U.S. Department
of the Interior
National Park Service
Interagency Archeological
Services

Archeological and Historical Data Recovery Program 1979

D-153
File:
NPS General

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Effigy vessel from Averbuch Site, Tennessee.

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General

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As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to insure the wise use of all these resources. The Department also has major responsibility for American Indian Reservation communities and for people who live in Island Territories under U.S. administration.

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U.S. Department of the Interior

James G. Watt, Secretary
G. Ray Arnett, Assistant Secretary for Fish and Wildlife and Parks
Russell E. Dickenson, Director, National Park Service

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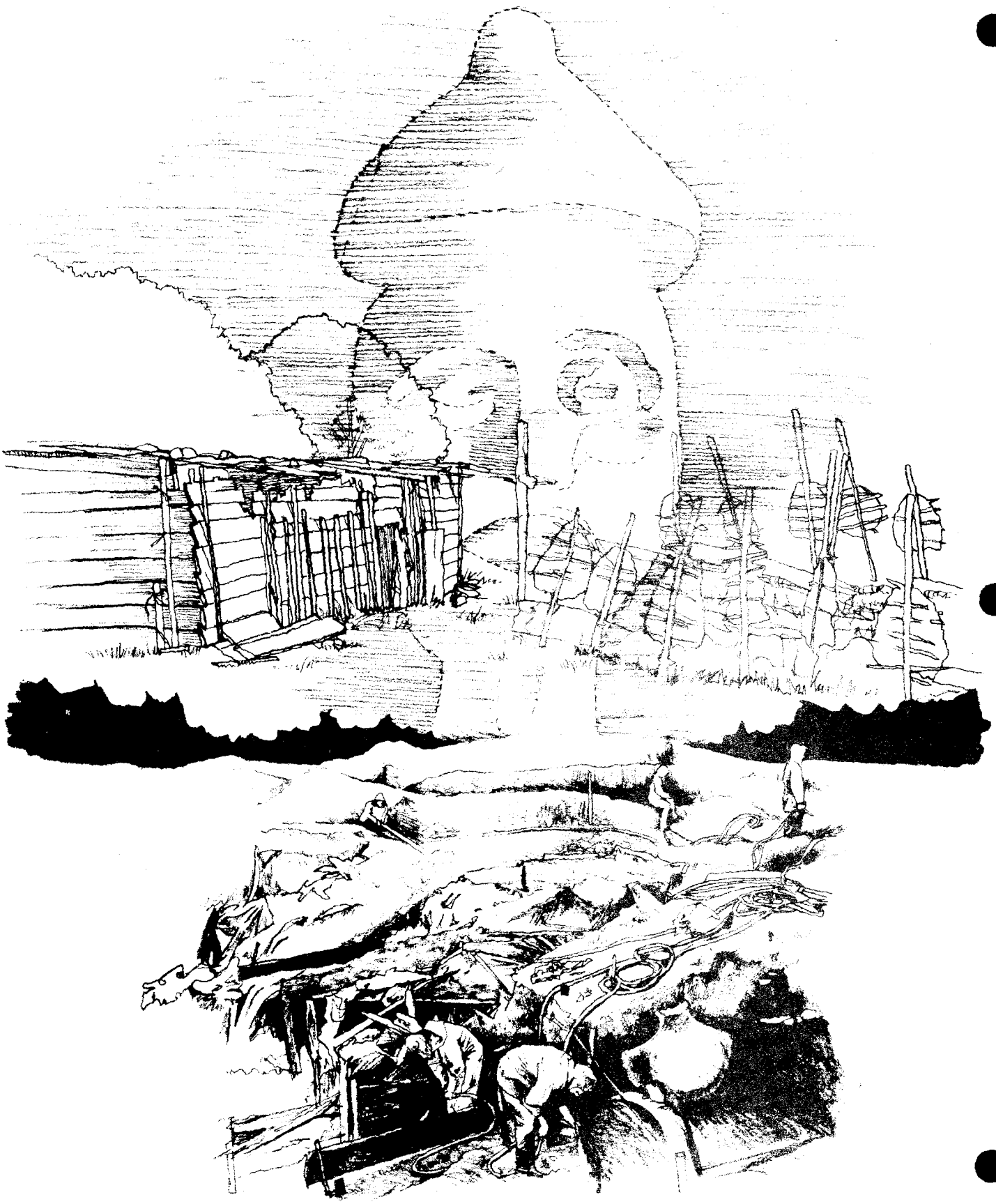


Vanished social organization, economic systems, and cultural patterns live again through controlled archeological excavations, analysis, and interpretation.

INTRODUCTION

This report is submitted pursuant to section 5(c) of Public Law 93-291, the Archeological and Historic Preservation Act of 1974. It is the responsibility of the Secretary of the Interior to coordinate all federal survey and recovery activities authorized under Public Law 93-291, and to report on the the scope and effectiveness of this law in directing federal archeological data recovery activities to the Interior and Insular Affairs Committees of the United States Congress.

In fulfilling their responsibilities under Public Law 93-291 and several other preservation laws and regulations, federal agencies may undertake a variety of archeological activities. In some cases, this work is administered by the agencies themselves. In other cases, the agencies transfer funds to the Secretary of the Interior for the purpose of having Interior administer any necessary archeological work. In turn, this latter responsibility is delegated to Interagency Archeological Services (IAS), National Park Service.

In preparing this report on federal archeological data recovery activities conducted during FY 1979, IAS has attempted to accumulate data on all federal activities undertaken pursuant to Public Law 93-291. In many cases, however, appropriate data were not forthcoming from the agencies involved or the data were incomplete. Information based on work administered by the IAS on behalf of other agencies is relatively complete, but does not encompass the majority of federal data recovery activities which are undertaken by the agencies themselves. In the following report an attempt has been made to include information from both sources while eliminating insofar as possible, duplicate or overlapping data.

THE MEANING OF ARCHEOLOGY

Archeology is the scientific study of man's past through an examination of the physical remains of his activities. In North America, man's past extends back thousands of years, and for much of this time span buried physical remains are the only evidence left to tell us about daily life, relationships to the environment and to other groups, and many other aspects that have bearing on our life today. Even for more recent historic periods for which written documents are available, archeology offers a candid supplemental or alternative view of daily life.

Archeology utilizes a variety of theories and scientific techniques to help us understand mankind by reconstructing patterns of past human behavior. It is unique among the social sciences in its ability to provide insight into change over a long span of time, thus helping us understand processes as well as events.

Archeological evidence consists of (a) artifacts manufactured by man, (b) features comprising the physical evidence of past activities, (c) ecofacts denoting other activities resulting in changes of natural objects, and (d) the contextual relationships between artifacts, features, and ecofacts in the earth. Such kinds of evidence have been determined to be a significant aspect of our nation's heritage as witnessed by the enactment of the Antiquities Act of 1906 (P.L. 59-209), the Historic Sites Act of 1935 (P.L. 74-292), the Reservoir Salvage Act of 1960 as amended (P.L. 86-523), the National Historic Preservation Act of 1966 as amended (P.L. 89-665), the Archeological and Historic Preservation Act of 1974 (P.L. 93-291), and the Archeological Resources Protection Act of 1979 (P.L. 96-95).*

When archeological and historic resources are destroyed, our knowledge of the past is diminished irreversibly. Millions of archeological sites have already been destroyed, and more fall every day to land-altering forces of social and economic growth and change. Since archeological resources have been determined to be a significant aspect of our heritage, the federal government has become concerned with the location, evaluation, preservation, protection, and/or recovery of these resources when they are in danger of damage or destruction. The goal of the various federal programs involved with archeology is to minimize the destruction of archeological sites and data while simultaneously minimizing the disruption of other necessary federal activities.

FEDERAL LEADERSHIP FOR THE PRESERVATION OF CULTURAL RESOURCES

Since World War II, massive public construction projects (highways, dams, urban renewal) have destroyed hundreds of thousands of archeological sites throughout the country. With the rapid expansion of essential construction activities today, we as a nation are losing irreplaceable information about our cultural heritage on such an enormous scale that it is impossible for the private sector alone to retard or prevent the loss. Therefore, it is fitting that the federal government, acting on behalf of the American people, play a major role in protecting and preserving those historic and archeological resources still intact.

*Editor's note: The National Historic Preservation Act Amendments of 1980 (P.L. 96-515) provide further protection.

All federal agencies are required by law to consider the presence of significant cultural properties before they undertake any project that may cause irreparable loss or destruction of such properties. This responsibility also extends to the systematic search for, documentation of, and evaluation of cultural properties on public land in the absence of any active federal undertaking.

THE DEVELOPMENT OF HISTORIC PRESERVATION IN THE UNITED STATES

Since colonial times Americans have had considerable interest in preserving historic and prehistoric sites. The mounds in the southeastern United States sparked the curiosity of early relic hunters and amateur archeologists, the most famous being Thomas Jefferson who carefully excavated an Indian mound near Monticello. The cult that arose around George Washington and other personalities resulted in attempts to preserve historic homes such as Mt. Vernon and the Hasbrouch House, which was purchased by the State of New York in the last part of the 19th century.

After the close of the Civil War, people became more concerned with examining the rapidly disappearing aboriginal cultures, and the rush to obtain Indian artifacts began. Semi-trained archeologists excavated frantically for years. The result was hundreds of thousands of unmarked and unprovenienced artifacts.

In the 1880s the federal government became interested in historic preservation and archeology; the extensive vandalism at Casa Grande had impressed enough people to cause the government to take action. After several abortive attempts at a broad based federal plan, the Antiquities Act of 1906 was enacted to protect cultural resources on federal land. Since that time concern with the preservation of our national heritage has increased. This concern is reflected in the development of more than a dozen laws that pertain to the preservation of archeological, architectural, and other cultural resources.

As a part of the extensive "New Deal" legislation of the Depression, the National Historic Sites Act of 1935 enacted a national policy of historic preservation and authorized the Secretary of the Interior to initiate a number of preservation programs, including designating National Landmarks and protecting property that is of national historic or archeological significance. In 1937 the National Survey of Historic Sites and Buildings began to identify and evaluate the significance of national properties, beginning the list of National Historic Landmarks.

In the late 1940s there was a surge of reservoir construction, unavoidably affecting countless riverine sites, both Indian settlements and historic communities. The River Basin Survey was established as a salvage program to act in concert with reservoir construction in an attempt to recover at least some of the artifacts before these resources were destroyed.

Interest in historic preservation continued to grow and, in 1949, the National Trust for Historic Preservation was established. Its major purpose is to encourage and facilitate public participation in the preservation movement. However, this growing movement was challenged in the 1950s by the program for interstate highways. More legislation

was needed to protect properties that would be affected by the construction of these highways. The Federal-Aid Highway Act of 1956 was enacted which in turn led to the development of the Highway Archeological Salvage Program and finally, in 1966, the passage of the Department of Transportation Act which requires that, when feasible, highways be relocated rather than disturb significant sites. It also calls for setting aside Department of Transportation funds to protect sites which might be affected by the construction of roads or highways.

The 1960s saw the development of the "new archeology," a reorientation in ways of thinking about archeology and a response to innovations in method and theory. At this time there was also an attempt made to unify the archeology and historic preservation movements. In 1960 the "Beautification of America" program was begun; 1964 was declared "International Monuments Year." This laid the groundwork for the National Historic Preservation Act which was passed in 1966. This act defines historic preservation as "the protection, rehabilitation, restoration, and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, or culture." The Historic Preservation Act directed the establishment of the National Register of Historic Places, created the President's Advisory Council on Historic Preservation, directed agencies to consider the effects of undertakings on National Register properties and to consult with the Advisory Council when an undertaking may affect a property, and set aside grants for the states and the National Trust for Historic Preservation. As a result of the act, the Secretary of the Interior called for the establishment of State Historic Preservation Officers in each state.

In 1969 the National Environmental Policy Act was enacted. This act restates that every federally funded or licensed project must take into account during the planning stages the potential effects of the project on the total environment. This significant act emphasized the option of preserving or avoiding a site rather than automatically requiring last minute salvage attempts.

Executive Order 11593 (Preservation and Enhancement of the Cultural Environment) was signed in 1971 and directs all federal agencies to make a list of historic properties on their lands and to nominate those that meet certain criteria to the National Register. This calls for early consideration to be given to archeological resources and for agencies to "exercise caution" in construction to avoid damaging any possible National Register quality sites until the list is complete and all significant resources are known and located.

In 1974 another preservation measure was enacted by Congress: Public Law 93-291, the "Archeological and Historic Preservation Act." This act expanded the earlier Reservoir Salvage Act of 1960 by extending the salvage requirements from reservoir construction to all federal or federally licensed or financially assisted projects. Up to 1 percent of the total federal project cost can be transferred to the Department of the Interior or used by the individual agency to fund data recovery activities, and the act further sets a precedent for preserving data as well as artifacts by calling for analysis of recovered data and publication of the results of analyses. This annual report is produced in response to a mandate in the act, and frequent reference will be made to the act as "P.L. 93-291" in this work.

The Archeological Resources Protection Act of 1979 is a revision of the Antiquities Act of 1906. It redefines the concept of antiquities and includes penalties for violation of this act, giving enhanced protection to federally owned antiquities.

During the 1970s several significant changes occurred not only in the law, but in attitudes as well. There has been an attempt throughout the profession of archeology, both in academia and in the federal government, to raise standards of work and expectations through use of more highly qualified personnel with increased levels of expertise. Just as significantly, new attitudes about the role of archeology and historic preservation have developed. These changes have increased the credibility of archeology as a science, and particularly of archeology conducted with federal involvement.

PROGRAM SCOPE AND EFFECTIVENESS

Over the years the federal government has responded to the alarming rate of destruction of significant historic and prehistoric properties by enacting a body of law to protect and preserve cultural resources in place undisturbed or to recover the data content of such resources when they are threatened by federal actions or federally assisted actions. All of these laws acknowledge that many federal programs and projects, although developed for the greater public good, are often destructive to cultural resources, including archeological sites.

FEDERAL AGENCIES IN ARCHEOLOGY

All federal agencies are obligated by law to include archeology in their planning when undertaking any action that might have an impact on a cultural resource of any type. Several agencies have fulfilled this obligation by developing their own archeological programs, including full-time staff archeologists and managers with cultural resource expertise. Some of these programs are briefly described below.

United States Department of Agriculture

The Department of Agriculture (USDA) is now in the process of developing and expanding its Cultural Resource Management Program. Each bureau within the USDA has an individual program for cultural resource management, and the Forest Service alone employs over 150 full-time cultural resource management personnel. These cultural resource management personnel hold frequent training sessions on a variety of topics including "Law Enforcement and Cultural Resources." Management training to increase managerial staff understanding of cultural resource management is also available as well as annual training for other employees. The Forest Service publishes a series of work reports through the field offices where the work was undertaken.

This active program contrasts sharply with the cultural resource management work being done by the USDA's Soil Conservation Service (SCS). The SCS derives its principal authority from Public Law 93-291. Most cultural resource management work prompted by SCS activities is managed and at least partly financed by Interagency Archeological Services (IAS).

Federal Highway Administration

The Federal Highway Administration (FHWA) believes that the Federal-Aid Highway Act of 1956 (as amended) and the Department of Transportation Act of 1966 (as amended) adequately protect all cultural resources that might be affected by federal highway construction. Therefore this agency does not generally perform work under the authority of Public Law 93-291, and it does not report to IAS on activities performed under other authorities.

FHWA is currently publishing several articles and pamphlets on its archeology program. "The Consideration of Archeology and Paleontology in the Federal-Aid Highway Program" covers a number of geographical areas and time periods, giving brief examples of archeological activities from early salvage work to the most current excavations. This pamphlet stresses the importance of including archeology in the planning stages to avoid construction delays and to provide the best possible means of preserving resources in the impact area, and points out the FHWA's contributions to archeology.

One major FHWA program was the construction of I-270. IAS was asked to provide technical assistance that resulted in a considerable monetary savings for the FHWA. Two brochures were developed to describe the project. "Preservation Archeology Interstate 270" was conceived by the Illinois State Highway Department and financed by FHWA. These brochures describe and briefly discuss the different types of archeological resources found in the American Bottom and how to preserve and protect these resources. The project is being videotaped and prepared for public dissemination. This audio-visual representation shows clearly the importance of archeology and makes information on this exciting project directly accessible to the public.

The Arkansas State Highway and Transportation Department has also published an illustrated brochure explaining the laws pertaining to archeology, and the process of identifying and excavating a site. It stresses the importance of studying the whole site in its original context and the artifacts in situ. The brochure also discusses the process of excavation, some of the theories behind field work, and the type of information that should result from such work.

The FHWA distributes two booklets that were published by the Department of the Interior. The booklets discuss the means of locating and excavating an archeological site. "The Archeological Survey: Methods and Uses" and "Guidelines for Surveys: A Basis for Preservation Planning" are distributed to FHWA employees to increase their general knowledge and to stress the importance of including archeology in every step of the planning process. The latter booklet deals more specifically with historic cultural resources.

The FHWA teaches a course entitled "Historic and Archeological Preservation" designed for professional highway personnel who are involved with cultural resource management. Representatives of other agencies are invited and encouraged to participate in the course, allowing a wider range of ideas and increased communication between the other agencies and the FHWA.

By the nature of its work the FHWA comes into contact with a large number of archeological sites. FHWA is now striving to protect these resources in the best way possible: through avoidance. When this is not feasible, mitigation of the impact on the resources is undertaken. By including archeological planning in every stage of the highway development process, FHWA is able to protect cultural resources without delaying ongoing highway construction.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (COE) was involved in over 30 major construction projects in FY 1979, each with a corresponding archeology program. Because of its extensive construction activities, the COE has the largest archeology program of any single federal agency. In the past, most of the emphasis has been on salvage of artifacts and information from areas that face imminent destruction from Corps projects. The current emphasis, however, is on mitigating the impact of any construction, and on understanding the total archeological site.

One major aspect of the archeology program is training of COE personnel to heighten their awareness of the importance of archeology. Additionally, all incoming archeologists are enrolled in an orientation program to prepare them for their jobs as field consultants and advisors. A training course is offered to all soils engineers, instructing them how to recognize buried archeological deposits. At the managerial level there is a program designed to improve archeological contracting, teaching both the legal requirements and the archeological priorities.

In addition to these training programs, the COE publishes pamphlets on the archeology encountered in construction projects. The largest information project undertaken during 1979 was a movie documentary on Los Esteros, New Mexico. There are more than 200 sites in this one historic district including colonial Spanish, Comanchero, and Indian residential areas. This district provides a unique opportunity to study, compare, and contrast several different cultures within one localized region. This project has been well publicized and the documentary is an attempt to inform COE personnel as well as the general public of its significance.

The COE conducted an experimental project at Lewisville, Tennessee. This site was innundated 22 years ago and provides an excellent study ground for examining the effects of innundation on an archeological site.

National Park Service

National Park Service (NPS) is responsible for all cultural resources which fall within the boundaries of the national parks. The agency is less concerned with data recovery activities because most sites are protected due to their location on the federal land of a national park.

The NPS employed over 100 cultural resource management personnel in its in-house programs during FY 1979. Due to the present decrease in construction activities nationwide, very little salvage or rescue work is currently being done. The emphasis is on a cultural resource program which places high priority on training and management.

In addition to its Washington office, NPS has regional offices throughout the country. Each of the regional offices has ties to a university and many staff archeologists are professors. This enables them to teach courses in archeology as part of the NPS program. Each of the several archeological centers has its own publication series in addition to producing various pamphlets and assorted publications each year. Some of these publications fulfill the Public Law 93-291 reporting requirements.

One major project during FY 1979 was the Remote Sensing Program which has nine volumes currently in print. NPS also published manuals on a variety of topics including studies of the effects of fire on archeological sites (done in conjunction with the fire fighting program) and studies on the effects of innundation on different sites.

Heritage Conservation and Recreation Service

The Heritage Conservation and Recreation Service (HCRS) was abolished on May 31, 1981. Most of the duties assigned to this bureau, including those assigned to IAS, were subsequently transferred to the NPS. However, during FY 1979 the HCRS, and specifically the IAS, was responsible for directing and coordinating the nationwide effort to protect significant archeological and historic remains threatened by federal construction projects, programs, or activities. This coordinating role was delegated to IAS by the Secretary of the Interior who has been mandated these responsibilities by Public Law 93-291. As part of this responsibility, IAS

* Develops for the Secretary of the Interior national goals and objectives, policies, standards, guidelines, and procedures for all federal agencies to follow in the administration of the archeological and historic data recovery program under Public Law 93-291.

* Assists federal agencies in fulfilling their Executive Order 11593 responsibilities by helping them to locate, identify, and evaluate historic properties under their jurisdiction or control, or to conduct data recovery if necessary under Public Law 93-291.

* Manages the permit system instituted under the Antiquities Act of 1906 (P.L. 59-209) to regulate data recovery projects on most federally owned or controlled lands.

* Consults with the Advisory Council on Historic Preservation on archeological issues.

* Reports annually to Congress on the scope, effectiveness, costs, and results of the program.

The legal requirements included in the legislation are intended to integrate historic preservation goals with the successful and timely completion of construction and other projects that may adversely affect cultural resources. The compliance process should be undertaken at the earliest stage of project development to ensure that needless destruction of cultural resources is avoided and that the proper consideration and recovery of those resources do not result in project delay.

The Antiquities Program of IAS coordinates and establishes policy relative to antiquities present on public and Indian lands. Permits are issued for the purposeful removal of antiquities by scientific organizations for scholarly research, but the materials are to be placed in a public repository. An annual report to Congress is required relative to activities carried out, legislative changes recommended for the act, and liaison activities to foster communication. The legislation also provides for public awareness education on the benefits of the preservation of antiquities.

The Executive Order 11593 Monitoring Program of IAS provides advice and assistance on behalf of the Secretary of the Interior to federal agencies, states and the public regarding the inventory, evaluation, and preservation of archeological resources on federal land, or on lands that might be affected by federal plans and programs covered by the order.

The Data Recovery Program of IAS provides technical assistance and funding to recover cultural resource data endangered by federal, federally funded, or federally licensed or assisted construction. The program is authorized by the National Historic Sites Act of 1935 and the Archeological and Historic Preservation Act of 1974, which amended the Reservoir Salvage Act of 1960. IAS conducts the program on behalf of the Secretary of the Interior.

This data recovery program can be summarized as follows:

a) Notification is given to the Secretary whenever an agency finds or is notified that federally funded or licensed construction projects, activities or programs may cause irreparable loss or destruction of significant scientific, prehistoric, historic, or archeological data.

b) Agencies have the option of doing the necessary data recovery or transferring 1 percent of the construction funds to the Secretary for him to undertake the data recovery.

c) If notified, the Secretary may recover the significant endangered data if funds are available and if the notifying agency is unable to fund such recovery.

d) Reports on work accomplished are to be provided to the Secretary and made available to the public through such channels as the National Technical Information Service.

The various IAS programs are administered by the Washington office, while implementation of these programs is handled by several regional offices. These regional offices

* Maintain a day-to-day liaison with other federal agencies at a regional level in order to identify and plan for needed data recovery projects.

* Identify firms or institutions capable of performing data recovery.

* Establish the scope of archeological services required for projects, negotiate contracts, and review data recovery proposals.

* Monitor contracted field and laboratory work.

* Review and approve final reports submitted upon the completion of data recovery activities.

Because many federal agencies whose actions may affect significant sites do not have sufficient archeological expertise, IAS is able to provide invaluable technical assistance nationwide. With its staff of professional archeologists in Washington and in the regions, IAS is in a unique position to coordinate federally sponsored archeological activities and to help other federal agencies meet their responsibilities under Executive Order 11593 and Public Law 93-291 in a timely, cost-effective, and scientifically acceptable way.

Through its three programs IAS is also involved in other activities undertaken to improve the functioning of the federal data recovery program. Several of these activities are discussed below.

Archeology for the Federal Manager

A 5-day introductory course has been specifically designed for federal managers without an archeological background whose responsibilities include the protection of archeological resources and who may have difficulty understanding the potential of archeological sites. The instructor explains the technical aspects of archeology in lay terms and its place in historic preservation. IAS has offered "Archeology for the Federal Manager" regularly since the fall of 1977, and to date has presented the course 9 times with more than 200 participants in different regions of the country. The success of the course is seen in the increased awareness by federal managers of their responsibilities toward cultural resources under the law.

Intern Program

IAS has an ongoing intern program that places experienced senior professional archeologists and carefully selected archeology graduate students in temporary appointments on the staffs of its Washington and regional offices. The purpose of this program is two-fold: it serves to foster a cooperative working atmosphere among archeologists by enlarging the pool of professional archeologists who understand both the needs and the responsibilities of the federal agencies, and it maintains the currency of the permanent archeological staff through close interaction with academic archeologists.

Burial Policy

Due to the present concern felt by both the archeological community and the general public about the excavation of prehistoric human burials, it was deemed advisable to develop a policy on the disposition of human remains. This is an interim policy to insure that all excavated human remains will be treated with respect and to determine which burials should and should not be excavated. Plans are currently underway for the development of a burial policy for the Department of the Interior.

Cultural Resource Management Series

These publications illustrate various aspects of cultural resource management and are part of the continuing effort of IAS to prepare and disseminate information useful to professional archeologists and federal managers. Other reports on a wide range of archeological subjects are in preparation for this continuing series.

Human Bones and Archeology. In order to achieve an understanding of prehistoric peoples it is necessary for the archeologist to study their physical remains. The report "Human Bones and Archeology" was designed and initiated in FY 1979. This report was written for the general public in an attempt to clarify the reasons for, and the importance of, studying human skeletons.

The work outlines the goals of archeology in general and explains why the study of human remains is so vital to the archeologist. Insight into burial customs, residential patterns, diet, exposure to disease, and physical appearance (including sex and approximate age at death) can all be gained through the study of human remains. Several case studies are included giving examples of the types of information that can result from the controlled excavation of burials.

Archeomagnetism Manual. Because archeology is a technological discipline and subject to innovation, it is essential to develop "how-to" manuals that teach newly developed techniques to both novice and veteran archeologists. The use of magnetic forces in dating a past event is a relatively new and significant scientific breakthrough. A handbook that gives both an introduction to magnetic theory and an explanation of the technique of dating burned clay by studying the orientation of atomic electron orbits has been developed. Detailed instructions on the collection of samples are included, making it possible for any archeologist to collect samples for archeomagnetic dating with no additional training. The use of this new research tool will make possible more reliable dating of many archeological sites at reduced costs.

IAS Investigation Reports

A new publication series, "Interagency Archeological Services Investigation Reports," was initiated in FY 1979. This series includes exemplary reports produced as a result of data recovery activities coordinated by IAS. By publishing these outstanding reports, IAS intends to demonstrate that research archeology and compliance archeology are compatible endeavors, and that work conducted as a result of federal requirements can make substantive contributions to archeology and anthropology. The example set by these reports will encourage archeologists to view their own compliance work as an opportunity to conduct research (problem-oriented) archeology.

The first report in the series, The Bootlegger Trail Site, by Drs. Tom Roll and Ken Deaver, was originally produced by Montana State University. Bootlegger Trail, like other projects reported in this series, was a result of a federal agency's compliance with historic preservation law. The sponsoring agency was the Bureau of Reclamation, Department of the Interior. The site was located in an area affected by the Tiber Reservoir, and without this data recovery project the valuable information content of this site would have been lost as a result of shoreline erosion.

The report presents excellent descriptions of excavation techniques at this bison kill site, as well as a model of prehistoric aboriginal subsistence as practiced in the Great Plains approximately a thousand years ago. This model contributes greatly to our understanding of seasonal activities of late prehistoric hunters and gatherers in the project area, and illustrates the effectiveness of the methods by which this early population adapted to the environment.

The second report of this series, Cemochechobee, will be published by the University of Florida for the Florida State Museum with funding assistance from IAS to allow the printing of sufficient copies for widespread distribution. This report covers archeological investigations at the Walter F. George Dam Mound Site within the Cemochechobee archeological district on the Chattahooche River at Fort Gaines, Georgia.

The investigated area served as a civic and ceremonial center for an extensive prehistoric village. The site is dominated by three earthen mounds: a burial mound, a foundation mound for elite domestic residences, and a small platform mound of uncertain function. Beneath the mounds is an extensive premound midden, containing evidence of ceremonial structures, elite domestic residences, and a mortuary. A sequence of 19 discrete stages of rebuilding and reorganization was found for this localized mound zone. Test excavations were also conducted in the village area. The single, major component is Mississippian, and is assignable to the Rood Phase. Radiocarbon dates bracket the occupation as between A.D. 900 and 1350.

FEDERAL AGENCIES IN ARCHEOLOGY: DETAILED RESPONSES TO THE QUESTIONNAIRE

Responding to the mandate of Public Law 93-291 (sec. 5(c)) to provide information on the scope and effectiveness of the federal survey and recovery program, the specific projects surveyed, the results produced, and the costs incurred by the government as a result thereof, IAS developed a questionnaire to aid the collection of pertinent data for this report. This format for data collection had not been used before, and was initiated to assist agencies in the categorization of their data for submission to IAS.

The questionnaire form was mailed to the directors of each of the departments for subsequent re-routing to specific bureaus and divisions. Within the Department of the Interior, questionnaires were mailed to bureau heads and, within HCRS, to directors of the regional offices. The independent agencies were also included in the mailing. The organized mailing resulted in the most comprehensive collection of data to date.

Focusing attention on specific categories of data, the questionnaire simultaneously organized agency responses and demonstrated fundamental misunderstandings or unawareness of certain aspects of historic preservation legislation. Differences in interpretation of these acts as regards applicability to the specific agency, or the degree of comprehensiveness of the acts, also served to explain differences in agency actions regarding cultural resources which were not demonstrable before.

The questionnaire was designed to be project specific; it was hoped that this would yield data of significance to Congress and the public in terms of the requirements of section 5(c) of Public Law 93-291. Certain shortcomings on the part of the questionnaire as well as the agencies compromised this expectation, and the project-specificity of the format both overwhelmed the personnel charged with completing the request for data, and was beyond the routine records kept by many agencies.

Due to the size and difficulty of the task some agencies did not return the questionnaire data for FY 1979 until well into FY 1980. Our response to the disparate nature of the data received from all participating agencies took the form of summaries and ranges of information.

Visual displays of the compiled data appear in the following charts, tables, and maps. Figure 1 displays the agencies aided financially by IAS in the form of supplements to the 1 percent provision of Public Law 93-291 or in instances where no agency funds were available to undertake survey or data recovery. The sizes of the "pie slices" illustrate the relative percentage of available assistance going to each agency.

Figure 2 displays the number, within ranges, of archeological data recovery projects conducted in FY 1979 by state.

Figure 3 displays the amount of money spent, within ranges, for archeological data recovery projects in FY 1979 by state.

Table 1 summarizes various data pertaining to federal activity in cultural resource management, augmenting the data on total dollars spent by individual agencies and the number of projects involved with data on the number of properties listed in or eligible for listing in the National Register of Historic Places and the number of final reports of findings prepared for the agency.

Table 2 summarizes by individual agency the number of archeological projects deriving from various federal involvements, requiring data recovery, and conducted under various agreements with the Advisory Council on Historic Preservation.

IAS Assistance to Other Agencies

BY AGENCY

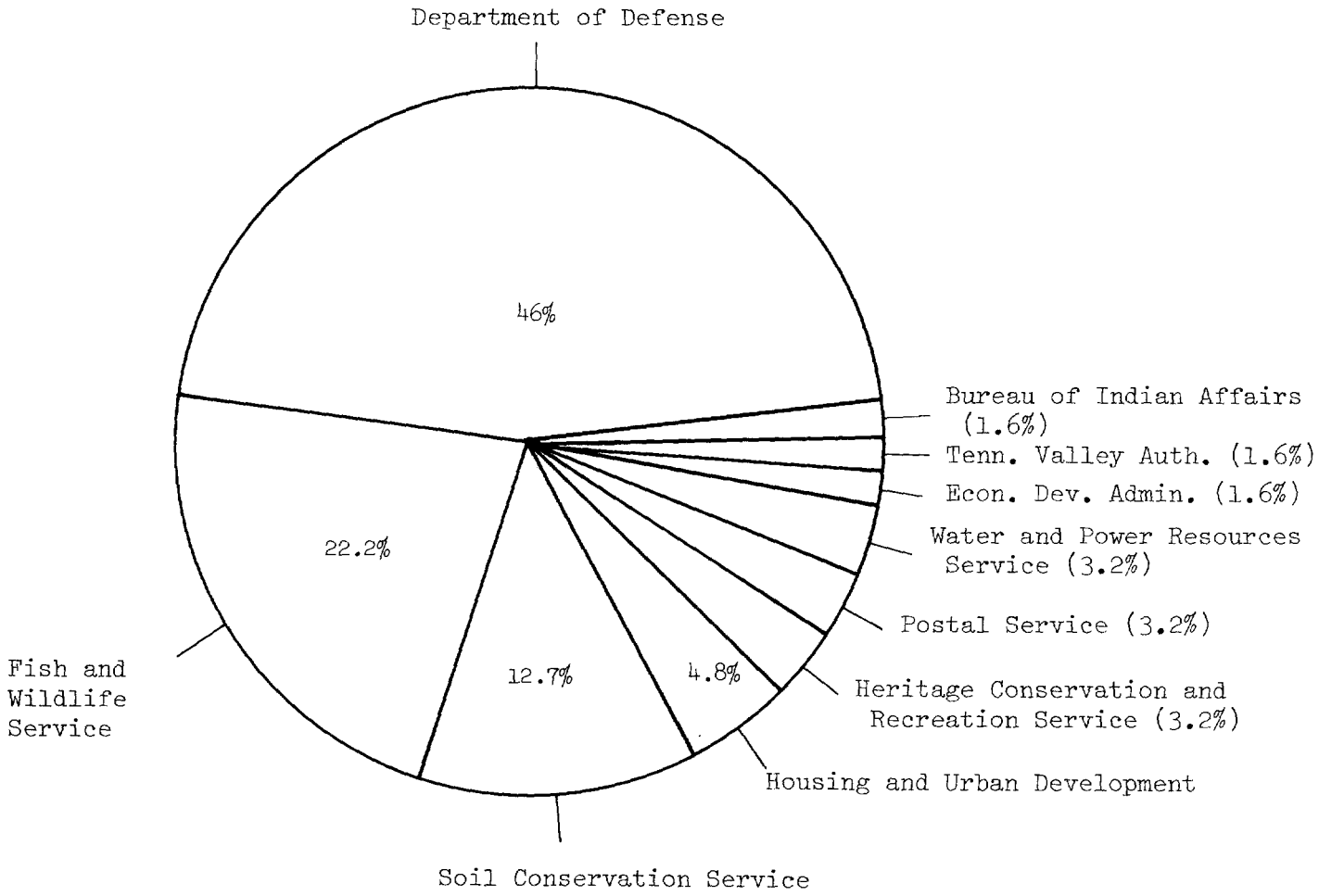


Fig. 1

Distribution of Archeological Data Recovery Projects by State

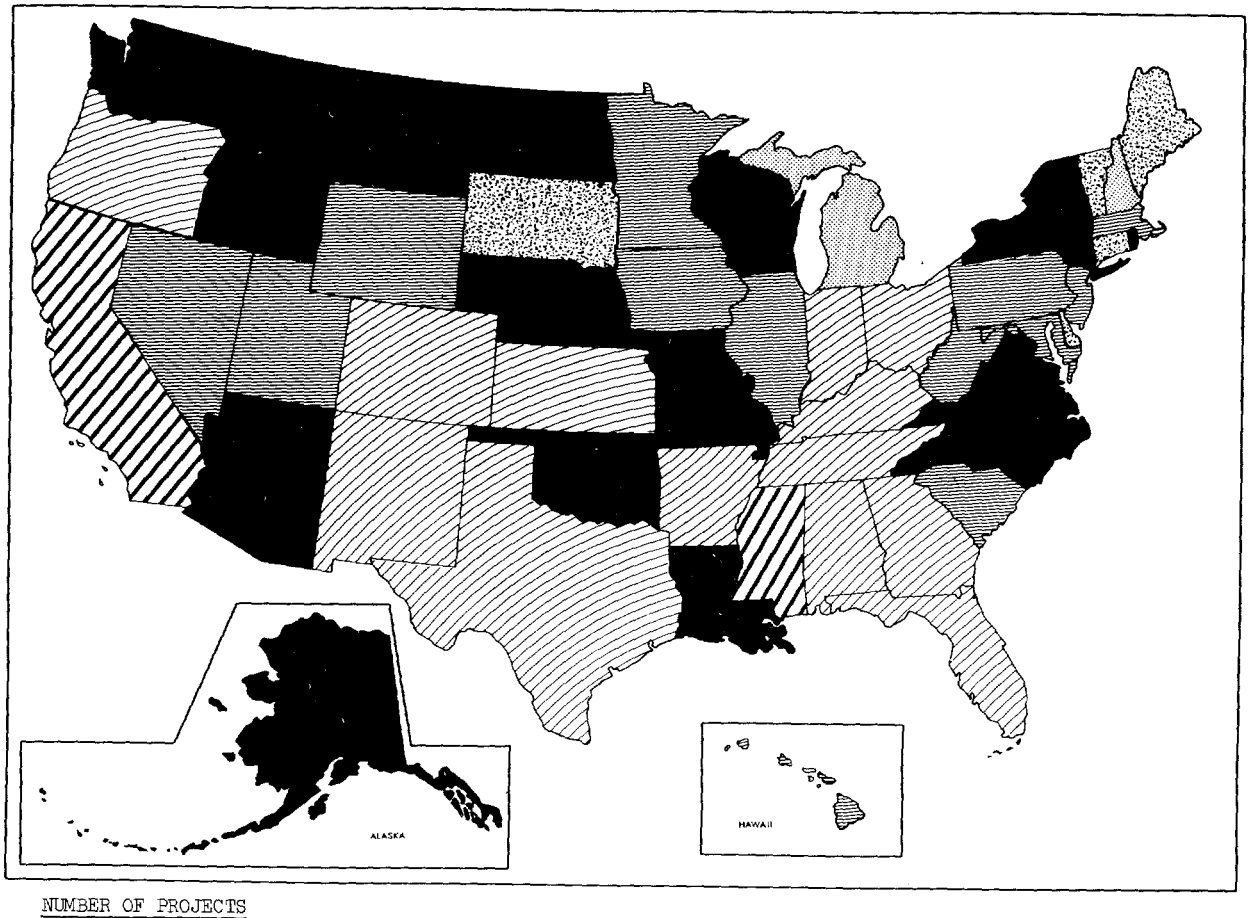
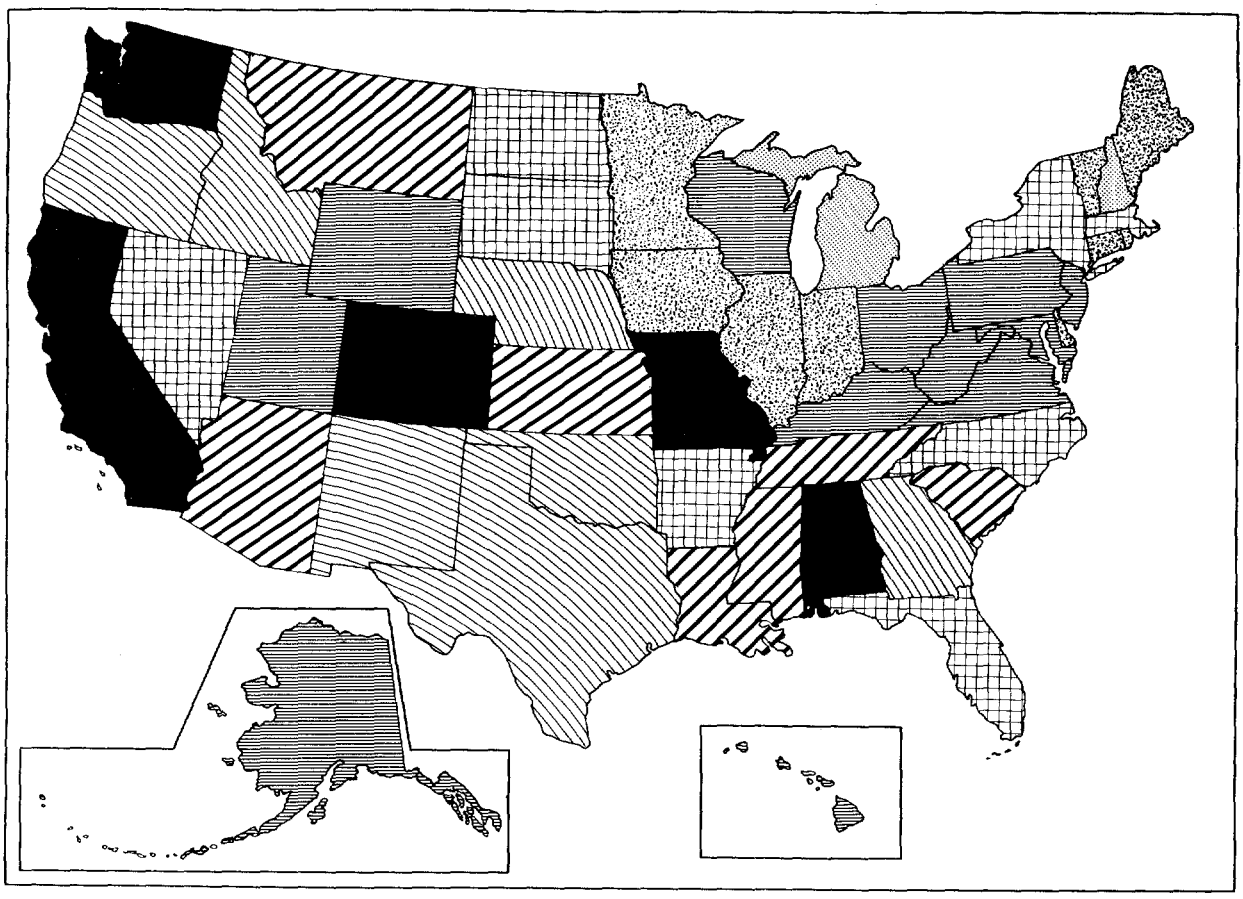


Fig. 2

Money Spent on Data Recovery Projects by State



MONEY SPENT BY STATE

0		300,000 - 399,999	
1,500 - 19,999		400,000 - 999,999	
20,000 - 99,000		1,000,000 - 2,445,050	
100,000 - 299,999			

Fig. 3

TABLE 1: SUMMARY INFORMATION

	TOTAL DOLLARS EXPENDED FOR CULTURAL RSCE MGMT	# OF PROJECTS	# OF PROJECTS IN PROGRESS	# NATL REGISTER PROPERTIES PRES	# REPORTS	# REPTS AVAIL THRU NATL TECH INFO SVCE
Dept of Agriculture						
Ag. Stabilization & Conservation Svce						
Farmers Home Administration	750.00	1				0
Rural Electrification Admin	292,340.00	18				0
Soil Conservation Service	NP					
U.S. Forest Service	NP					
Dept of Commerce						
Economic Development Administration	I	70		I		
Fed Cochairmen of Regional Commissions						
Maritime Administration						
Natl Oceanic & Atmospheric Admin						
Dept of Defense						
Dept of the Army	I					
U.S. Army Corps of Engineers	13,080,628.00	311	66	I	343	3
Dept of the Navy	I					
Marine Corps	I					
Dept of the Air Force	676,537.00	12		I	12	1
Dept of Energy						
Fed Energy Regulatory Commission	I	11	9	I	16	0
Dept of Health, Education, & Welfare	N					
Dept of Housing & Urban Development	NP					
Dept of the Interior						
Bureau of Indian Affairs	NP					
Bureau of Land Management	NP					
Bureau of Mines	N					
U.S. Fish & Wildlife Service	I		14	I	52	19
U.S. Geological Survey	NP					
Heritage Conservation & Recreation Svce	L					
National Park Service	I					
Office of Surface Mining Reclamation and Enforcement	I	3	0	1	1	0
Water & Power Resources Service	3,848,645.00	110	6	NP	37	0

I = Incomplete information
NP = Information not provided
L = Information provided too late for inclusion
N = No archeology to report

TABLE 1: SUMMARY INFORMATION (continued)

	TOTAL DOLLARS EXPENDED FOR CULTURAL RSCE MGMT	# OF PROJECTS	# OF PROJECTS IN PROGRESS	# NATL REGISTER PROPERTIES PRES	# REPORTS	# REPTS AVAIL THRU NATL TECH INFO SVCE
Dept of Transporation						
U.S. Coast Guard	NP					
Federal Aviation Administration	77,453.00	66	I	I	I	0
Federal Highway Administration	I					
Federal Railroad Administration	I	2	2	4,900	111	0
St Lawrence Seaway Development Corp	NP					
Urban Mass Transportation Admin	274,405.00	4	4	I	2	0
Appalachian Regional Commission	N					
Environmental Protection Agency	1,332,000.00	570				
Export-Import Bank of the United States	N					
Farm Credit Administration	N					
Federal Communications Commission	N					
Federal Home Loan Bank Board	N					
Federal Maritime Commission	N					
General Services Administration	1,921.00	1	1	1	1	0
Interstate Commerce Commission	N					
National Aeronautics & Space Admin	N					
National Endowment for the Arts	N					
National Endowment for the Humanities	NP					
National Science Foundation	455,675.00	10	10	NP	NP	0
Nuclear Regulatory Commission	I	2	NP	I	I	0
Pennsylvania Avenue Development Corp	9,370.00	1	1	NP	1	0
Small Business Administration	N					
Tennessee Valley Authority	546,000.00	5	NP	NP	2	0
U.S. Postal Service	169,272.00	2	1	2	1	0
Veterans Administration	N					
Delaware River Basin Commission	I	1			1	
Great Lakes Basin Commission	N					
Mississippi River Commission	N					
Missouri River Basin Commission	N					
New England River Basins Commission	N					
Ohio River Basin Commission	N					
Pacific Northwest River Basins Commission	N					
Susquehanna River Basin Commission	N					
Upper Mississippi River Basin Commission	N					

I = Incomplete information
NP = Information not provided
L = Information provided too late for inclusion
N = No archeology to report

TABLE 2. FEDERAL ACTIONS GIVING RISE TO ARCHEOLOGICAL PROJECTS

	DIRECT FED CONSTRUCT	GRANT	PERMIT	LICENSE	LOAN	LOAN GUARANTEE	OTHER	DATA RECOV REQUIRED	ACHP MOA OBTAINED	ACHP NAE OBTAINED	NO MOA
Dept of Agriculture											
Ag Stabilization & Conservation Svce											
Farmers Home Administration	0	3	0	0	4	0	0	0	0	0	0
Rural Electrification Administration	0	0	0	0	2	15	1	3	0	0	3
Soil Conservation Service	*3						*6				
U.S. Forest Service											
Dept of Commerce											
Economic Development Administration	0	73	0	0	1	0	0	2	0	2	0
Fed Cochairmen of Regional Commissions											
Maritime Commission											
Natl Oceanic & Atmospheric Admin											
Dept of Defense											
Dept of the Army	*1						*3				
U.S. Army Corps of Engineers	278	0	14	12	0	0	40	66	37	13	12
Dept of the Navy											
Marine Corps											
Dept of the Air Force	9	0	1	1	0	0	9	1	1	0	0
Dept of Energy											
Fed Energy Regulatory Commission	0	0	1	10	0	1	1	1	0	0	1
Dept of Health, Education, & Welfare											
Dept of Housing & Urban Development							*3				
Dept of the Interior											
Bureau of Indian Affairs							*1				
Bureau of Land Management											
Bureau of Mines											
U.S. Fish & Wildlife Service	81	0	12	0			4	13	3	2	3
U.S. Geological Survey											
Heritage Conservation & Recreation Svce	46	0	2	0	0	0	3	42	29	9	1
National Park Service											
Office of Surface Mining Reclamation and Enforcement	0	1	0	0	0	0	9	0	0	0	0
Water & Power Resources Service	124	0	0	0	0	0	2	2	9	4	0

Figures denote numbers of projects in each category

* = Data derived from IAS files, not provided by agency

MOA = Memorandum of Agreement with Advisory Council

ACHP = Advisory Council on Historic Preservation

NAE = No Adverse Effect determination from Advisory Council

TABLE 2. FEDERAL ACTIONS GIVING RISE TO ARCHEOLOGICAL PROJECTS (continued)

	DIRECT FED CONSTRUCT	GRANT	PERMIT	LICENSE	LOAN	LOAN GUARANTEE	OTHER	DATA RECOV REQUIRED	ACHP MOA OBTAINED	ACHP NAE OBTAINED	NO MOA
Dept of Transportation											
U.S. Coast Guard											
Federal Aviation Administration	4	51	0	0	0	0	6	0	0	0	0
Federal Highway Administration											
Federal Railroad Administration	1	0	0	0	0	1	0	2	1	1	0
St Lawrence Seaway Development Corp											
Urban Mass Transportation Admin	0	4	0	0	0	0	0	3	2	0	1
Appalachian Regional Commission											
Environmental Protection Agency											
Export-Import Bank of the United States											
Farm Credit Administration											
Federal Communications Commission											
Federal Home Loan Bank Board											
Federal Maritime Commission											
General Services Administration	1	0	0	0	0	0	1	1	0	1	0
Interstate Commerce Commission											
National Aeronautics & Space Admin											
National Endowment for the Arts											
National Endowment for the Humanities											
National Science Foundation	0	10	0	0	0	0	0	0	0	0	10
Nuclear Regulatory Commission	0	0	0	2	0	0	0	2	0	1	1
Pennsylvania Avenue Development Corp	1	0	0	0	0	0	0	0	1	0	0
Small Business Administration											
Tennessee Valley Authority											
U.S. Postal Service	6	0	0	0	0	0	0	3	0	0	2
Veterans Administration											
Delaware River Basin Commission	0	0	1	0	0	0		1	0	0	1
Great Lakes Basin Commission											
Mississippi River Commission											
Missouri River Basin Commission											
New England River Basins Commission											
Ohio River Basin Commission											
Pacific Northwest River Basins Commission											
Susquehanna River Basin Commission											
Upper Mississippi River Basin Commission											

Figures denote numbers of projects in each category

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FEDERAL AGENCIES IN ARCHEOLOGY: EXAMPLES OF ARCHEOLOGICAL AND HISTORIC DATA RECOVERY PROJECTS

During FY 1979 IAS assumed a leadership role in many projects to mitigate the damage to significant archeological resources caused by federal construction activities. Through the program, IAS has endeavored to provide a strong link between federal agencies and professionals in the private sector for the protection and preservation of our cultural heritage. Several brief case studies follow to detail some of these efforts.

Vandenberg Air Force Base, California

Since 1974 IAS has administered a series of archeological contracts and provided other planning assistance for the Space Shuttle Program at Vandenberg Air Force Base. Funding of this work has been provided by the U.S. Air Force Systems Command, Space Division, Los Angeles. The project area consists of a 21-mile long, 5000-foot wide coastal corridor extending from just north of the Santa Ynez River to a point south of Point Arguello.

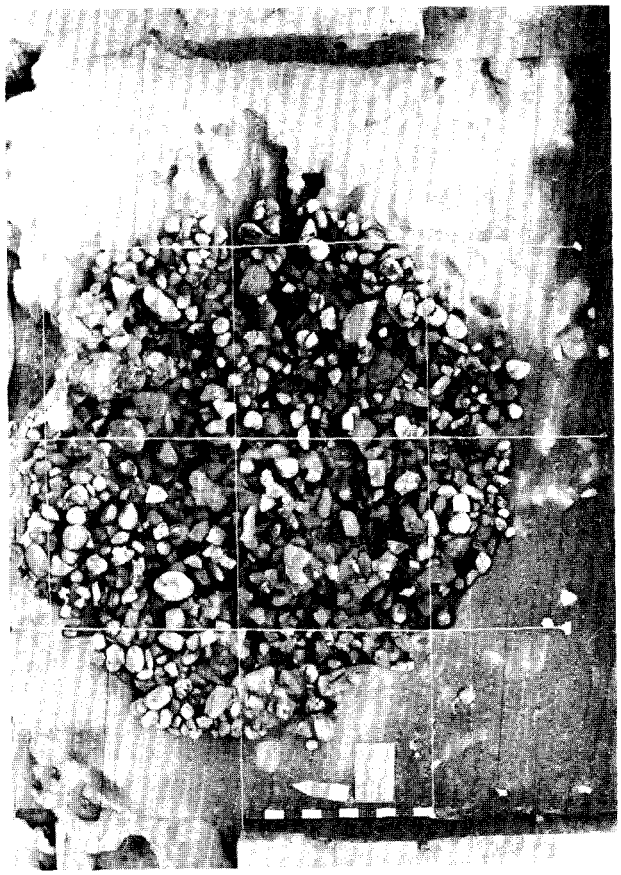
Early Spanish explorers considered the Chumash people who lived in the southern end of the project area to be exceptional among the native Californians they encountered. The unique features that set the Chumash off from other California hunters and gatherers included living in large permanent villages, building canoes from planks rather than utilizing the common dugout type, and the production of excellent basketry and finely made ornaments of stone, bone, and shell. With their unique plank canoes they fished for food in the Pacific Ocean and traded with inhabitants of the Channel Islands for steatite bowls and other items.

The initial 1974 archeological survey of the project area identified 80 archeological sites. Utilizing IAS expertise and careful construction planning, 77 of the sites were avoided by construction. Among these is the historic Chumash village of Nocto (SBa 210/552), the largest known Indian site in California. It covers several acres and has cultural deposits over 18 feet thick. The earliest radiocarbon date from the site is 8000 years old. The important information that these sites contain will be preserved for future generations and the potential cost of data recovery will be reduced considerably.

Three sites (SBA 539, SBa 670, and SBa 931) were affected by the widening of existing road cuts along the shuttle orbitor tow route. Investigations at these sites were begun in the fall of 1978 by the University of California at Santa Barbara under the direction of Dr. Michael Glassow. The university scientists were actively assisted by representatives of the Santa Ynez Band of Mission Indians and the Santa Barbara Indian Center.

These sites are characterized by thick accumulations of trash (midden) discarded by their former occupants. The abundant shellfish and sea mammal remains found at the sites verify the maritime subsistence pattern reported by the early explorers. Moreover, the archeological changes in settlement and subsistence patterns occurred with the passage of time at these sites.

Evidence obtained from the investigations suggests a subsistence base dependent upon acorns and seeds in the Early Period (6000 - 2000 B.C.) with a change to fishing and marine mammal hunting occurring after 2000 B.C. Tools recovered from the excavations provide additional evidence for changes in the quest for food. Early Period deposits characterized by seed and acorns processing tools and projectile points suitable for hunting terrestial game are seen in sharp contrast to Middle Period (2000 B.C. - A.D. 1000) and Late Period deposits (post A.D. 1000) which are characterized by harpoon tips and projectile points suitable for hunting sea mammals. The current research also demonstrates that the use of shellfish as a principal foodstuff at least seasonally occurred earlier than previously thought. The presence of abundant sea lion bones at one site suggests that these animals were important elements of diet, at least during the male sea lion migration along the coast. Such evidence also suggests that the site was occupied only part of the year. In summary, the archeological investigations at Vandenberg Air Force Base have added important information regarding man's cultural adapability to meet changes in his environment.



Excavations at Site 193, Vandenberg Air Force Base, (left) along a portion of the coast road that is to be widened in order to tow the shuttle orbiter to the launch complex. Roasting feature exposed in foreground is seen after complete excavation (right).

Humbolt Project, Rye Patch Reservoir, Nevada

Rye Patch Reservoir is located on the Humbolt River in northwestern Nevada. No archeological work was conducted when the dam was constructed in 1935-1936. However, in 1976 an addition to the dam was made in order to increase the reservoir storage capacity. During this project the Bureau of Reclamation requested assistance from IAS to fulfill its responsibilities under Public Law 93-291. Archeologists at Nevada State Museum conducted a survey of the area which would be adversely affected by the new construction. Eighty-three sites were identified by the initial survey in 1976. In the fall of 1978 areas in the old reservoir exposed by reservoir draw down related to dam construction and general drought were surveyed, and 31 additional sites including the oldest one so far identified in the project area were discovered. This site, PE670, is representative of the Great Basin Western Pluvial Lakes Tradition and is from 10,000 to 11,000 years old. Clearly, this site is the best candidate to demonstrate the presence of early man in this portion of the Great Basin. The site produced an extensive assemblage of coarse flakes, scrapers, knives, and Great Basin stemmed projectile points. This type of site is rarely encountered, let alone with relatively undisturbed stratigraphy and other datable cultural material. An extension of the cultural deposit was discovered under the semi-stabilized dunes at the reservoir edge. Continued testing has produced bone in the early deposit as well as a later cultural component overlying the early occupational zone.

The significance of the Rye Patch sites is derived from their deeply stratified deposits and location in the open areas as opposed to caves and rockshelters which have produced much of the previous archeological information in the Great Basin.

Preliminary results verify that this portion of the Humbolt River Valley, formerly a tributary to Pleistocene Lake Lahontan, was occupied periodically over a long time. Initial testing at one site produced a large scraper of an exotic lithic material similar to artifacts sometimes associated with late Pleistocene Paleo-Indian sites as well as one worked bone point or awl fragment. Further exploration was subsequently undertaken to confirm conclusively the direct association of early man with the fossil remains at the site, but investigations were brought to a halt by the rising water levels of the reservoir following a break in the drought. An important collection of fossil remains was recovered, however, which includes late Pleistocene mammals such as a Colombian mammoth, panther, camel, an extinct form of horse, and bison. Radiocarbon dates obtained from the bone range in age from 23,000 to 29,000 years ago. Excavations at a cliff site and at Sand Island have each revealed several hunter-gatherer occupational levels dating from about 5000 B.C. to late prehistoric times.

Bone preservation at these sites is especially good and has allowed the analysis of the most extensive collection ever recovered from an open site in the western Great Basin. In addition, several preserved house floors, again rarely encountered in any Basin site, have been recorded at Sand Island and are under study. The Rye Patch investigations hold the key to restructuring many of our traditional views on Great Basin paleoecology, environmental adaptation, cultural change, and settlement patterns.

Tennessee-Tombigbee Waterway, Alabama and Mississippi

As early as 1870, promoters, merchants, and evangelists began suggesting the possibility of commercial transportation between Mobile, Alabama, and the Tennessee River via the Tombigbee River. Reliable and cheap transportation to supply commerce and defense needs was vitally important to the young and expanding nation. Various alternatives for a Tennessee-Tombigbee connection were sought unsuccessfully during the next century. Although a route was eventually selected, project costs prohibited construction. Finally, in the River and Harbors Act of 1946, Congress authorized the U.S. Army Corps of Engineers to construct a navigable connection utilizing the Tombigbee River between the Tennessee River and Mobile Bay. After years of planning and restudy, construction was initiated in 1972.

The Tennessee-Tombigbee Waterway in Alabama and Mississippi is the largest single public works project under construction in the United States. This enormous undertaking will affect a multitude of resources including historic and prehistoric archeological sites, historic structures, and submerged river vessels. Mitigating the adverse effects of the waterway on these cultural resources requires a comprehensive, integrated program that limits duplication of effort and eliminates wasted time and money. The Mobile and Nashville districts of the COE and the IAS Atlanta office formed a partnership in 1977 to develop and administer a program of this type. The COE provides the funds for all cultural resource investigations in the waterway; project contracting and direction are shared by the partners.

The focus of the mitigation program is the Tombigbee River Multi-Resource District, which was declared eligible for the National Register of Historic Places in September 1977. The district encompasses a corridor 5 miles wide and 135 miles long from Gainesville, Alabama, to Paden, Mississippi, along the course of the waterway.

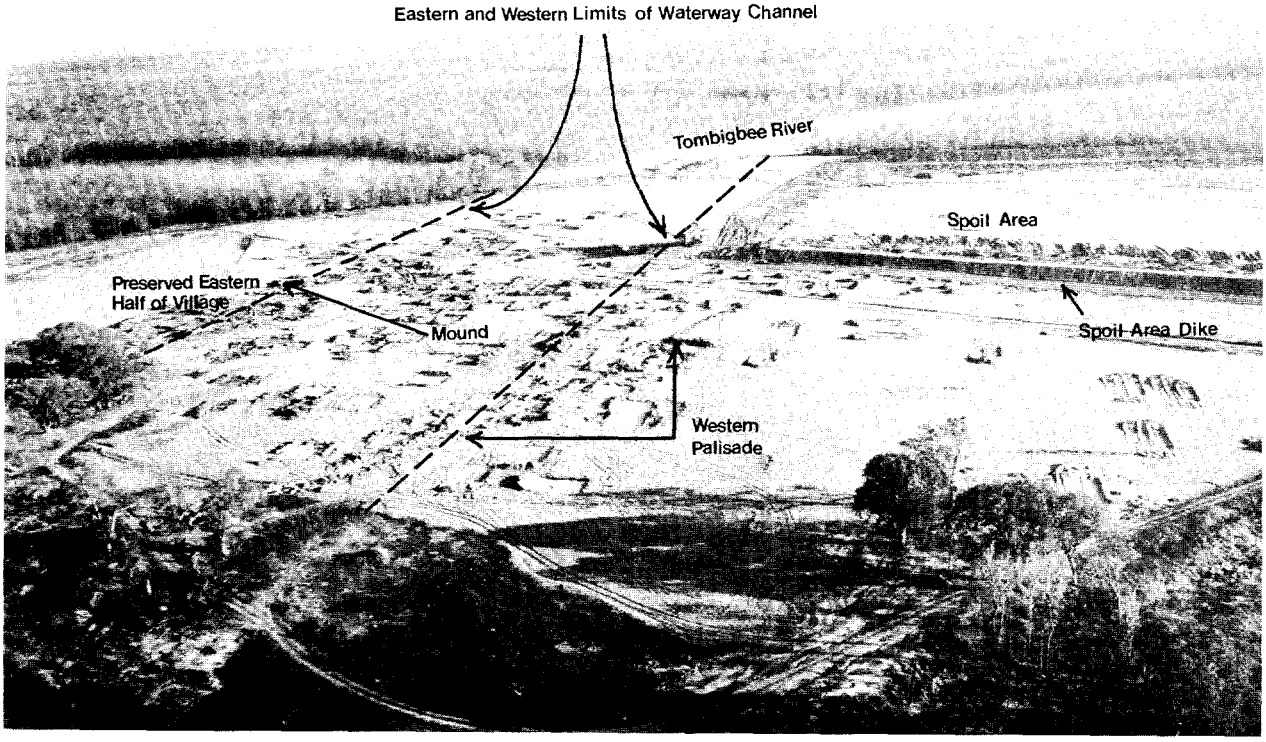
The mitigation plan contains a mechanism for systematically selecting resources for data recovery or recording. This process insures that a sample of all types of important resources to be affected by construction activities is investigated. Specific selections are based on the potential of the resource to contribute to our understanding of the changing lifeways of those who resided in the Upper Tombigbee Valley. Project designs are altered to preserve significant resources and save public funds whenever possible. Through the efforts of IAS and the COE, 17 percent of all sites originally scheduled to be destroyed have been preserved, resulting in financial savings and repositories of knowledge that can be used by future generations.

Early archeological surveys of the district identified a broad range of primarily prehistoric archeological sites before the mitigation program was initated. Many other cultural resources such as historic houses, stores, barns, outbuildings, mills, bridges, ferry landings, sunken boats, historic roads, trails and archeological sites were overlooked. Programs to identify these unrecorded resources form an important part of overall mitigation. The Historic American Buildings Survey and the Historic American Engineering Record inventoried the standing buildings and bridges in the district in 1978 and found significant examples of vernacular architecture. Their study served to define the evolution of house types in the valley. An investigation of the "magnetic anomalies" in the Tombigbee River that will be affected by dredging revealed three submerged boats. Two steamboats were preserved by making minor channel alignments and a small gasoline-powered sternwheeler was investigated through underwater archeology.

The initial selection of historic and prehistoric sites for investigation beyond the inventory stage was completed during May 1978. Of the 682 sites known in the district at that time, 279 were to be affected by construction. Seventeen sites were recognized to have good research potential, while additional information was required for 78 sites. Archeological testing provided the supplementary data and an additional 24 sites were selected for data recovery. Fortunately 12 of these 41 important sites have been preserved by cost-effective construction modifications.

The program for prehistoric archeological resources was designed to examine the evolution and development of local cultures in the Upper Tombigbee Valley, their settlement and subsistence patterns, social and cultural complexity, and finally how all these factors changed through time and space and related to broader southeastern prehistory. The prehistoric Upper Tombigbee inhabitants supported themselves by hunting and gathering. They lived in relatively small camps that were moved as the seasons and resources dictated. Their social organization became more complex through time as they began growing corn and other vegetable products requiring a stationary life-style.

Excavations at the Lubbub Creek Site, the only major Mississippian occupation (ca. A.D. 900-1450) in the district, investigated a ceremonial mound surrounded by a fortified village. The size and composition of the village changed periodically from the earliest occupation to its abandonment. A large cemetery estimated to contain about 600 individuals as well as about 40 percent of the site will be preserved if the channel bank can be stabilized.



Aerial view of the Lubbub Creek locality with overlay of channel construction.

Two base camps located about 100 miles apart and occupied from approximately A.D. 800 to 1000 were excavated to compare the differences and similarites between the people who inhabited them. The remains of houses, refuse pits, and discarded trash provide important clues about their lifestyles and diets.

Data recovery is being undertaken at three rockshelter sites along Mackeys Creek in the northern section of the waterway. The rock overhangs served as excellent protection from the elements. Excavations in the fall of 1979 explored the shelters from archeological and geological perspectives to understand their use more fully.

Excavations at nine sites located on parallel bars, point bars, levees, or terraces extending into the swamps in the northern section of the waterway began in the fall of 1979. These sites were occupied intermittently from about 9000 B.C. to A.D. 1000. Defining and understanding the aboriginal use of the river bottoms and local cultural development is one of the most important goals of the project.

Since little is known about the nature and location of sites that were occupied before 8500 B.C., a program was initiated to gain information on these sites. The interdisciplinary Early Man study now in progress will develop a comprehensive reconstruction of the environment and cultures in the Upper Tombigbee Valley before about 8500 B.C. An important part of this work is predicting the location of these early sites that are so poorly represented among the known resources.

The historic archeological program developed around a series of questions about the settlement pattern and economics of the region's early historic period. The original archeological surveys were conducted at a time when recording historic sites was not necessarily part of accepted survey methods. Since the entire district could not be economically resurveyed, an historic overview to identify the settlement and economic patterns and predict the distribution of individual sites over the landscape was undertaken. Unique as well as typical resources could be identified through this study and supplementary archeological survey conducted where necessary. This work also will provide the foundation and justification for all other historic studies in the district.

Interdisciplinary investigations of historic archeological resources include a minimum of three elements: archival research, oral history, and archeology. Frequently these overlapping sources of information have produced spectacular results in understanding the kinds of activities that took place at long-abandoned sites. This interdisciplinary approach will allow us to develop a comprehensive picture of the common man as he lived out his life in rural northeast Mississippi.

Excavations at Waverly have allowed us to examine the transition from slave to tenant farmer to sharecopper on a large plantation just outside Columbus, Mississippi. The plantation lands remained intact after the Civil War and continued under the direct control of the Young family until 1913. Mostly black tenants lived at Waverly during this period. They were gradually replaced by white tenants during the period of landlord absenteeism from 1913-1940. The project enabled us to investigate whether differences exist between white and black tenant farmers through oral history and material remains. This information should help us better understand the lifeways and requirements of modern tenant farmers.

Excavations at the Bay Springs Mill community were completed in 1979, revealing the remains of a spinning, grist and sawmill that was one of four operating in Mississippi from about 1845-1885. The mill machinery was purchased from New England manufacturers. The remains of the community store, the masonic lodge/church, and the millworkers' houses and barracks also were investigated, providing important information on life in this early mill community.

Archeological testing is scheduled to begin at the three adjacent townsites and major landings of Colbert (1830-1847), Barton (1840-1890), and Vinton (1870-1930). Testing these three towns will involve an interdisciplinary research program and excavations in a 250-acre wooded tract that will become the Barton Ferry Recreation Area.

The final reports for all the projects undertaken during FY 1979 are currently in preparation and many will be available to the public. Additional data recovery and recording projects are planned between now and the completion of the waterway in 1986.

View of the chimney and north wall of the cotton mill at Bay Springs Mill. Note the gears on the left of the stone wall.

View of the steam engine platforms for the saw mill and grist mill at Waverly Ferry.

Averbuch Site, Tennessee

Analysis of data recovered from the Averbuch Site near Nashville, Tennessee, was conducted during FY 1979 by University of Tennessee anthropologists. Data recovery excavations conducted at the site during 1977 and 1978 examined a cemetery and village complex. These investigations were funded by the Department of the Interior under Public Law 93-291 appropriations.

The cemetery was characterized by graves lined with stone slabs. Fifteen of the 74 structures located in the village were completely investigated. Hundreds of thousands of artifacts were recovered during the fieldwork.

Recovering the data from the ground is only a portion of the task involved in successfully mitigating the effects of a construction project on a cultural resource. In order to comprehend fully the importance of the recovered data, intensive analyses and comparisons must be made and disseminated to interested individuals through a published report.

With the Averbuch data, the researchers are investigating the structure of the prehistoric community as well as its relationship to other communities of the same time period in the Nashville Basin, and to environmental resources within that region. The community structure can be approached from the study of artifacts such as pottery vessels or the structural patterns of the houses or defensive palisades. The large sample of burials recovered from the site provides an opportunity to study a past human group first hand.

Current analyses focus on processes of demographic change, resource stress, and cultural adaptations during the Late Mississippian Period in the Nashville Basin. Preliminary radiocarbon dates suggest that the site was well established by the 15th century. However, the usual Late Mississippian settlement system adaptation, characterized by settlement along major river valley floodplains with fertile soils and concentrated biotic resources, is not evident at Averbuch, which is located approximately 4 kilometers from the Cumberland River. The assumed late date of site occupation and models of social responses to stress on critical subsistence resources suggest that the initiation of this Mississippian settlement may reflect a reaction to population pressure on the riverine environments in the Nashville Basin. Less successful communities may have radiated out from optimal natural habitats into less desirable locations featuring minimally adequate soil fertility and limited access to the rich river bottoms. A preliminary analysis of prehistoric site distributions in the Nashville Basin indicates a strong correlation between Late Mississippian sites and soils high in natural fertility. Such evidence provides initial support for the proposed explanation of the apparently anomalous location of the Averbuch Site.

Site-specific observations provide additional information concerning the nature of the Averbuch community and further support the model of a cultural system under environmental stress during the Late Mississippian Period. Habitation areas exhibit a planned or organized arrangement between domestic structures, consistent patterns of work space within and between structures, and, generally, the repair or rebuilding of houses through time. Discrete cemetery areas associated with the site also exhibit patterns that suggest a kin-based spatial distribution of burials. Analysis of botanical material indicates subsistence activities heavily oriented toward corn consumption, while

analyses of the skeletal series from the Averbuch Site provide substantial evidence of nutritional stress as reflected in growth and development patterns and disease. A cultural perspective of the burial pattern suggests that the social organization included few high status or elite positions. Individual wealth, based on the accumulation of local or imported resources, was apparently limited. The defensive enclosure or palisade encircling the Averbuch Site combined with the high incidence of traumatic injuries observed in the skeletal series, including several cases of apparent scalping, suggest that conflict and stress were common occurrences within the Averbuch community.

The Averbuch Site was not affected by direct federal construction, but by a low cost housing project supported by the Department of Housing and Urban Development. The site is apparently the last large village of the Middle Cumberland culture (A.D. 1200 to 1500) archeologists will be able to investigate in the Nashville Basin. All of the other known sites have been destroyed by the economic and population growth of the 20th century.

LIMITATIONS OF THE FEDERAL ARCHEOLOGICAL PROGRAM

Although numerous programs, publications, and new legislation have helped increase awareness of archeology and federal responsibilities to protect our nation's archeological resources, several obstacles remain that must be overcome before the program can become both scientifically effective and cost efficient.

The minimum requirements of the Archeological and Historic Preservation Act can be divided into five categories: (1) notification, (2) data recovery, (3) coordination, (4) compensation, and (5) reporting to Congress. Differences of interpretation of the statute exist in each of these categories. To clarify the issues and describe the way minimum responsibilities are currently being met, each category is discussed below.

DIFFERENCES IN INTERPRETATION OF PUBLIC LAW 93-291

Notification

Sections 2, 3(a), and 4(a) of Public Law 93-291 provide for the Secretary of the Interior to be notified of impending dam construction as well as other construction that may cause irreparable harm to or destruction of signficant scientific, prehistoric, historic, or archeological data. Agencies object to proposed procedures under these sections because (1) the Secretary has no clear rulemaking authority in this area; (2) some agencies are performing archeological recovery under the provisions of other statutes that do not require notifying the Secretary; (3) the kind and amount of information called for and the time necessary to prepare it are considered burdensome; and (4) existing means of notification, such as public notices and the state level A-95 review process (Office of Management and Budget Circular #A-95), are considered valid sources of information about agency actions.

The Department of the Interior maintains that Secretarial rulemaking authority and rights of access to information derive from (1) the coordination responsibility vested in the Secretary by section 5(c) of the act; (2) the responsibility placed on the Secretary by section 3(a) of the act to provide reports of data recovery projects to the public; (3) the responsibility given the Secretary to report annually to Congress in section 5(c); and (4) the general rulemaking authority for historic preservation given the Secretary by section 2(k) of the National Historic Sites Act of 1935 (P.L. 74-292). House Report No. 93-992, which is a part of the legislative history of the act, is clear in stating

> "if a Federal agency finds or is made aware that any Federal program or federally assisted construction project or activity will cause the loss of scientific, prehistoric, historical, archeological or paleontological data, then the agency must notify the Secretary of the Interior of this fact and supply him with information relevant to the matter."

In sum, the law requires that the Secretary be notified and supplied with relevant information. In order for the Secretary to coordinate recovery programs and to determine if endangered data are important, detailed information is necessary. This level of specificity is not found in public notices and A-95 review information. Once reporting procedures are established it will not be unduly burdensome considering the benefits derived from program coordination.

Data Recovery

The problems associated with data recovery activities involve the following issues: (1) preliminary surveys or inventories; (2) funding; (3) applicability of the statute; and (4) adequacy of recovery.

Preliminary surveys and inventory requirements are dealt with by the National Environmental Policy Act, the National Historic Preservation Act, and Executive Order 11593. Section 1 of the Archeological and Historic Preservation Act clearly indicates that the purpose of the act is the recovery of data endangered by federal activities. Identification and inventory activities required under the other laws are part of the planning and decisionmaking process preceding the decisions that actually endanger the data. It would thus seem clear that the common use of the Archeological and Historic Preservation Act authorities to justify and fund survey and planning is inappropriate.

Many agencies, such as the Department of Housing and Urban Development and the U.S. Army Corps of Engineers, have taken positions that there are no inventory requirements at all. The Department of the Interior takes the contrary position that the requirement is inherent in Executive Order 11593, which directs agencies to institute procedures to assure that their programs and activities contribute to the preservation of non-federally owned sites of archeological, architectural, and historic significance. Such assurance can be provided only with the knowledge of what and where the resources are. In other words, inventories and the evaluation of findings are necessary in order to make such assurances.*

*Editor's note: The National Historic Preservation Act Amendments of 1980 (P.L. 96-515) have clarified this problem.

Funding questions have frequently arisen when agencies, notably the Corps of Engineers, have expended up to the authorized 1 percent limitation and have erroneously included the costs of inventories within the limitation. These agencies commonly seek additional funds through the section 4(a) authorities of the Secretary under Public Law 93-291. Typically, the answer is that funds should still be available to the agency if it has properly charged inventory costs to planning and decisionmaking authorities. However, even if data recovery funds were not being used for planning and decisionmaking, and the Secretary were appropriately notified and requested to perform adequate recovery, the Secretary would still not be able to fund a majority of these projects because inadequate funding is appropriated to accomplish the mandate in section 4.

At the present time, there are more that 60 projects that endanger significant cultural resources. Estimated mitigation costs exceed $5 million in cases in which the Secretary should assist financially. Obviously, where funds remain available within the project construction costs limitation (1 percent), and can be so identified, the Secretary does not render financial assistance.

Manpower within the Department of the Interior is also severely limited. By contrast, in 1974 there were 60 permanent full-time positions available to carry out the modest programs and responsibilities authorized under the Reservoir Salvage Act of 1960. In 1979 only 25 full-time positions remained to carry out the increased authorities and responsibilities under Executive Order 11593 and Public Law 93-291.

Manpower shortages acutely restrict the Secretary's ability to accept and appropriately use funds tranferred by other agencies as provided for in section 7(a) of the 1974 act. Acceptance of such funds, stipulated by statute, incurs legal obligations to prepare scopes-of-work, monitor contracts, review reports, maintain fiscal records, perform quality control reviews, carry out negotiations, and a vast array of related duties all of which require trained professional and support personnel.

Applicability of the act has been a problem in several respects. First, many agencies question which sections of Public Law 93-291 apply to them. Section 3(a) states that federal agencies must inform the Secretary of any federal construction which may cause "irreparable loss or destruction of significant data." The agency may request that the Secretary undertake the "recovery, protection and preservation of such data" or it may use monies appropriated for the project to undertake these activities. This section covers most situations and allows funding from the project costs.

Section 3(b) states that whenever a federal agency provides financial assistance to any non-federal source, the Secretary, if he determines that significant data may be lost or destroyed, may conduct a survey of the site and undertake recovery of such data. The Secretary shall compensate any person damaged as a result of this undertaking.

Section 4(a) states that the Secretary, after being notified in writing that data are being destroyed or lost as a result of any federally assisted or licensed project, shall conduct or cause to be conducted a survey or other investigation of the areas which may be affected and recover and preserve all appropriate data.

Section 7 contains the funding authority for the various project types. Section 7(a) provides general funding authorities to carry out the intent of the act including utilization of the 1 percent. Section 7(b) authorizes appropriations for section 3(b), and section 7(c) authorizes appropriations for section 4(a). There is not a specific authorizing section for 3(a) beyond the general authorities outlined in 7(a).

Section 3(b) projects, with funding authorized by section 7(b), have been funded in competition with section 4(a) projects whose funding is authorized by section 7(c). The result has been that little funding remains available to cover section 3(b) responsibilities. The confusion results partly from the fact that the appropriation acts do not specify the extent to which each authority is funded. Because there has never been sufficient funding for 7(c) the confusion has increased.

Section 4(a) authorities, funded under section 7(c), are designed to cover an interim period until necessary appropriations and reprogramming can be accomplished and to provide contingency funds for cases in which agencies cannot use the section 3(a) authorities. These section 7(c) funds should not be viewed as a cure-all for problems and inadequacies in an agency's data recovery responsibilities under its own appropriations and budget.

The second problem concerns the applicability of the act to all data recovery circumstances. In the view of the Secretary, it clearly applies without exception in all cases where the terrain is disturbed or caused to be disturbed by any federal, federally funded, federally assisted, federally licensed, or federally permitted activity, as stated in the act. Some agencies simply do not accept this view, and fail to inform the Secretary of data recovery occurring under parallel authorities. This makes coordination and reporting to Congress as required by section 5(c) difficult and could lead to false assumptions about the amount being expended, the adequacy, the scope and effectiveness, and the relevance and cost effectiveness of data recovery actions.

A major problem in data recovery concerns the definition of adequate recovery. That is, when has the threatened loss of significant data been mitigated and the significant data recovered? A general lack of agreement on this matter exists among the professional communities, federal agencies, and the private sector. If this act is viewed as complementing the National Historic Preservation Act of 1966, as the Secretary believes it should, this question should be answered in the comments rendered by the Advisory Council on Historic Preservation under their 36 CFR 800 procedures. Most frequently, this has been left as an open-ended professional decision which invites project opponents to use the archeological resources to further their special interests.

The basic position of the department is that sufficient recovery of endangered data will have occurred when all of the kinds of information that make the data significant have been recovered. Clearer directions are needed to establish the appropriate level of decisionmaking in such matters. A memorandum of agreement between the Advisory Council on Historic Preservation and the Department of the Interior may resolve the question procedurally, but a legal decision may be more effective for dealing with other agencies.

Coordination

The Secretary is instructed by section 5(c) to coordinate all federal survey and recovery activities carried out under the act. "Coordination" is not defined in the act. The best guidance as to the intent of that coordination is the requirement in the same section to report annually to Congress on the scope and effectiveness of the program throughout the government.

In order to be able to assess and report the scope and effectiveness of the data recovery program, it is necessary to know what is being done and under what authorities the work is being accomplished. In some cases other authorities allow work normally within the scope of this act to be funded without applying the provisions of the act. Knowledge of what is accomplished under other authorities is necessary to interpret accurately the number and details of data recovery activities which would otherwise appear to have been conducted pursuant to the act.

Millions of dollars are spent each year on archeological work government-wide, and many agencies conducting programs do not provide their findings to the public or the scientific community, while others do not even require final reports from their archeological contractors. Some instances have come to our attention where agencies unknowingly have inventoried areas previously inventoried by another agency. Coordination can help prevent such duplication, but requires knowledge of work done under all authorities. However, as indicated in the notification section, many agencies argue that providing such detailed information is burdensome. A clearer understanding of the intent of coordination (i.e., management, administration) and the purpose of overlapping laws may be able to overcome this problem.

While the national archeological program has grown dramatically over the past few years, support for oversight and coordination of that program has not. IAS has devoted much of its archeological effort to conducting surveys and data recovery for other agencies, and little on oversight and coordination of the national program. In fact, many single data recovery projects such as the Dolores or New Melones reservoirs receive more funding than the entire national annual budget for oversight and data recovery programs. With additional staff and funding, the oversight program could operate more effectively and would result in fewer project delays, greater cost-effectiveness, less duplication of effort and loss of archeological and historical resources that are important to our nation's heritage.

Compensation

Sections 3(b) and 4(d) of the act stipulate that the Secretary pay compensation for construction delays and the temporary loss of use of private and other non-federal land. The position of the department is that it is not in the public interest to pay such compensation unnecessarily.

The department typically will not pay compensation if the appropriate inventories and planning studies have not been carried out during project planning as required by Executive Order 11593, the National Environmental Policy Act and the National Historic Preservation Act. A principal problem is availability of funds. If the Secretary has no funds to pay compensation the department may be in the position of being forced to recommend that significant data be destroyed, even though compliance procedures have been inadequate.

Report to Congress

Public Law 93-291 clearly states that the department is to report annually to Congress on the scope and effectiveness of the national archeological program. In order to prepare the required report to Congress, the department must periodically obtain clearance and a reporting number from the National Archives and Records Service/General Services Administration. This authorizes other agencies to release the information requested. Decreasing personnel ceilings within the Department of the Interior preclude the timely preparation of annual reports to Congress because insufficient personnel are available to prepare the periodic clearance requests and the annual questionnaires and to analyze incoming data in an organized or consistent manner.

Controversies related to the Secretary's annual report to Congress are closely tied to disagreements among agencies about coordination, notification, and the applicability of the various sections of the act. Agencies have frequently failed to provide detailed information about the amounts spent for archeological work under the act. Some agencies also evidence a lack of knowledge of cultural resource management through their inappropriate questions or responses to requests for information.

POSSIBLE SOLUTIONS

Notification

The department will issue additional regulations and guidance on procedures to identify and recover archeological data. Although proposed guidelines (36 CFR Part 66) were published in 1977 and a Statement of Program Approach was finalized in 1979, the intent and purpose of archeological programs responding to these documents differ dramatically among agencies. Some agencies conduct too much work, others too little, and still others none at all to fulfill legal mandates.

Except for a few highly publicized cases, there is usually much more archeology which should be done than there are dollars available to fund such work. Agencies routinely are faced with questions such as how to insure that the most valuable information is obtained for the available dollar; how to conduct an adequate survey or data recovery program so that justice is done to the archeological record and yet political foes are not raised; and how to maintain a balance between the costs incurred by a program of historic preservation and the benefits received from it.

Over the past several years the department has been (1) revising the 1977 guidelines (36 CFR 66) and preparing standards for the identification, evaluation, and recovery of archeological resources; (2) defining what constitutes adequate mitigation within the context of state comprehensive historic preservation plans; (3) outlining uniform procedures for agencies to follow when they notify the department of potential damage to archeological resources, or ask for assistance under Public Law 93-291, or notify the department of discoveries of resources during construction; (4) outlining requirements for final reports of findings of work performed pursuant to Executive Order 11593 and Public Law 93-291; and (5) disseminating information to the public. Some agencies question the authority of the Department of the Interior to issue guidelines because no specific provision for doing so is in the law. Such specific authority would more clearly define the role of the Department of the Interior.

Data Recovery

Issuing final regulations is not likely to resolve the questions surrounding the quality and quantity of work that is required to be accomplished. There are problems when anyone attempts to determine in advance what might be found archeologically, and yet for federal planning purposes some decisions of this type must be made. In order to certify that adequate recovery has taken place, some anticipation of what the important data are must be set forth. An ongoing, flexible, and coordinated relationship must exist among agencies. Delegation to the Secretary of responsibility for determining when data recovery is adequate may be the most effective course of action.

Another factor that directly affects the adequacy of data recovery is the availability of manpower and funding at sufficiently high levels to perform the required work. Even with full congressional funding, only about 80 percent of the currently known project needs could be covered; however,that would be a significant improvement over present efforts.

Coordination

The problems of coordinating the national program could be solved in two ways. First, final rules on procedures must be published. Second, congresssional or Executive order action should clearly direct agencies to coordinate all archeological work with the Secretary, and vest the Secretary with final authority regarding standards of work, personnel qualifications, the quality and quantity of work necessary, curation of recovered materials, and the appropriate methods of contracting for archeological work. This will increase overall program efficiency and reduce costs. Adequate funds and increased personnel ceilings necessary to provide the additional staff to effect this coordinating role must accompany these two steps.

Compensation

Two solutions to the compensation problem are necessary. The Secretary should assist agencies in ensuring that compliance activities are professionally and legally adequate. This should minimize the need for compensation by limiting the situations where construction must be delayed or when there might be a temporary loss of land. Again, this requires clarification of the Secretary's authority and adequate staffing. In addition, the Secretary should have some funds available to pay compensation when it is truly justified.

Report to Congress

Rulemaking will not solve the problems concerning the Secretary's annual report to Congress or cause agencies to provide relevant data willingly. If the changes suggested are implemented, however, a meaningful annual report can begin to be prepared on a continuing, efficient basis.

APPENDIXES

APPENDIX A

Historic Preservation Laws and Regulations Affecting Archeological Resources

Antiquities Act of 1906: Public Law 59-209; 16 U.S.C. 431-33

This act provides for the protection of all historic and prehistoric ruins or monuments on federal lands. It prohibits any excavation or destruction of such antiquities without permission of the Secretary of the department having jurisdiction. The act authorizes the Secretaries of the Interior, Agriculture, and War to give permission for excavation to reputable institutions for increasing knowledge and for permanent preservation in public museums. It also authorizes the President to declare areas of public lands as National Monuments and to reserve lands for that purpose.

Historic Sites Act of 1935: Public Law 74-292; 16 U.S.C. 461-67

The preservation for public use of historic sites, buildings, and objects was declared as national policy by this act. It led to the establishment of the Historic Sites Survey, the Historic American Building Survey, and the Historic American Engineering Record by giving the Secretary of the Interior authority to make historic surveys, to secure and preserve data on historic sites, and to acquire and preserve archeological and historic sites. The National Historic Landmarks program and its Advisory Board were also established under this act to designate properties having exceptional value as commemorating or illustrating the history of the United States.

Reservoir Salvage Act of 1960: Public Law 86-523; 16 U.S.C. 469-469c

This act provides for the preservation of historical and archeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of activities connected with the construction or flooding of a dam by a federal agency or a private entity holding a license issued by a federal agency. Notice is to be given to the Secretary of the Interior of the proposed area of the dam and reservoir so that the Secretary may cause a survey to be made of the area to be affected in advance of construction. The Secretary is to cause historical and archeological data found to be of exceptional significance to be collected and preserved if feasible. Similar surveys and data recovery activities are to be undertaken in connection with any dam previously authorized insofar as it is practicable. Ownership of and the most appropriate repository for any relics and specimens recovered under this act are to be determined by the Secretary in consultation with federal and state agencies and various educational and scientific organizations, as well as qualified individuals.

National Historic Preservation Act of 1966: Public Law 89-665; 16 U.S.C. 470-470m as amended 16 U.S.C. 460b, 470i, 470l-470n

This act provides for an expanded National Register of Historic Places, including districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture. It authorizes a program of matching grants-in-aid to the states and development projects. The act also establishes the Advisory Council on Historic Preservation, appointed by the President, to advise the President and the

Congress on matters relating to historic preservation. The Advisory Council is authorized to secure information it may need from federal agencies in order to carry out its responsibilities. Section 106 of the act requires federal agency heads to allow the Advisory Council opportunity to comment when undertakings to be licensed or executed by their agencies will affect properties listed in or eligible for listing in the National Register.

National Evironmental Policy Act: Public Law 91-190; 42 U.S.C. 4321 Et Seq.

Federal agencies are required by this act to prepare an environmental impact statement for every major federal action that affects the quality of the human environment. The environment is defined to include cultural as well as natural resources.

Executive Order 11593: Protection and Enhancement of the Cultural Environment, 16 U.S.C. 470 (May 13, 1971)

Federal agencies are directed by this Executive order to take a leadership role in preservation in two particular ways. First, for all property under federal jurisdiction or control, the agencies must survey and nominate all significant historic properties to the National Register. These historic properties must also be maintained and preserved by the agency. Second, for every action funded, licensed, or executed by the federal government the agency involved must ask the Secretary of the Interior to determine if any property in the environmental impact area is eligible for inclusion in the National Register of Historic Places. If the federal action will substantially alter or destroy a historic property, the agency must allow the Advisory Council to comment on such undertakings; nationally significant properties must be recorded and records deposited in the Library of Congress as a part of the Historic American Building Survey or the Historic American Engineering Record.

Archeological and Historic Preservation Act of 1974: Public Law 93-291; 16 U.S.C. 460

This act calls for the presevation of historic and archeological materials and data that otherwise would be lost as a result of federal construction or federally licensed or aided activities. Data recovey or in situ preservation are available to the Secretary. Public Law 93-291 amends the Reservoir Salvage Act of 1960 (P.L. 86-523) and institutes several prominent changes.

(1) It makes all federal construction programs and all projects licensed or otherwise assisted by federal agencies responsible for the damage they will cause to scientific, prehistoric, and archeological resources once a project is authorized.

(2) It places coordinating responsibility in the Secretary of the Interior in order to assure a relatively uniform federal program.

(3) It authorizes all federal agencies to seek future appropriations, obligate available monies, or reprogram existing appropriations for the recovery, protection, and preservation of significant scientific, prehistoric, or archeological materials and data.

(4) It permits agencies either to undertake the requisite recovery, protection, and preservation of archeological material and data themselves in coordination with the Secretary of the Interior or, alternatively, to transfer a maximum of 1 percent of the total amount authorized to be appropriated for each project to the Secretary of the Interior for this purpose.

Archaeological Resources Protection Act of 1979: Public Law 96-95; 16 U.S.C. 470aa

This act further protects historic and archeological properties on federal and Indian lands by providing criminal and civil penalties against unauthorized (unpermitted) use and destruction of those properties. The act also provides for increased communication and exchange of information on the protection of archeological properties among government agencies, the professional archeological community, Native Americans, collectors and the general public.

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

The act requires that owners of archeological and historical properties be notified and that they concur in the nomination of their properties to the National Register of Historic places. The Secretary of the Interior is directed to (1) certify local historic preservation programs, (2) promulgate curation regulations and standards and guidelines for the preservation of historic and archeological properties, (3) develop an appeals process for nominations to the National Register, (4) develop a direct grants program for the preservation of National Register properties, and (5) develop a loan guarantee program to finance historic preservation projects. Agencies may (1) lease or exchange historic properties, (2) charge reasonable historic preservation costs to permittees and lessees, and (3) spend more than 1 percent of project costs on data recovery after the Secretary of the Interior concurs. The structure of the Advisory Council is revised to include more local government and private participation. Agencies are directed to inventory their lands.

APPENDIX B

Final Reports Accepted in Fiscal Year 1979

Project	FY of Contract	Report Title/Author
ALABAMA		
Choctaw National Wildlife Refuge	1978	An Intensive Archeological Survey of the Choctaw National Wildlife Refuge by Ben I. Coblentz
Eufala National Wildlife Refuge	1978	Archeological Investigation at Sites 1 BR78 & 1 BR79, Eufala National Wildlife Refuge, Barbour County, Alabama and Georgia by Frank T. Schnell, Jr., and Vernon J. Knight, Jr.
Lubbub Creek Analysis Tennessee Tombigbee Multi-Resource District	1978	Analysis & Time/Task Performance Studies of Archeological Materials from the Lubbub Creek by Ben Coblentz
Wheeler National Wildlife Refuge	1978	Cultural Resources Reconnaissance in the Wheeler National Wildlife Refuge, Alabama by Eugene M. Futato
ARIZONA		
Queen Creek Flood Way Phase I	1974	An Archeological Investigation of the Queen Creek Floodway Project by Danny Brooks, revised by R. Gwinn Vivian
Walpi Analysis and Report Phase I	1978	Phase I Sorting and Inventory by E. Charles Adams
ARKANSAS		
Wapanocca National Wildlife Refuge	1978	A Cultural Resources Reconnaissance of the Wapanocca National Wildlife Refuge, Arkansas by Hartfield, Price and Greene, Inc.

Cane Creek RC and D	1978	Cultural Resources Survey and Evaluation of the Cane Creek RC and D Measure Lincoln, County, Arkansas by Marco J. Giardino
Upper Tri-County Watershed	1978	A Cultural Resources Survey and Evaluation in the Upper Tri-County Watershed, Sharp and Lawrence Counties, Arkansas by Commonwealth Associates, Inc.
Holla Bend National Wildlife Refuge	1978	A Cultural Resources Survey of Selected Portions of Holla Bend National Wildlife Refuge in West Central Arkansas by W. J. Bennett, Jr., and J. Lowell Caffey

CALIFORNIA

Vandenberg Air Force Base Phase II	1978	Archeological Survey and Statement of Significance for Cultural Resources Located in the Vicinity of Oil Well Canyon, Vandenberg Air Force Base, California by Steven Craig and Michael A. Glassow
		Data Recovery Program to Mitigate the Effects of the Construction of Space Transportation Facilities on Seven Archeological Sites on Vandenberg Air Force Base, Santa Barbara County, California by Michael A. Glassow
Vandenberg Air Force Base	1979	Examination of a Burial at CA-SBa-539 by Phillip Walker
Point Conception	1978	Archaeological Survey of the U.S Coast Guard Property of Point Conception, Santa Barbara, California by Michael A. Glassow

COLORADO		
Chatfield Reservoir	1975	Archeological Investigations in the Chatfield Reservoir, Colorado by Sarah M. Nelson
FLORIDA		
Bay Pines	1977	Cultural Resource Data Recovery at the Bay Pines Veterans Administration Center, Florida by Chad O. Braley, under the supervision of James W. Stoutamire
J.N. "Ding" Darling National Wildlife Refuge	1978	A Cultural Resource Reconnaissance of the J.N. "Ding" Darling National Wildlife Refuge, Sanibel, Florida by William J. Kennedy
Lake Woodruff National Wildlife Refuge	1978	Lake Woodruff National Wildlife Refuge Cultural Resources Reconnaissance by James J. Miller and John W. Griffin
Loxahatchee National Wildlife Refuge	1978	A Survey of the Archeology and History of Loxahatchee National Wildlife Refuge, Florida by John W. Griffin, James J. Miller, and Mildred L. Fryman
St. Marks National Wildlife Refuge	1978	Archeological Investigations in the Stoney Bayou Pool, St. Marks National Wildlife Refuge by Clifton A. Huston
National Key Deer Wildlife Refuge	1978	Cultural Resource Reconnaissance of the National Key Deer Wildlife Refuge by John W. Griffin, Mildred L. Fryman, and James J. Miller
GEORGIA		
Harris Neck National Wildlife Refuge	1978	Archeology and History of Harris Neck National Wildlife Refuge, McIntosh County, Georgia by Mildred L. Fryman, John W. Griffin, and James J. Miller

Okefenokee	1977	The Okefenokee National Wildlife Refuge: A Cultural Resource Survey by Newell O. Wright, Jr.
Piedmont National Wildlife Refuge	1978	The Piedmont National Wildlife Refuge: A Cultural Resources Survey by Newell O. Wright, Jr., and Jean Shipley Perry
Savannah National Wildlife Refuge	1979	Report of Archeological Mitigation, Laurel Hill Plantation, Savannah National Wildlife Refuge, Georgia by Rochelle A. Marrinan
Richard B. Russell Lake	1977	Preliminary Results of the Intensive Survey of the Proposed Richard B. Russell Dam and Lake Project by G. T. Hanson, Richard L. Taylor, Marion F. Smith, and R. D. Brooks
	1975	The Report of the Intensive Survey of the Richard B. Russell Dam and Lake, Savannah River, Georgia and South Carolina by Richard L. Taylor and Marion F. Smith
Wassaw National Wildlife Refuge	1978	Cultural Resources Reconnaissance of Construction Project Areas on Wassaw National Wildlife Refuge, Georgia by Charles E. Pearson and Sharon Goad Pearson
IOWA		
Saylorville Reservoir	1974	Emergency Archeological Investigations at 13PK154, the DeArmond/Barrier Dam site, Saylorville Reservoir, Iowa by Nancy M. Osborn and David M. Gradwohl
		Emergency Archeological Investigations at the Saylorville Site (13PK165), a Late Woodland Manifestation within the Saylorville Reservoir, Iowa by Nancy M. Osborn, David M. Gradwohl, and Randall M. Thies

KANSAS

Perry Reservoir	1967	Archeological Investigations at the Malm, Anderson and Teaford Sites in Perry Reservoir, Jefferson County, Kansas by John D. Reynolds

LOUISIANA

Catahoula National Wildlife Refuge	1978	Cultural Resources Survey of the Catahoula National Wildlife Refuge, La Salle Parrish, Louisiana by Diane E. Wiseman and Kathleen G. McCloskey
Delta-Breton National Wildlife Refuge	1978	A Cultural Resources Survey of the Delta-Breton National Wildlife Refuge, Louisiana by H. Edwin Jackson, Jr.
Esplanade-Rampart Streets Sites	1979	Cultural Resources Survey and Testing at Esplanade Avenue and Rampart Street, New Orleans by George J. Castille, Charles E. Pearson, and Kathleen G. McCloskey
Lacassine National Wildlife Refuge	1978	A Cultural Resources Survey of the Lacassine National Wildlife Refuge, Cameron Parrish, Louisiana by Eileen K. Burden, Diane E. Wiseman, Richard A. Weinstein, and Sherwood M. Gagliano
Maximilian Site	1979	Cultural Resources Survey and Testing at Convention Avenue and Maximilian Street, Baton Rouge, Louisiana by George J. Castille, Kathleen G. McCloskey, and Wayne Glander
Sabine National Wildlife Refuge	1978	The Sabine National Wildlife Refuge: A Cultural Resources Survey by Prentice M. Thomas Jr., L. Janice Campbell, and Thomas D. Montagne

MAINE		
Rachel Carson National Wildlife Refuge	1978	Cultural Resources Survey: Rachel Carson National Wildlife Refuge Headquarters Parcel by Arthur E. Spiess
MISSISSIPPI		
Hillside National Wildlife Refuge	1978	Cultural Resources Reconnaissance: Hillside National Wildlife Refuge, Mississippi by David M. Heisler
Mississippi Sandhill Crane National Wildlife Refuge	1978	Archeological Survey of the Mississippi Sandhill Crane National Wildlife Refuge by Mark T. Swanson, Jeffrey H. Altschul, and L. Janice Campbell
Noxubee National Wildlife Refuge	1977	Cultural Resource Reconnaissance and Project-Oriented Survey, Noxubee National Wildlife Refuge, Mississippi by Janet E. Rafferty
Tennessee Tombigbee Multi-Resource District	1978	Report on the Locations of Historic Activity Loci at Martin's Bluff by Jack D. Elliott, Jr.
	1979	Remote Sensing Applications in Archeological Investigations, Sharpley's Bottom, Vinton, Barton and Colbert, Mississippi by Frank Miller
Yazoo National Wildlife Refuge	1978	Cultural Resource Reconnaissance, Yazoo National Wildlife Refuge, Mississippi by David Heisler
MONTANA		
Tiber Reservoir	1975	The Bootlegger Trail Site, A Late Prehistoric Spring Bison Kill by Tom E. Roll and Ken Deaver

NEBRASKA

Mid-State Project	1971	Vol. 1. A Report on 1973 Archeological Investigations in the Wood River Valley, Buffalo County, Nebraska by Peter Bleed, assisted by Kathy Sahlstein, Michael Pfeiffer, and Bobbett Weaver
		Vol. 2 Archeological Investigations in the Proposed Mid-state Irrigation Project by Dale R. Henning, J. W. Oothoudt, Roye D. Lindsay, and Steven R. Holen
		Vol. 3 Supplemental Data, Subsurface Testing Program, Mid-state Irrigation Project by Peter Bleed
		Vol. 4 Artifact Descriptions, Mid-state Survey by John Ludwickson
		Vol. 5 Site Survey Forms, Mid-state Project by Steven R. Holen

NEVADA

Humbolt Project Rye Patch Reservoir, Phase III	1978	The Humbolt Project, Rye Patch Archeology Phase III - Final Report by Mary K. Rusco and J. R. Firby, with an Appendix by A. Dansie
Marble Bluff	1974	Excavation at Marble Bluff Dam and Pyramid Lake Fishway, Nevada by Donald Tuohy and David Clark

NEW JERSEY		
Brigantine National Wildlife Refuge	1978	A Cultural Resource Survey of the Headquarters Complex of the Brigantine National Wildlife Refuge, New Jersey by Ronald A. Thomas
Great Swamp National National Wildlife Refuge	1978	A Cultural Resources Survey at the Great Swamp National Wildlife Refuge, New Jersey by Ronald A. Thomas
Tocks Island	1974	The Minisink Site by Herbert C. Kraft
NEW MEXICO		
Cochiti Reservoir	1966-67	Archeological Excavations at Pueblo del Encierro, LA 70, Cochiti Dam Salvage Project, Cochiti, New Mexico, Final Report: 1964-1965 Field Seasons by David H. Snow (Assembler & Editor)
NORTH CAROLINA		
Mattamuskeet National Wildlife Refuge	1978	A Cultural Resource Investigation of the Mattamuskeet National Wildlife Refuge, Hyde County, North Carolina by Patrick H. Garrow and G. Michael Watson
Pee Dee National Wildlife Refuge	1978	A Cultural Resource Investigation of the Pee Dee National Wildlife Refuge, Anson and Richmond Counties, North Carolina by Patrick H. Garrow and G. Michael Watson
Pungo National Wildlife Refuge	1978	A Cultural Resource Investigation of Pungo National Wildlife Refuge, Hyde and Washington Counties, North Carolina by Patrick H. Garrow and G. Michael Watson

NORTH DAKOTA		
Garrison Reservoir	1968	The Knife River Phase by Donald J. Lehmer, W. Raymond Wood, and C. L. Dill
OKLAHOMA		
Copan Reservoir	1974	Copan: Excavations in the Copan Reservoir of Northeastern Oklahoma and Southeastern Kansas by Susan C. Vehik and Richard A. Pailes
PENNSYLVANIA		
Erie National Wildlife Refuge	1978	A Cultural Resource Survey of the Erie National Wildlife Refuge, Crawford County, Pennsylvania by William C. Johnson, Ronald C. Carlisle, and James R. Richardson III
SOUTH CAROLINA		
Cape Romain National Wildlife Refuge	1978	A Cultural Resource Survey of the Cape Romain National Wildlife Refuge by Newell O. Wright, Jr.
Santee National Wildlife Refuge	1978	Archaeological Survey and Cultural Resources Overview, Santee National Wildlife Refuge, Clarendon County, South Carolina by David G. Anderson, Judith A. Newkirk, and E. Suzanne Carter
TENNESSEE		
Cross Creeks National Wildlife Refuge	1978	A Cultural Resource Reconnaissance of the Cross Creeks National Wildlife Refuge with Archeological Survey of Selected Areas, Stewart County, Tennessee by William O. Autry Jr., and Jane S. Hinshaw
Tellico Dam	1974	The Patrick Site (40MR40), Tellico Reservoir, Tennessee by Gerald F. Schroedl

TEXAS		
Cooper Lake	1974	Archaeological Research at Cooper Lake, Northeast Texas, 1973 by Robert D. Hyatt and Karen Doehner
	1976	Archaeological Research at the Proposed Cooper Lake, Northeast Texas, 1974-1975 by Karen Doehner and Richard E. Larsen
Granger Lake	1977	Three Archeological Sites at Hoxie Bridge, Williamson County, Texas by Clell L. Bond
Tennessee Colony Lake	1974	Archeological and Ethohistorical Survey at Tennessee Colony Lake, 1975 by Jeffrey J. Richner and Reed Lee
VERMONT		
Missisquoi National Wildlife Refuge	1978	Missisquoi National Refuge: A Cultural Resources Survey, Vermont by Peter A. Thomas and Brian S. Robinson
WASHINGTON		
Ozette Village Phase XI	1977	Ozette Archeological Project, Interim Final Report, Phase XI by Jeffery E. Mauger, edited by Richard D. Daugherty
WEST VIRGINIA		
Wolf Run	1974	A Summary Report of Archeological Investigations at the Wolf Run Site (46M63), Marshall County, West Virginia by R. P. Stephen Davis, Jr.

APPENDIX C

National Technical Information Service (NTIS) Abstracts for Fiscal Year 1979.

ALABAMA

Cultural Resources Reconnaissance in the Wheeler National Wildlife Refuge, Alabama (1979). Eugene M. Futato.

Abstract: A cultural resources reconnaissance has been performed in selected areas of the Wheeler National Wildlife Refuge. Recorded sites are described and evaluated with respect to site significance and project impacts. Background and literature searches provide environmental, prehistoric, historic, and documentary overviews. Priority areas for potential site locations are outlined, and some priorities for cultural resource management on the refuge are discussed. Survey of impact areas recorded 26 archeological sites of several types: small lithic scatters, one historic farmstead, one large but thoroughly disturbed Early Archaic site, and several instances of apparent secondary deposition from cut and fill projects. No recorded sites were considered significant by National Register of Historic Places criteria.

NTIS Order #PB-298 259

ARKANSAS

A Cultural Resources Reconnaissance of the Wapanocca National Wildlife Refuge, Arkansas (1979). Hartfield, Price and Greene, Inc.

Abstract: Three archeological sites, 1 historic structure, 18 prehistoric archeological sites, and 10 prehistoric isolated finds were located and accessioned. Five of these sites are located beyond the refuge boundaries. Two prehistoric sites are potentially eligible for nomination to the National Register of Historic Places. Recommendations for conservation of both resources are provided.

NTIS Order # PB-297 945/8ST

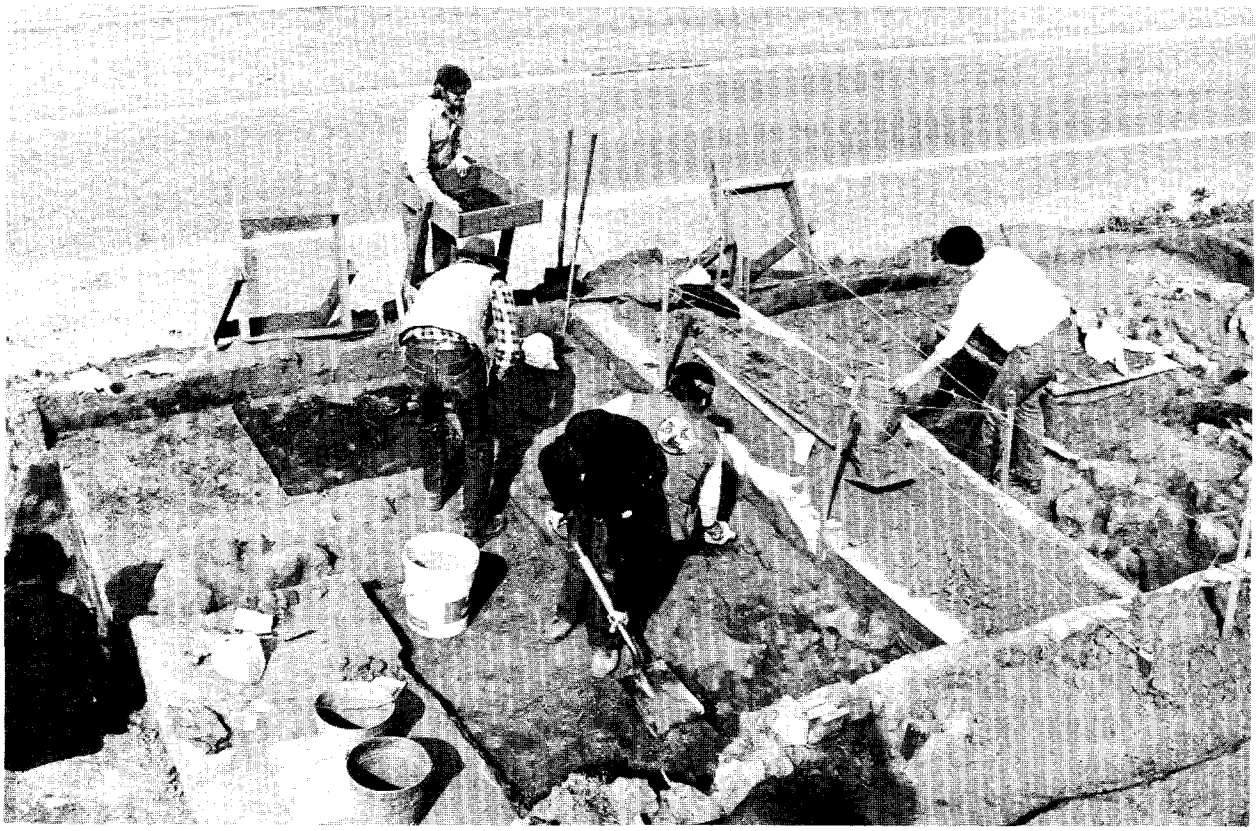
CALIFORNIA

Data Recovery Program to Mitigate the Effects of the Construction of Space Transportation System Facilities on Seven Archeological Sites on Vandenberg Air Force Base, Santa Barbara County, California (1979). Michael A. Glassow.

Abstract: A plan is proposed for the recovery of data from three prehistoric habitation sites, 4-SBa-539, 670, and 931, which will be adversely affected by the Space Transportation System Project, Vandenberg Air Force Base, California. Phase II testing suggests that SBa-539 and 670, fall within the Late Period, A.D. 1000 to European contact, with a possible Middle-period component at 670, while SBa-931, radiocarbon

dated to B.C. 6000, represents the Early Period, or Millingstone Horizon, of Southern California prehistory. Excavation will utilize conventional fine scale techniques and specialized sample collection. Data analysis will provide information on prehistoric subsistence and settlement patterns, inter-regional trade, and functions of distinctive artifact types. Cultural change will be identified and comparisons made between cultural developments of Vandenberg and neighboring regions.

NTIS Order # PB-298 558/8ST



Excavation in progress at Site 193, Vandenberg Air Force Base.

COLORADO

Archaeological Investigations in the Chatfield Reservoir, Colorado (1979). Sarah M. Nelson.

Abstract: The Chatfield Reservoir Project was a mitigation program to excavate and test known archelogical sites that might be impacted in the Chatfield Reservoir Recreation Area. The results are reported here, along with a brief overview of prehistoric and protohistoric sites in the general region, and a summary of late Pleistocene and Holocene terraces as they may pertain to the archeological finds. Intermittent occupation of the Chatfield Reservoir Area from about 5000 B.C. to perhaps A.D. 1000 is inferred from projectile point and mano types found in the area.

NTIS Order # PB-296 879/0ST

FLORIDA

A Survey of the Archeology and History of Loxahatchee National Wildlife Refuge, Florida (1979). John W. Griffin, James J. Miller, and Mildred L. Fryman.

Abstract: A summary of the archeology and history of Loxahatchee National Wildlife Refuge and surrounding region based upon a literature search is provided. Systematic survey of areas projected to be affected by construction and development indicated no impact on cultural resources. No sites are recorded on the Refuge, nor were any discovered during the survey. This result is in agreement with what is known about development of the Refuge landscape within the past 5,000 years. No recommendations are made for management of cultural resources.

NTIS Order # PB-298 111/6ST

KANSAS

Archeological Investigations at the Malm, Anderson and Teaford Sites in Perry Reservoir, Jefferson County, Kansas (1979). John D. Reynolds.

Abstract: A report of the 1967 excavations of the Malm, Anderson and Teaford archeological sites in Perry Reservoir, Jefferson County, Kansas. Findings from these sites were used to define the Grasshopper Falls Phase of the Plains Woodland. This phase, within the Cultural-Historical Integration Scheme, is represented by over 120 site components located along the Delaware River in northeastern Kansas. The formal element of the Grasshopper Falls Phase includes observable structural information,

consistent artifact assemblage, and inferred subsistence and settlement pattern information. The most numerous artifacts recovered were pottery sherds of a type classified as Grasshopper Falls Ware. Chipped stone artifacts included medium to small stemmed projectile points, drills, celts, gouges, thin bifaces, scrapers and flakes and cores. The suggested temporal placement of the phase is between A.D. 500 and 1000. A review of other Woodland complexes from the Central Plains is included with comparison of the Grasshopper Falls Phase to earlier complexes such as Kansas City Hopewell Focus, Valley Focus, Keith Focus, Loeske Creek Focus, Sterns Creek Culture, Cuesta Phase, Hopewell Phase and Greenwood Phase.

NTIS Order # PB-297 477/2ST

KENTUCKY

Cultural Resources Testing and Evaluation in Section IV, Southwest Jefferson County, Kentucky: Local Flood Protection Project (1979). Anne T. Bader, Philip J. DiBlasi, and Joseph E. Granger.

Abstract: In June 1977 two sites (15 Jf 56 and 15 Jf 248) located in Section IV of the Southwest Jefferson County, Kentucky Local Flood Protection Project were intensively tested. The third site (15 Jf 149) was tested in October 1978 due to problems in obtaining access to the site. 15 Jf 56 was deeply tested by backhoe, while the two remaining were hand excavated in order to ensure the safety of the crews since there existed on these sites hidden gas lines and wells. It is concluded that none of the three sites are significant archaeologically, and all sites tested are ineligible for the National Register.

NTIS Order # PB-296 303/1ST

LOUISIANA

A Cultural Resources Survey of the Delta-Breton National Wildlife Refuge, Louisiana (1979). H. Edwin Jackson, Jr.

Abstract: A cultural resource assessment was conducted for the Delta-Breton National Wildlife Refuge. It consisted of two parts: a literature and background study of the entire refuge and its environs, and a site specific field survey of proposed refuge improvement projects. The background study revealed that most of the land on which the refuge is located is of very recent formation, and thus has not been available for cultural activities until historic times. Several possible historic sites were identified on the refuge, as well as two prehistoric sites located on the Changeleur Islands. No cultural resources were located directly as a result of the field reconnaissance. As a result of the assessment, no sites were determined to be eligible for the National Register of Historic Places.

NTIS Order # PB-298 283/3ST

LOUISIANA

Cultural Resources Survey of the Catahoula National Wildlife Refuge, La Salle Parrish, Louisiana (1979). Diane E. Wiseman and Kathleen G. McCloskey.

Abstract: A cultural resources survey of the Catahoula National Wildlife Refuge, LaSalle Parish, Louisiana was conducted during the last half of July 1978. The survey involved pedestrian coverage of project areas, with shovel testing. Five prehistoric sites were already known to exist on the refuge. Three new prehistoric sites and several "spot finds" (small amounts of cultural material or single artifacts) were located. Two sites were considered potentially eligible for inclusion in the National Register of Historic Places, pending further testing to determine the presence and extent of in situ material.

NTIS Order # PB-298 302/1ST

MISSISSIPPI

Archeological Survey of the Mississippi Sandhill Crane National Wildlife Refuge (1979). Mark T. Swanson, Jeffrey H. Altschul and L. Janice Campbell.

Abstract: An archeological survey was conducted by New World Research at the Mississippi Sandhill Crane National Wildlife Refuge in Jackson County, Mississippi, in September 1978. During the project specific areas were examined in the Ocean Springs and Fountainebleu Units. Projected impact includes a variety of construction plans which differ in the degree of land alteration. The archeological investigation consisted of intensive survey, surface survey, and sample survey. No sites were encountered in any of the impact areas. The only artifacts recovered were shell, secondarily deposited for road maintenance, and refuse.

NTIS Order # PB-298 428/4ST

Cultural Resource Reconnaissance and Project-Oriented Survey, Noxubee National Wildlife Refuge, Mississippi (1979). Janet E. Rafferty.

Abstract: A background and literature search was performed to determine the nature and, if possible, the location of cultural resources on Noxubee National Wildlife Refuge, northeast Mississippi. Among the cultural resources present are part of the route of Robinson Road, built in 1821, the Choctaw Council House and Choctaw Agency, and saw and grist mills on the Noxubee River. Changes through time in natural environment, settlement, subsistence, and transportation are discussed as far as they are known for the refuge area. Eleven sites found during surface survey in proposed construction areas are described and evaluated. Recommendations concerning the nature of further work that may be done on the refuge are proposed.

NTIS Order # PB-297 750/2ST

NEVADA

The Humbolt Project, Rye Patch Archeology Phase III - Final Report (1978). Mary K. Rusco, J. R. Firby; appendix by A. Dansie.

Abstract: Results of archeological, geological, and paleontological investigations at Rye Patch Reservoir, Pershing County, Nevada are reported. Excavations of 75 m^3 at 26PE366, 428/435, and 450 yielded data confirming their classification as highly significant semi-permanent settlements in eolian sands of Fallon Formation, post-5000 B.P. in age (radiocarbon dates between 3600 and 450 B.P.).

Intensive reconnaissance of 2429 hectares of reservoir bottomlands exposed during 1978, resulted in recording 30 sites, including 6 semi permanent settlements, 9 seasonal camps, 5 quarry workshops, 8 other activity sites, and 2 of questionable significance. One site (PE670) is assignable to the Western Pluvial Lakes Tradition on the basis of its lithic assemblage. All others are assignable to the post-5000 B.P. occupation of the area. Two settlement sites (PE680 and 681) on reservoir bottomlands apparently have shallow subsurface components; others are surface lithic scatters.

Test excavations at PE23 revealed a large assemblage of Late Pleistocene fauna, resembling Tule Springs and Rancho La Brean fauna. Previous indications of human association were not confirmed.

Data were used to prepare a research design for studies to mitigate effects of additional construction at Rye Patch dam. Research design, literature review, and correlation of Rye Patch with regional Quaternary stratigraphy are included.

NTIS Order # PB81 106148

NEW JERSEY

A Cultural Resources Survey at the Great Swamp National Wildlife Refuge, New Jersey (1979). Ronald A. Thomas.

Abstract: This survey was conducted at the Great Swamp National Wildlife Refuge, Morris County, New Jersey during the summer of 1978. It consisted of a background and literature search and an intensive survey of selected portions of the Wildlife refuge. All information gathered was used in the construction of a prehistoric settlement model for the purpose of predicting site location within the refuge. The model was based primarily on environmental data using such criteria as drainage as a basis for predicting areas of occupation.

NTIS Order # PB-295 418/8ST

NORTH CAROLINA

A Cultural Resource Investigation of the Pee Dee National Wildlife Refuge, Anson and Richmond Counties, North Carolina (1979). Patrick H. Garrow and G. Michael Watson.

Abstract: The Fish and Wildlife Service has planned construction and rehabilitation of existing structures on the Pee Dee National Wildlife Refuge in Anson and Richmond Counties, North Carolina. Prior to such development a cultural resource inventory of the areas scheduled for development and a literature search of the entire property were undertaken by the Earth Systems Division of Soil Systems, Inc. of Marietta, Georgia. The literature search indicated that the area had been primarily agricultural during historic times, with one mill located on or near the property. In addition, the refuge area was crossed or bordered by at least two major roads. The field survey produced evidence of 39 sites with a time span ranging from Early Archaic to Mississippian. Of the 39 sites recorded, 38 apparently failed to meet the minimum criteria set for inclusion to the National Register of Historic Places.

NTIS Order # PB-295 391/7St

SOUTH CAROLINA

Archeological Survey and Cultural Resources Overview, Santee National Wildlife Refuge, Clarendon County, South Carolina (1979). David G. Anderson, Judith A. Newkirk, and E. Suzanne Carter.

Abstract: Archeological field survey within the Santee National Wildlife Refuge, Clarendon County, South Carolina is summarized. Five archeological sites were discovered, and a number of other sites were revisited. A summary of archeological investigations in the refuge area is presented, including a partial analysis of existing site files and collections. The recovered archeological remains document human use of the area from the Paleo-Indian era to the present, including an extensive late prehistoric (Mississippian period) settlement. The history of previous archeological research, a review of evidence for past human occupation, and a discussion of environmental parameters are used to develop research questions to help guide future archeological activity in the refuge area.

NTIS Order # PB-296 962/4ST

VERMONT

Missisquoi National Wildlife Refuge: A Cultural Resources Survey, Vermont (1979). Peter A. Thomas and Brian S. Robinson.

Abstract: During August and September 1978, the University of Vermont conducted an archeological survey for a proposed dike project in the Missisquoi National Wildlife Refuge. A background and documentary study was also undertaken for the refuge as a whole. A high density of prehistoric sites was encountered during field sampling--all

sites dating from the Middle Woodland Period (ca. A.D. 400-1000). It seems probable that a broad, stratified survey of the refuge will show that the Missisquoi River delta area contains some of the richest archeological deposits in the entire Northeast. Several historic period sites have also been identified through background research, although their exact locations have not been defined. Therefore, it is recommended that a more thorough study to identify and assess the cultural resources within the refuge be completed before long-term construction plans are finalized.

NTIS Order # PB-298 369/0ST

WASHINGTON

Ozette Archeological Project, Interim Final Report, Phase XI (1979). Jeffrey E. Mauger, edited by Richard D. Daugherty.

Abstract: This report describes Phase XI excavations and ongoing analysis of the Ozette Archeological Project 1977. The Phase XI excavations at the Ozette Site, a prehistoric and protohistoric Makah winter village, concentrated on floor middens associated with houses number 2 (400 B.P.) and number 5 (400 B.P.). Deep shovel testing yielded an additional cultural deposit at 6 meters including well preserved wood artifacts, that dates to 800 B.P. Drainage features, house walls, and rafter support posts were uncovered in house excavations. Small tools and fragments were discovered in accumulated floor deposits while larger damaged tools were recycled and/or discarded into exterior middens. The bulk of recovered perishables was preserved chemically (polyethylene glycol), and it was determined that treated materials could be glued with Ethulose 100. Hardwood artifacts were preserved with resin that could be glued with an available commercial product. Preservation of iron artifacts remains a problem. Progress on special study work on basketry, woodworking, house architecture, and computer mapping is described. An Ozette basketry report has been completed and published separately. Sediment analysis indicates floors were built with beach sands. Faunal analysis indicates that fur seal dominates the site faunal assemblage, but that California gray and humpback whales, and Ozette River salmon were actively exploited.

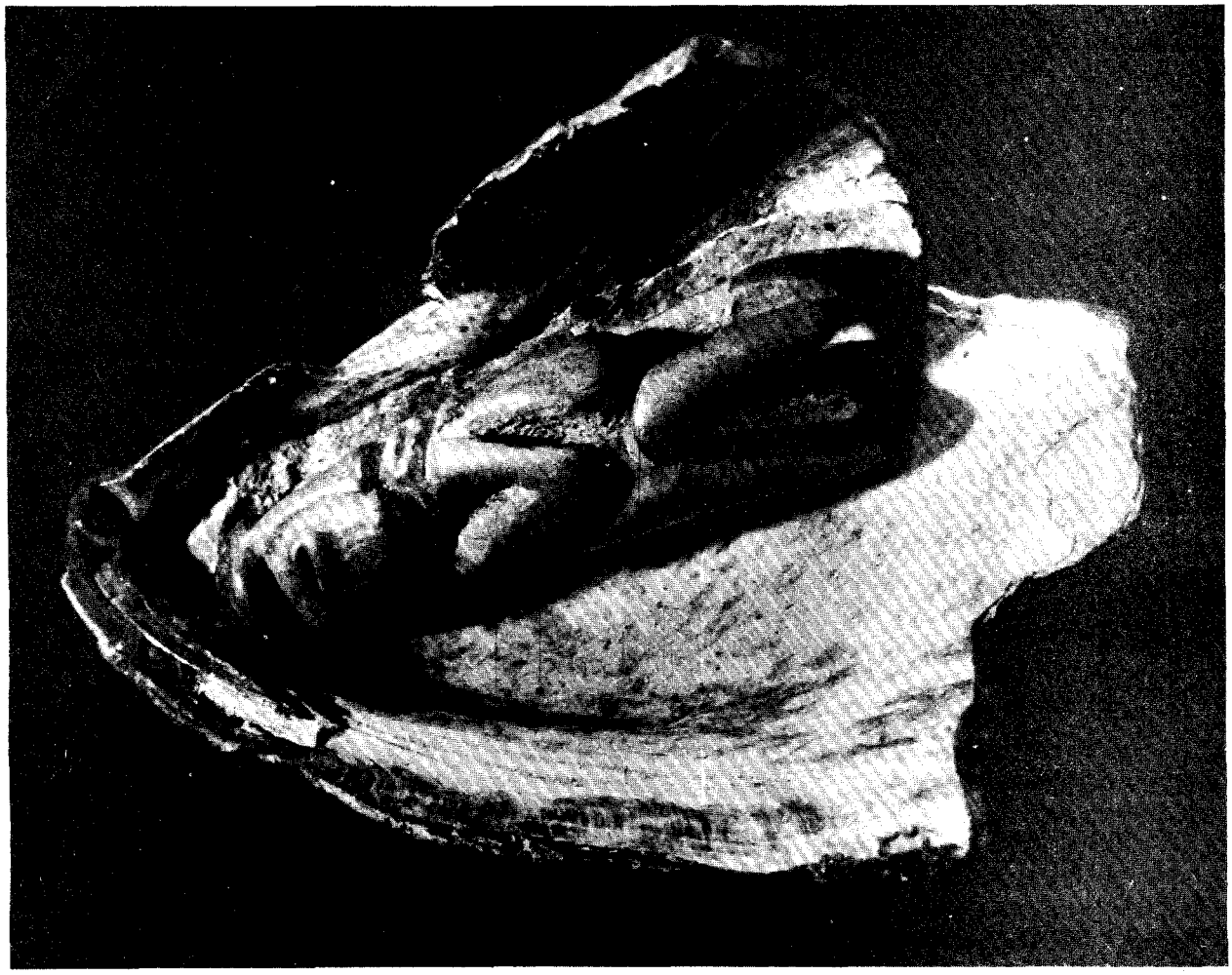
NTIS Order # PB81 102196

WASHINGTON, D.C.

Curation and Management of Archeological Collections: A Pilot Study (1979). Alexander J. Lindsay, Glenna Williams-Dean, and Jonathan Haas.

Abstract: The study examines the care and management of archeological collections that have been recovered from federal lands or with federal assistance and are housed in non-federal repositories, such as museums, research and cultural centers, historical societies, and university departments of anthropology and archeology. After reviewing applicable legislation, it assesses current curation attitudes and practices, based on a literature review, solicitation of comments from the archeological community, and the results of questionnaires and field visits to 20 public repositories. In addition to outlining the minimum components of an adequate collections management plan, the report proposes the establishment of a National System of Public Repositories and calls for the development of guidelines for the curation of federal archeological collections in such public repositories.

NTIS Order # PB-296 423/7ST



Bone effigy of human nestled in fetal position in California Mussel shell, found together in the Ozette Site in Washington, and possibly used in telling one of the creation myths as recorded by the Makah Tribe.

APPENDIX D

Archeological and Historic Preservation Act

Public Law 93-291
93rd Congress, S. 514
May 24, 1974
88 Stat. 174

AN ACT

To amend the Act of June 27, 1960 (74 Stat. 220), relating to the preservation of historical and archeological data.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the Act entitled "An Act to provide for the preservation of historical and archeological data (including relics and specimens) which might otherwise be lost as the result of the construction of a dam", approved June 27, 1960 (74 Stat. 220; 16 U.S.C. 469), is amended as follows: "That it is the purpose of this Act to further the policy set forth in the Act entitled 'An Act to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes', approved August 21, 1935 (16 U.S.C. 461-467), by specifically providing for the preservation of historical, and archeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of (1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of the terrain caused by the construction of a dam by any agency or (2) any alteration of the terrain caused as a result of any federal construction project or federally licensed activity or program.

Section 2. Before any agency of the United States shall undertake the construction of a dam, or issue a license to any private individual or corporation for the construction of a dam it shall give written notice to the Secretary of the Interior (hereafter referred to as the "Secretary") setting forth the site of the proposed dam and the approximate area to be flooded and otherwise changed if such construction is undertaken: Provided, That with respect to any floodwater retarding dam which provides less than five thousand acre-feet of detention capacity and with respect to any other type of dam which creates a reservoir of less than forty surface acres the provisions of this section shall apply only when the constructing agency, in its preliminary surveys, finds, or is presented with evidence that historical, or archeological materials exist or may be present in the proposed reservoir area.

Section 3. (a) Whenever any federal agency finds, or is notified, in writing, by an appropriate historical or archeological authority, that its activities in connection with any federal construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of significant scientific, prehistorical, historical, or archeological data, such agency shall notify the Secretary, in writing, and shall provide the Secretary with appropriate information concerning the project, program, or activity. Such agency may request the Secretary to undertake the recovery, protection, and preservation of such data (including preliminary survey, or other investigation as needed, and analysis and publication of the reports resulting from such investigation), or it may, with funds appropriated for such project, program, or activity, undertake such activities. Copies of reports of any investigations made pursuant to this section shall be submitted to the Secretary, who shall make them available to the public for inspection and review.

(b) Whenever any Federal agency provides financial assistance by loan, grant, or otherwise to any private person, association, or public entity, the Secretary, if he determines that significant scientific, prehistorical, historical, or archeological data might be irrevocably lost or destroyed, may with funds appropriated expressly for this purpose conduct, with the consent of all persons, associations or public entities having a legal interest in the property involved, a survey of the affected site and undertake the recovery, protection, and preservation of such data (including analysis and publication). The Secretary shall, unless otherwise mutually agreed to in writing, compensate any person, association, or public entity damaged as a result of delays in construction or as a result of the temporary loss of the use of private or any non-federally owned lands.

Section 4. (a) The Secretary, upon notification, in writing, by any Federal or State agency or appropriate historical or archeological authority that scientific, prehistorical, historical, or archeological data is being or may be irrevocably lost or destroyed by any Federal or federally assisted or licensed project, activity, or program, shall, if he determines that such data is significant and is being or may be irrevocably lost or destroyed and after reasonable notice to the agency responsible for funding or licensing such project, activity, or program, conduct or cause to be conducted a survey and other investigation of the areas which are or may be affected and recover and preserve such data (including analysis and publication) which, in his opinion, are not being, but should be, recovered and preserved in the public interest.

(b) No survey or recovery work shall be required pursuant to this section which, in the determination of the head of the responsible agency, would impede Federal or federally assisted or licensed projects or activities undertaken in connection with any emergency, including projects or activities undertaken in anticipation of, or as a result of, a natural disaster.

(c) The Secretary shall initiate the survey or recovery effort within sixty days after notification to him pursuant to subsection (a) of this section or within such time as may be agreed upon with the head of the agency responsible for funding or licensing the project, activity, or program in all other cases.

(d) The Secretary shall, unless otherwise mutually agreed to in writing, compensate any person, association, or public entity damaged as a result of delays in construction or as a result of the temporary loss of the use of private or non-federally owned lands.

Section 5. (a) The Secretary shall keep the agency responsible for funding or licensing the project notified at all times of the progress of any survey made under this Act, or of any work undertaken as a result of such survey, in order that there will be as little disruption or delay as possible in the carrying out of the functions of such agency and the survey and recovery programs shall terminate at a time mutually agreed upon by the Secretary and the head of such agency unless extended by mutual agreement.

(b) The Secretay shall consult with any interested Federal and State agencies, educational and scientific organizations, and private institutions and qualified individuals, with a view to determining the ownership of and the most appropriate repository for any relics and specimens recovered as a result of any work performed as provided for in this section.

(c) The Secretary shall coordinate all Federal survey and recovery activities authorized under this Act and shall submit an annual report at the end of each fiscal year to the Interior and Insular Affairs Committees of the United States Congress indicating the scope and effectiveness of the program, the specific projects surveyed and the results produced, and the costs incurred by the Federal Government as a result thereof.

Section 6. In the administration of this Act, the Secretary may--

(1) enter into contracts or make cooperative agreements with any Federal or State agency, any educational or scientific organization, or any institution, corporation, association, or qualified individual; and

(2) obtain the services of experts and consultants or organizations thereof in accordance with section 3109 of title 5, United States Code; and

(3) accept and utilize funds made available for salvage archeological purposes by any private person or corporation or transferred to him by any Federal agency.

Section 7. (a) To carry out the purposes of this Act, any Federal agency responsible for a construction project may assist the Secretary and/or it may transfer to him such funds as may be agreed upon, but not more than 1 per centum of the total amount authorized to be appropriated for such project, except that the 1 per centum limitation of this section shall not apply in the event that the project involves $50,000 or less: Provided, That the costs of such survey, recovery, analysis, and publication shall be considered non-reimbursable project costs.

(b) For the purposes of subsection 3(b), there are authorized to be appropriated such sums as may be necessary, but not more than $500,000 in fiscal year 1974; $1,000,000 in fiscal year 1975; $1,500,000 in fiscal year 1976; $1,500,000 in fiscal year 1977; $1,500,000 in fiscal year 1978; $500,000 in fiscal year 1979; $1,000,000 in fiscal year 1980; $1,500,000 in fiscal year 1981; $1,500,000 in fiscal year 1982; and $1,500,000 in fiscal year 1983.

(c) For the purposes of subsection 4(a) there are authorized to be appropriated not more than $2,000,000 in fiscal year 1974; $2,000,000 in fiscal year 1975; $3,000,000 in fiscal year 1976; $3,000,000 in fiscal year 1977; $3,000,000 in fiscal year 1978; $3,000,000 in fiscal year 1979; $3,000,000 in fiscal year 1980; $3,500,000 in fiscal year 1981; $3,500,000 in fiscal year 1982; and $4,000,000 in fiscal year 1983.

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