properties in the project area? Documented research is meant to be research that resulted in a letter to the files, a report, or another type of written product to document its results.....

**D. Identification and Evaluation Investigations (Continued)**

**NUMBER**

a. Approximately how many agency FTE and how many dollars for personnel services were used for these kinds of activities? In parentheses, give total salary and benefits cost of FTE used.....(\$ )

(NOTE: The costs listed in 1.a-1.d. should be mutually exclusive)

b. Approximately how much in support costs was expended in conducting these activities with agency personnel?..... \$

c. Approximately how much was expended by your agency in contracting for these kinds of activities?..... \$

d. Approximately how much was expended by land use applicants in contracting for these kinds of activities?..... \$

2. Approximately how many agency undertakings included field studies to identify and evaluate archeological properties?.....

a. Approximately how many agency FTE and how many dollars for personnel services were used for these kinds of activities? In parentheses, give total salary and benefit cost of FTE used.....(\$ )

(NOTE: The amounts listed in 2.a.-2.-d. should be mutually exclusive)

b. Approximately how much in support costs was expended in conducting these activities with agency personnel?..... \$

c. Approximately how much was expended by your agency in contracting for these kinds of activities?..... \$

d. Approximately how much was expended by land use applicants in contracting for these kinds of activities?..... \$

3. Approximately how many acres were inspected by these identification and evaluation investigations?.....

4. Approximately how many new archeological sites were identified during FY 1986?.....

5. Approximately how many sites were determined eligible by the Keeper of the National Register or considered eligible through agreement between the agency and the appropriate SHPO during FY 1986?.....

(NOTE: It is recognized that some sites may have been identified during previous fiscal years.)

**E. Data Recovery**

**NUMBER**

This section aims to provide data for the estimation of the level of effort being devoted to data recovery projects and the kinds of research topics being investigated by these projects.

1. How many agency undertakings begun or underway in FY 1986 included archeological data recovery projects? Data recovery projects are meant to be investigations designed to mitigate an adverse impact or to achieve a determination of "no adverse" effect.....

(NOTE: The total in 1. should be the sum of the numbers of projects listed in 1.e-1.h.)

a. Approximately how many agency FTE and how many dollars for personnel services were used for these kinds of activities? In parentheses, give the total salary and benefits cost of FTE used.....(\$ )

(NOTE: The costs listed in 1.a-1.d. should be mutually exclusive)

b. Approximately how much in support costs was expended in conducting these activities with agency personnel?..... \$

c. Approximately how much was expended by your agency in contracting for these activities?..... \$

d. Approximately how much was expended by land use applicants in contracting for these activities?..... \$

e. How many data recovery projects were conducted solely by agency personnel?.....

f. How many data recovery projects were funded solely by the agency through contract?.....

g. How many data recovery projects were funded solely by land use applicants?.....

h. How many data recovery projects were funded by any combination of 1.e., 1.f., or 1.g.?.....

2. The types of research questions investigated through data recovery projects is an indication of the information that is considered important and can be derived from archeological data. With this question we are trying to identify the major research topics being investigated through data recovery projects. The list of topics below is admittedly crude; we expect to refine it, but we want to use it to begin to identify the major topics being emphasized in investigations at the present. Record the number of data recovery projects that included major emphasis on a topic. Projects may have included major emphasis on more than one topic.....

<b>E. Data Recovery (Continued)</b>	<b>NUMBER</b>
a. Economy.....	_____
b. Site/Settlement.....	_____
c. Cultural adaptation.....	_____
d. Paleodemography.....	_____
e. Cultural processes.....	_____
f. Social organization.....	_____
g. Cultural chronology.....	_____
h. Technology.....	_____
i. Trade/Exchange.....	_____
j. Ritual/Ceremonial.....	_____
k. Architecture.....	_____
l. Cultural ecology.....	_____
m. Significance/Management.....	_____
n. Paleo-environmental research.....	_____
<b>F. Emergency Discoveries</b> <span style="float: right;"><b>NUMBER</b></span>	
<b>This section aims to provide data for estimation of the extent to which archeological properties are discovered during the implementation of an agency undertaking subsequent to completion of the Sec. 106 review and compliance process.</b>	
1. Subsequent to Sec. 106 compliance, how many agency undertakings resulted in the discovery of unanticipated archeological resources during FY 1986?.....	
a. In how many of these instances were the resources judged important enough for data collection to be conducted or design changes made to avoid them?.....	_____
b. Approximately how many agency FTE and how many dollars for personnel services were used for this kind of activity? In parentheses, give the total costs for FTE used.....(\$ _____ )	_____
(NOTE: The amounts listed in 1.b.-1.e. should be mutually exclusive.)	
c. Approximately how much additional costs were expended in conducting this activity with agency personnel?.....	\$ _____
d. Approximately how much was expended by your agency in contracting for this activity?.....	\$ _____
e. Approximately how much was expended by land use applicants in contracting for this activity?.....	\$ _____
<b>G. Estimating the Archeological Resource Base</b> <span style="float: right;"><b>NUMBER</b></span>	
<b>This is a totally new section. It aims to provide baseline information about the extent of archeological resources within the lands controlled by Federal agencies and the quality of our knowledge about them. It is recognized that the questions below call for estimates. We ask agency specialists to make the best estimates possible through FY 1986 and write any caveats concerning them in the space provided for narrative.</b>	
1. Total acres controlled by the agency.....	
2. Percentage of total acres investigated sufficiently to identify: (NOTE: 2a.-2.d. should sum to 100%)	
a. 100% of the archeological properties.....	_____ %
b. More than 50% of the archeological properties.....	_____ %
c. Less than 50% of the archeological properties.....	_____ %
d. Percentage of land not investigated.....	_____ %
3. Total number of known archeological properties on land controlled by the agency.....	
a. Percentage of the total listed on the NRHP.....	_____ %
(NOTE: 3.a.-3.e. should sum to 100%)	
b. Percentage of the total determined eligible for the NRHP by the Keeper or considered eligible through documented consultation with the SHPO.....	_____ %
c. Percentage of total adequately evaluated, but not listed, considered, or formally determined eligible (i.e., fitting neither 3.a. nor 3.b.).....	_____ %
d. Percentage of the total determined ineligible for the NRHP by the Keeper or through documented consultation with the SHPO.....	_____ %
e. Percentage of the total not evaluated.....	_____ %
4. Please write below any specific caveats concerning the estimates given above.	

#### H. Narrative Questions

This section contains questions that cannot be answered with a number, dollar figure, or percentage. These questions require narrative answers; they relate to several of the sections for which quantitative questions have been listed. The answers that are provided will be used as a means of sharing information among agencies about the methods, techniques, software, etc. that are in use and those that have been particularly successful.

1. Please describe any computerized system that your agency is using to record and monitor ARPA, Antiquities Act, and/or other permits for archeological investigations. If this system is part of a larger system, please note and summarize the other kinds of information included on the system. Note the kind of hardware and software used for any systems that are mentioned.
2. Please describe any training courses that you use for ARPA training or general training in archeology for cultural resource specialists or program or land managers. We are familiar with the FLETC course on ARPA enforcement, the similar course that was offered by the Air Force, and the ACHP's course on Sec. 106 procedures; however, we would like to receive information about other courses. In addition, feel free to offer opinions concerning what training would be useful. Be as specific as possible.
3. Please describe effective cooperative projects, methods, and/or techniques that your agency has used to improve ARPA enforcement. Examples might include the use of remote sensing equipment for monitoring site locations or interagency cooperative agreements for combined surveillance of adjacent land units and concurrent jurisdiction of law enforcement personnel.
4. Please describe particularly effective, efficient, or innovative methods and techniques that your agency has used to improve archeological resource preservation that are not related to ARPA enforcement directly. Examples might include fencing, stabilization, patrols, interpretation, and para-professional training. If such programs and projects have already been summarized for the Archeological Assistance Division's Public Awareness clearinghouse, simply make note of this after the program/project name.
5. Please describe any systems that your agency has developed for sharing archeological information with other agencies, SHPO's, and other archeological groups or specialists.
6. Please describe any system your agency has developed for coordinating ARPA permits with Section 106 compliance and SHPO surveys and planning.
7. Describe communication, cooperation, and exchange between private individuals having collections of archeological resources and data (obtained before enactment of ARPA), professional archeologists, and associations of professional archeologists.