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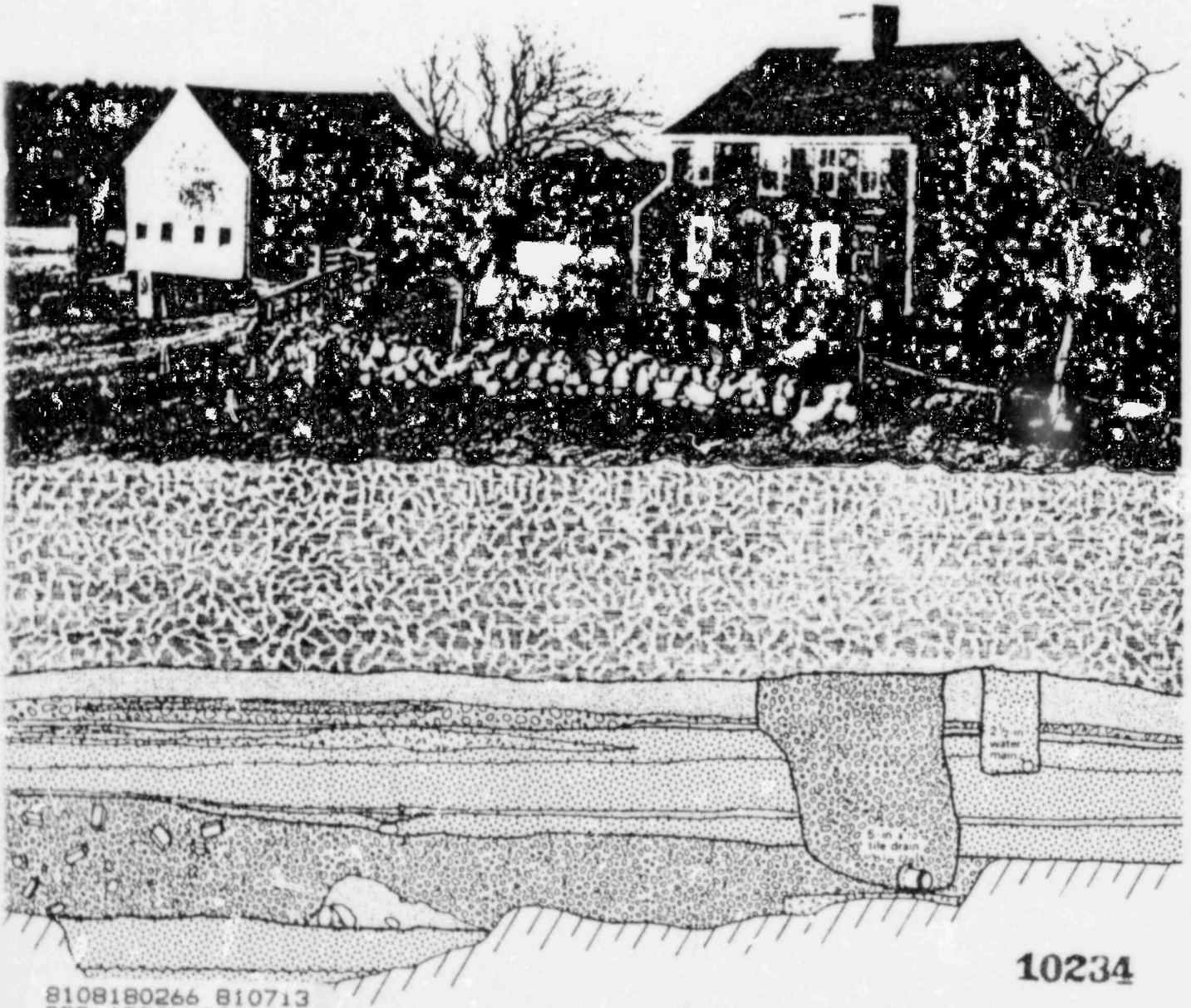
Treatment of Archeological Properties

A Handbook



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TREATMENT OF ARCHEOLOGICAL PROPERTIES:

A HANDBOOK

A guide to principles, procedures, and
methods for the treatment of archeological
properties in accordance with 36 CFR Part 800.

Approved by the Council's Archeology
Task Force September 26, 1980

Endorsed by the Advisory Council November 5, 1980.

INTRODUCTORY NOTE

The Council is working with the Department of the Interior toward publication of this Handbook together with the Department's guidelines for archeological surveys, evaluation, data recovery, and related activities, so that Federal agencies, States, local governments, contractors, and the archeological community will be able to find all major Federal guidelines for archeology between two covers.

While this effort is in progress, the Council is pleased to make this photocopy of the Handbook available for use.

Robert R. Garvey, Jr.
Executive Director

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A Handbook

PREFACE

Purpose

This Handbook is an elaboration on and explanation of the Supplementary Guidance published on November 26, 1980, in the Federal Register (45 FR 78808), under the authority of the Executive Director of the Advisory Council on Historic Preservation set forth in 36 CFR Sec. 800.14. As indicated by the cited section, its purpose is "to interpret...(the Advisory Council's) regulations to assist Federal agencies and State Historic Preservation Officers in meeting their responsibilities."

The Handbook is designed to assist the parties consulting under the Council's regulations to determine how archeological programs and projects should be conducted. It is also designed to assist the Council staff, Federal agencies, and the State Historic Preservation Officers in implementing recommendations of the Council's 1979 Task Force on Archeology. Most generally, it sets forth principles that will guide the Council staff in its review of proposals for archeological data recovery projects.

Background

For several years the Advisory Council has been concerned about treatment of archeological resources under the authority of Section 106 of the National Historic Preservation Act, Executive Order 11593, and the Council's regulations (36 CFR Part 800). Cases involving archeological resources and concerns have often presented difficult problems, and have stimulated controversy. In 1977, the Chairman of the Council appointed a Task Force on Archeology, which rendered its report to the Council in 1979. This report included a number of recommendations, directed to Federal agencies, the Secretary of the Interior, and the Council staff. Also in 1979, the General Accounting Office (GAO) conducted an investigation of archeological work at New Melones Dam and Reservoir in California, which had been the subject of a Memorandum of Agreement and substantial subsequent controversy. The GAO investigation was later broadened to deal with the general topic of how archeology is handled by Federal agencies. An important question raised by the GAO early in its investigation was that of "how much archeology is enough" in order to mitigate the adverse effects of Federal construction projects. The Executive Director of the Council takes the position that there is no simple standard by which to determine how much archeological data recovery is sufficient in every case, but that the nature, scope, and boundaries of each data recovery program should be determined by the parties consulting under the Council's regulations. Supplementary guidance was determined to be needed to simplify such consultation.

This Handbook was prepared under the principal authorship of Dr. Thomas F. King, the Council's Senior Archeologist and Director of the Office of Cultural Resource Preservation. It was extensively coordinated with Dr. Bennie Keel, the Department of the Interior's Departmental Consulting Archeologist.

It was reviewed, commented upon, and approved after extensive rewriting and editing by the Council's Archeology Task Force on September 26, 1980. The Task Force members are as follows.

Chairman: Dr. Larry Tise, National Conference of State Historic Preservation Officers

Alternate: Dr. Adrian Anderson, Iowa State Historic Preservation Officer.

Members:	Department of Agriculture:	Mr. Barry Flamm
		Dr. Janet Friedman
	Department of the Interior:	Dr. Bennie Keel
	Department of Defense:	Mr. Richard Leverty
	Department of Transportation:	Mr. Robert Crecco
		Mr. Bruce Eberle
	Smithsonian Institution:	Dr. Paul Perrot
	National Endowment for the Humanities:	Dr. Kathryn Abramovitz
	State Historic Preservation Officers:	Ms. Patricia Weslowski (Massachusetts)
	Advisory Council Member:	Dr. Joseph Mahan, Jr.
	Society for American Archeology:	Dr. Ruthann Knudson
	American Society for Conservation Archeology:	Dr. Margaret Lyneis
	Society of Professional Archeologists	Dr. James Hester

The Handbook was endorsed by the full Council at its November, 1980 quarterly meeting. Part II of this Handbook, the "Executive Director's Procedures," was published as Supplementary Guidance on November 26, 1980, in the Federal Register (45 FR 78808).

Organization

The Handbook is divided into four parts. The first discusses principles that will guide the Executive Director in dealing with archeological matters. It should assist agencies in meeting their responsibilities under 36 CFR Part 800 by helping them understand the conceptual basis for Council advice, requests, and positions in the consultation process.

The second part sets forth internal procedures the Executive Director will employ in reviewing proposals for treatment of archeological properties. This is provided in order to help agencies ensure that determinations of "No Adverse Effect," Preliminary Case Reports, and other documentation provided to the Council will be organized so as to facilitate consultation. This part of the Handbook supersedes The "Guidelines for Making 'Adverse Effect' and 'No Adverse Effect' Determinations for Archeological Resources in Accordance with 36 CFR Part 800."

The third part provides recommendations for use in developing archeological data recovery programs. These are based on the principles set forth in the first part of the Handbook; full consideration of them by agencies planning data recovery will help ensure that documentation submitted to the Council is complete and understandable.

The fourth part includes two appendices presenting examples of research topics which provide bases for organizing archeological data recovery operations.

Development of this Handbook has been coordinated with the Department of the Interior. It is designed to be consistent with the standards and approaches set forth by the Department in 36 CFR Part 1210. Agencies are urged to fully acquaint themselves with 36 CFR Part 1210 as well as with this Handbook when considering archeological data recovery operations.

Interpretation and Application

This Handbook will not be interpreted inflexibly by the Council. For example, should an agency propose an expensive data recovery program in an urban area where there is an active, responsible, avocational archeological society, the Executive Director may draw the agency's attention to Part III, Section VIII of the Handbook, and ask what consideration has been given to involving the avocational group as a way of reducing costs and serving multiple public interests. If the program is being undertaken in circumstances where it appears that effective use of volunteers would be difficult, however, the Executive Director will not make an issue of volunteerism isimply because it is in the Handbook.

The principles set forth in Part I will generally guide the Executive Director in dealing with archeological properties. They will provide a rationale for the Council's day-to-day activities where archeological matters are concerned. The procedures in Part II will be used with varying degrees of rigor. With respect to "Identification of Archeological Properties," Section II, the Executive Director will try to be sure that an adequate job of identification has been done. This does not require that the Executive Director review every survey report, only that the Executive Director be able to determine whether the responsible agency has made a reasonable effort to identify potentially affected properties. Similarly, the Executive Director will try to be sure that, within reason, adequate consideration has been given to preservation in place (Sec. III), and non-archeological interests (Sec. IV). If it appears that preservaton in place might be feasible, or that there are non-archeological interests to be considered, the Executive Director will try to get the agency to look into the possibility and document its findings, but the Executive Director will not, as a matter of rote, demand such documentation. Sections V through VII will be used generally in reviewing data recovery plans.

With respect to budgets; some agencies are legitimately unable to provide budgets for review, and some will not do so as a matter of policy. Budget review is not the Council's main function, and the Executive Director will not insist on doing so as a matter of course. Where a budget is provided, however, the Executive Director will review it to see if anything appears unreasonable. The Executive Director will also be available to discuss appropriate expenses with agencies that seek advice.

In constrast with the above, fairly flexible procedures, Sec. X (Negating Adverse Effect) must be used with greater rigor. When an agency determines that its undertaking will have no adverse effect because of data recovery, it is making a very positive statement about the nature of the affected property and the quality of its data recovery effort, and it should be able to back up its claims.

In several subsections, notably X.3, XI.1.B., and XIII.1, reference is made to establishing data recovery plans "consistant with the 'Recommendations for Archeological Data Recovery.'" This does not mean that data recovery plans must conform exactly to the "Recommendations." "Rather, the agency should use the "Recommendations" as general guidelines. If a data recovery program contains a glaring omisson, from the point of view of the "Recommendations," the Executive Director will recommend its correction. If the omission appears serious, and no compromise can be reached, the Executive Director may determine that a failure to agree exists and the consultation process must be terminated. On the other hand, the Executive Director will not demand something just because it is in the "Recommendations." The "Recommendations" are not a cookbook. The "Recommendations" may be prescribed for step-by-step use in Programmatic Memoranda of Agreement or similar instruments, where an agency agrees to establish a data recovery plan at a later date.

PART I
PRINCIPLES IN THE TREATMENT OF ARCHEOLOGICAL PROPERTIES

Introduction

Section 106 of the National Historic Preservation Act requires that Federal agencies take into account the effects of their undertakings on properties included in or eligible for the National Register of Historic Places, and afford the Advisory Council the opportunity to comment on such undertakings. Section 101(a)(1) of the Act defines properties "significant in American... archeology" among those that may be included in the Register.

Council comments are rendered through the process described in the Council's regulations (36 CFR Part 800). This process characteristically involves consultation among the Executive Director, agency officials, and the responsible State Historic Preservation Officer(s) to decide on methods to avoid, reduce, or mitigate adverse effects on historic and cultural properties. In this consultation process, the Executive Director is guided by certain basic principles about the nature of such properties and about appropriate and inappropriate methods of treating them. This part of the Handbook sets forth the principles that guide the Executive Director with respect to archeological properties.

Archeological properties are those properties included in, eligible for, or potentially eligible for, the National Register, whose signifance lies wholly or partly in the archeological data they contain. Archeological data are data embodied in material remains (artifacts, structures, refuse, etc.) utilized purposely or accidentally by human beings, in the spatial relationship among such remains, and in the environmental context of such remains. Archeological data include historic, prehistoric, and scientific data as defined by the Department to the Interior in accordance with Public Law 93-291 (cf. 36. CFR Part 1210).

The following pages discuss 13 principles which the Executive Director will use in consultation with Federal agencies and State Historic Preservation Officers concerning archeological properties.

Principle I: Archeological research, addressing significant questions about the past, is in the public interest.

Among the stated intents of the National Historic Preservation Act is "to insure future generations a genuine opportunity to appreciate and enjoy the rich heritage of our Nation" (P.L. 89-665, Preamble). One of the many ways in which people appreciate and enjoy this heritage is through archeological research.

Archeological research seeks to answer major questions about human nature, human history, and the changing environment (see Appendix A). Answering such questions helps us to better understand ourselves and our world, and better prepare for our future.

Archeological research can also contribute directly to public understanding and hence appreciation of specific events in the past, specific processes of historic and prehistoric human development, and the history and prehistory of specific places and groups (see Appendix B).

Principle II: Archeological properties may be sites, buildings, structures, districts, and objects.

Archeology is often erroneously thought of as involving only excavation in the ground, and as addressing archeological "sites" which may or may not contain the remains of buildings or other structures. In fact, however, it is possible for any sort of property to be "archeological" if its significance lies wholly or in part in the information it contains. For example:

1. A group of sites comprising a district might be important because one can learn about population dynamics, interaction processes, or social organization by studying the relationships among the sites.

2. An early 20th century garage (building), containing tools, car and buggy parts, receipt books, old trade magazines, and instruction manuals, might be important wholly or in part because of what it can tell us about the economics and social implications of the development of the automobile.

3. A bridge (structure) might be important in whole or in part because its study could elucidate methods of design, engineering, and construction.

4. A rock covered with petroglyphs (object) might be important because of what its study could reveal about symbolism and ancient forms of communication.

It might be appropriate to treat any property like those illustrated above as archeological, with due attention to any other types of historical, cultural, or architectural significance it possesses.

Principle III: Archeological properties are important wholly or in part because they may contribute to the study of important research problems.

An archeological property may have been created during the prehistoric period, the historic (postcontact) period, or both; it may consist of materials above the ground, below it, or both. It may have cultural or religious value to particular social groups, it may have actual or potential use as an exhibit in place for public understanding and enjoyment, it may be exemplary of great or vernacular architecture; it may contain artifacts of great beauty and monetary worth, or it may contain nothing but fragments of pottery, chips of flint, or glass shards. Whatever such characteristics it may or may not have, the defining characteristic of an archeological property is that it can be studied in order to identify, learn about, or solve problems in our understanding of the past. Properties draw their archeological value from the assumption that they can be used fruitfully for research.

Principle IV: Not all research problems are equally important; hence not all archeological properties are equally important.

Archeological research problems are derived from a variety of other disciplines as well as archeology itself. Archeologists address problems that are of importance to geographers, anthropologists, social historians, geologists,

biologists, medical researchers, climatologists, ecologists, and land use planners, among others. Archeologists also address questions that are of humanistic importance to local communities and social groups: "what was our town like 100 years ago?"; "how did our people live 5000 years ago?"; "when and how did our ancestors come to this area?". Finally, archeologists address questions that are of technical importance to archeologists: "how do refuse piles change over time into archeological sites?"; "how different are the trashpits of rich people and poor people after they have been buried for 200 years?" "does the processing of animal hides result in discernable changes in soil chemistry?". These questions are useful because they help archeologists become more skilled at interpreting the archeological record, although they may have no intrinsic value.

Not all research questions are equally important. An archeologist can develop research questions about almost any distribution of materials. Coming upon a scattered group of beer cans along a country road, an archeologist could easily undertake research into the drinking (and other) behavior that produced the phenomenon, by studying what had been left behind and how it was distributed on the land. The fact that such research can be done, however, does not mean that it is important enough to do. It may be more efficient to learn about drinking behavior by talking with the drinkers. We may not care enough about drinking behavior to bother about it. Only if (a) we think it is important to learn about drinking behavior, and if (b) studying discarded beer cans appears to be an efficient way to learn about such behavior, is such a study worth doing. In the same way, one can learn something from any archeological property, but what one can learn may not be worth the trouble to learn it. The question: "how many type 5B2 arrowheads are there in site 923" has no importance, unless answering it will provide a clue to answering some larger question. The question: "how have cultural systems changed over the last 10,000 years in Nevada" is important to the extent that (a) answering it may help anthropologists understand how cultural systems change in general; (b) knowing how culture has changed in the area may help us understand how the environment has changed, which can contribute to a better general understanding of the physical processes that affect our lives; (c) answering it may contribute to answering or asking other questions (e.g., "what caused the Paiute and related groups to spread through the Great Basin"), and (d) answering it may contribute to the understanding and appreciation that Nevadans have for the area in which they live. The question: "what will we find in the trashpit of a 17th century merchant in Manhattan" is only a matter of curiosity unless there is something about 17th century Manhattan merchants that is (a) likely to be learned from their trash pits and (b) likely to enlighten us about some important historical event or process.

If an archeological property can be used only to address unimportant questions, or questions that have been or can be better addressed using other sources of information, then the property itself is unimportant from an archeological standpoint. Of course, the same property may be valuable for some other reason, such as the quality of its architecture, its association with some important historical event, or its cultural significance to a local group.

Principle V: Treatment of an archeological property depends on its value for research, balanced against other public values.

All else being equal, any property that contains information that may help answer important research questions should be preserved in place for careful, long-term study by qualified scholars. Since all else is seldom equal, this ideal often cannot be attained. Decisions about treatment of archeological properties requires balancing the research value of each property or group of properties against at least 3 other considerations:

A. Other aspects of the property's significance (architectural, cultural, artistic, etc.). If the property is perceived by a local social group to have religious cultural value, for example, this value must be taken into account.

B. Other societal needs, most obviously those needs that stimulate the Federal undertaking that may affect the property.

C. Preservation potential; if the property cannot be preserved in any event (eg., if it promptly will be destroyed by private construction, absent the Federal undertaking that threatens it), there is no point in considering preservation treatment.

Principle VI: Eligibility for the National Register suggests, but does not define, how an archeological property should be treated

Archeological properties are often listed in or determined to be eligible for the National Register of Historic Places in whole or in part because they contain "information significant in history or prehistory (36 CFR Sec. 1202.6(d). Such a determination implies that the property can productively be used for archeological research. That the information is "significant in history or prehistory" also implies that at least one of the other National Register criteria is satisfied, for example, that the information can be studied to learn about "events that have made a significant contribution to the broad patterns of our history" (36 CFR Sec. 1202.6(a)). If a property is determined eligible for the National Register entirely or primarily because of the information it contains, the implication exists that it would be desirable, under appropriate circumstances, to extract that information and make it available for study. It does not necessarily follow, however, that every archeological property determined eligible for the National Register is automatically determined appropriate for excavation or other forms of archeological investigation.

An archeological property may be important for nonarcheological reasons as well, and these may take precedence over its utility for research. For example, it may be in the public interest to preserve intact a property of cultural value to a local community, even though its excavation would help answer important research questions.

Even if a property is important solely for the information it contains, extraction of the information may not be in the public interest. Consider, for example, the following hypothetical cases:

Case 1: An ancient village site contains complicated soil strata, each of which contains the minute remains of plants and animals, well preserved but fragile. The remains are of great potential value to the reconstruction of past environments and food habits, but the excavation and analytical technology available to archeologists today is not sufficient to extract all the useful information contained in the strata. In such a case, all else being equal, it would be most appropriate not to excavate the site until the relevant technology has developed further.

Case 2: Most of the prehistoric sites in a metropolitan area have been destroyed over time by construction, agriculture, and other forms of modern land use. In one portion of the area, a cluster of fairly intact sites is found and determined eligible for the information it may contain. Since this cluster is in essense the only surviving representative of the area's prehistory, it would be beneficial to preserve it for careful excavation over many years, as research questions about the area's past are refined.

Case 3: A Revolutionary War era shipwreck is found on the Continental Shelf, and determined eligible for the information it contains about marine architecture and the lifeways of 18th century sailers. Major historical studies are known to be underway or planned into this general research topic, by various university scholars. It is reasonable to expect that in another ten or twenty years, as these studies are completed, it will be possible to develop much more specific research questions than can now be used to guide investigation of the wreck. All else being equal, it would be beneficial to put off excavation of the wreck.

Case 4: An historic homestead site is determined eligible for inclusion in the National Register as part of an archeological district. No standing buildings remain, and the site is valuable solely for the information it may yield about local residential patterns in the early 19th century. Subsequent study of the district, historical records, and other source material in the context of current anthropological, geographic, and historical theory results in a research design that should answer all important questions about local residential patterns through the study of several other sites; the information contained in this particular homestead is not necessary. In such a case, excavation of the homestead is not cost effective.

Case 5: A small prehistoric site is determined eligible, during planning for a reservoir project, because it contains information that may be important to defining local settlement patterns during the period 200-100 B.C.; these in turn may indicate how the environment changed, how new forms of technology were adopted, and how social organization changed during the period. The project is delayed for a number of years, and in the meantime a great deal of research is done on similar sites. All major questions about settlement patterns during the subject time period are answered. The project is re-activated, and the site is reevaluated. Unless new questions have emerged from the recent research, to which the site is pertinent, it no longer may be worth excavation; the information it contains has become irrelevant because the research questions it could have helped address have been answered.

Case 6: Along a potential highway corridor, 75 archeological sites are found, all consisting of flakes and pottery sherds on the surface of the ground and in the plow zone. All are determined eligible for the information they can yield about population distribution and land use during the Upper Middle Stoneland Period. Review of the sites to develop a data recovery plan reveals that to answer the important research questions about the period all one needs to know is the size and depth of all the sites--which has already been determined during the identification survey--plus some details that can be learned by excavating five or ten representative sites. Further study of the remaining sites is unnecessary, and they can be sacrificed.

Case 7: A nuclear test site will destroy 4,000 stone rectangles on the surface of the ground; these represent ancient habitations. Testing has shown that subsurface cultural deposits are never found around such house squares. All have been determined eligible because their study can contribute to understanding social relationships 4,000 years ago when they were occupied. Such relationships are reflected in the ways the house squares lie in relation to one another on the ground. Information on these relationships has been gathered in full during the determination of eligibility process, through detailed aerial photography. No further relevant data are collectable given current technology and concepts; accordingly, no additional data recovery is appropriate.

Thus, while defining the significance of an archeological property for eligibility determination is important to later decisionmaking about the property, it does not by itself indicate how the property should be treated. How the property should be treated depends on its nature, its relationship to current and conceivable future important research questions, and the circumstances under which treatment is considered. In Cases 1 through 3 above, it would be preferable to preserve the properties in place, but if other public needs demanded their destruction, data recovery would probably be appropriate. In Cases 4 through 7, it would be preferable to preserve the properties (on the grounds that unforseen research questions might someday arise that would make them important), but if preservation was not practical, data recovery would probably not be appropriate either, and the properties could be legitimately sacrificed without further study.

Principle VII: If an archeological property can be practically preserved in place, it should be.

It would be arrogant to assume that we who are alive today can decide precisely which questions we need to ask about the past, and which we do not. New questions about the past are always developing, and old questions are being answered. Answering old questions usually generates new ones. As new questions are asked, different kinds of information become important, and information may need to be examined in different ways. At the same time, techniques of field study and analysis are constantly being developed and improved, making it possible to address questions that could not be addressed using older techniques. Thus there is a danger that if only those archeological properties we see as valuable today are protected, we will allow the destruction of properties that will be of great value in the future.

Accordingly, it is appropriate to preserve in place as large a range of archeological properties as possible, even if we cannot define precisely how we would use the information they contain. There are obvious practical limits to application of this principle, but as a rule, if an archeological property can practically be left in place and preserved from damage, it should be. There is a large number of ways in which this may be done; for example, any of the following may be appropriate in a given case.

1. Designing construction projects so as to leave an archeological property in reasonably protected open space (eg., the median of a highway).

2. Covering an archeological site with fill, provided caution is exercised to limit compaction, disturbance of the soil, chemical changes, and changes in soil structure, and provided access can be assured within reason for future research.

3. Protecting properties from damage by nearby project activities through fencing, shoreline armoring, construction of berms, routing of construction activities, etc.

4. Designing structures over an archeological site in such a way as to minimize subsurface disturbance.

5. Establishing protective covenants or other arrangements with the residents, operators, or users of constructed facilities to protect properties within their control.

Principle VIII: If an archeological property is to be preserved in place, extensive excavation of the property is seldom appropriate.

Occasionally, agencies propose to conduct excavations in an archeological site that will be protected in place, in order to "evaluate" it or for some other reason. On the whole, such excavations are inappropriate uses of Federal funds, because they do not contribute to fulfillment of the agency's preservation responsibility. There are exceptions to this rule, of course, for example:

1. When a property is to be buried under fill, it may be appropriate to conduct test excavations so there will be a reasonable record of what has been buried;

2. If there is reason to be less than fully confident about the protective mechanism employed (for instance, protective covenants may be lost as title changes hands in the future), some data recovery may be appropriate.

3. If a property that can be protected within a project's area of impact needs study in order to deal fully with research questions being asked in connection with the project at other properties, this may be appropriate if carefully limited.

Principle IX: Both data recovery and destruction without data recovery may be appropriate treatments for archeological properties.

Where it is not practical to protect an archeological property in place, one of two things may occur.

1. The adverse effect of the property's destruction may be negated or mitigated through recovery of the valuable data contained in the property, or

2. Destruction of the property, without recovery of data, may be accepted by the consulting parties as a regrettable but necessary loss in the public interest.

If the data contained in the property can be used fruitfully to address valuable research questions, the data should be recovered. If the data cannot be so used, data recovery is not an appropriate use of public funds, and should not be undertaken.

To decide whether data recovery should be undertaken at a property that cannot be preserved in place, the responsible agency and its contractors must have a full understanding of previous local research, pertinent historic and prehistoric data, and the principles, models, and theories in history, anthropology, geography, and other disciplines that form the basis for developing archeological research questions. Based on this knowledge, research questions should be developed and the property considered as a source of data for answering those questions. If it appears that it will be useful as a source, data recovery should be conducted; if it does not appear to be useful, data recovery should not be conducted.

The decision to destroy an archeological property without data recovery is a serious one; it is like throwing away a book without reading it. Accordingly, the responsible agency and its contractor should be sure to consider the widest reasonable range of potentially valuable research topics to which study of the property might contribute, and should consult with all those who might have useful suggestions about topics. Those reviewing agency decisions (the Council, the SHPO, and others) should give close attention to the justification for deciding not to conduct data recovery.

On the other hand, there is no more reason to study every archeological property than there is read every cheap novel ever published. If it cannot be shown, after a reasonable, good faith effort to do so, that a given archeological property can be studied usefully to address important research questions, it should not be studied at public expense.

Principle X: Once a decision is made to undertake data recovery, the work should be done in the most thorough, efficient manner

Deciding to conduct data recovery is an investment, both of the archeological property involved and of Federal (and sometimes non-Federal) funds. One should seek to get the most feasible return on the investment. It follows that:

1. Research questions to be asked through the data recovery effort should be defined as clearly and precisely as possible, and the methods employed should be directed toward answering the questions efficiently.

2. Wherever possible, the data recovery effort should be made to serve multiple public interest functions. For example, if it can serve educational functions by involving school classes or volunteers, if it can serve social and economic functions by providing employment to the unemployed, or if it can serve planning functions by experimenting with new techniques, without adversely impacting its prime function, it should be made to do so.

3. Data recovery should employ the fastest, least expensive techniques that will yield the desired research results. Excavation should not be done with a camel's hair brush if a shovel will provide the required data, nor should it be done with a shovel if a bulldozer will provide the required data. Conversely, of course, a bulldozer should not be used to seek the kinds of information that only a shovel or a brush can provide.

4. Data recovery budgets should be carefully developed, justified, and reviewed.

Principle XI: Data recovery should be based on firm background data and planning.

Decisions about what sorts of data to seek, and how to seek them, cannot be made in a vacuum; one needs to know, insofar as is feasible, the historical, environmental, and theoretical context in which one is working. It follows that:

1. Data recovery plans should be based on a reasonable level of prior survey, to identify the universe of archeological properties, and the overall environment, within which one is planning.

2. Data recovery should be preceded by appropriate types of background research, addressing pertinent aspects of local history and prehistory, the local environment, theoretical and methodological issues pertinent to the research topics to be addressed, and so on.

3. Data recovery should be carried out in accordance with a well thought out plan that has been subjected to a reasonable level of review.

Principle XII: Data recovery should relate positively to the development of State Historic Preservation Plans.

Section 102(a)(2) of the National Historic Preservation Act mandates the creation of comprehensive statewide historic preservation plans. The Heritage Conservation and Recreation Service, which administers the provisions of Section 102, is working with the States to develop and implement such Plans. State Historic Preservation Plans should guide the establishment of research and data recovery priorities and methods; conversely, data recovery efforts should produce information that supports development and refinement of the Plans. It is in the public interest for archeologists and agencies that conduct data recovery to work with State Historic Preservation Officers in developing, reviewing, and refining State Historic Preservation Plans, to ensure that the Plans, and hence future data recovery efforts, accommodate the development of new research questions and new data gathering techniques.

Ultimately, each State Historic Preservation Plan should provide a logical basis for determining which classes of archeological property contain no needed information and are hence neither eligible for the National Register nor appropriate for date recovery. Accordingly, data recovery efforts should be planned with reference to the State Historic Preservation Plan where relevant, and the results of such efforts should be used to the extent possible in State Historic Preservation Plan development.

Principle XIII: Completion of an approved data recovery plan consummates an agency's data recovery responsibilities.

When an agency has responsibly identified archeological properties eligible for inclusion in the National Register, considered alternatives to preserve the properties in place, obtained Council comment through the steps outlined in 36 CFR Part 800 (giving due consideration to the "Recommendations for Archeological Data Recovery" and 36 CFR Part 1210), implemented a data recovery program developed through this process and ensured proper curation of recovered materials and dissemination of data to scholars and the public, its responsibilities toward the data in question are at an end. In other words, the answer to the question: "How much archeology is enough?" is, "enough to conclude the data recovery program approved by the consulting parties under 36 CFR Part 800." An exception to this rule would be the circumstance in which unexpected data are discovered after the consultation process prescribed by 36 CFR Sec. 800.4 and Sec. 800.6 is complete; in such an exceptional circumstance, the responsible agency is to be guided by 36 CFR Sec. 800.7 and 36 CFR Sec. 1210.6.

PART II
EXECUTIVE DIRECTOR'S PROCEDURES FOR REVIEW OF PROPOSALS FOR TREATMENT OF ARCHEOLOGICAL PROPERTIES

I. Introduction

The following procedures will be used by the Executive Director of the Council in review of projects involving treatment of archeological properties. They are based on the Council's "Principles in the Treatment of Archeological Properties" (Part I). They do not amend or modify the duties of Federal agencies under Section 106 of the National Historic Preservation Act and the implementing regulations (36 CFR Part 800), but agency cognizance of them will make consultation under the regulations easier.

II. Identification and Evaluation of Archeological Properties

1. 36 CFR Sec. 800.4 establishes that "it is the primary responsibility of each Agency Official requesting Council comments to conduct the appropriate studies and to provide the information necessary for an adequate review of the effect a proposed undertaking may have on a National Register or eligible property, as well as the information necessary for adequate consideration of modifications or alterations to the proposed undertaking that could avoid, mitigate, or minimize any adverse effects. It is the responsibility of each Agency Official requesting consultation with a SHPO under this section to provide the information that is necessary to make an informed and reasonable evaluation of whether a property meets National Register criteria and to determine the effect of a proposed undertaking on a National Register or eligible property." Identification is the obvious first step to be taken by an Agency in defining its responsibilities with respect to archeological and other historic properties.

In evaluation of proposals for treatment of archeological properties, the Executive Director may review field surveys and other identification efforts that have been conducted as part of the Agency's planning process, to determine whether:

A. the identification effort appears to be consistent with the scale and expected impacts of the proposed project;

B. the identification effort appears to be conducted at a sufficient level of intensity in relation to the numbers and types of archeological properties expected to occur in the area; and,

C. the data recovery proposal submitted for Council consideration appears consistent with the results of the identification effort.

2. The Executive Director will use 36 CFR Part 1210, Appendix B, as a general standard for reviewing identification efforts.

3. The Executive Director will encourage recognition of the difference between "testing" archeological sites for identification and evaluation and excavating them for purposes of data recovery. Testing is usually conducted

in order to answer questions about an archeological site's eligibility for the National Register, or to obtain data needed to make decisions about how to mitigate project impacts on a site already determined eligible or placed on the Register. Such testing is directed toward determining the site's boundaries, the depth of its deposits, and/or its basic nature and condition. Only a very small sample of the site need be disturbed in order to make such determinations. Excavation for data recovery, on the other hand, is directed toward recovering as much of the important information in the site as possible, given time and other constraints. Unlike testing, excavation for data recovery is seldom simply directed at defining the size, depth, nature and condition of the site; it is directed at answering or contributing to research questions. Excavation for data recovery may result in very extensive--even complete--disturbance of a site. While it is impossible to define a point, applicable in all instances, at which testing ends and data recovery begins, a rule of thumb is that testing is completed when sufficient information has been gathered to make a determination of eligibility or a management decision. Since testing is done, in most cases, before the fate of the site has been determinated through the consultation process, it should be kept to the absolute minimum necessary for eligibility determination and/or management purposes. "Testing" that destroys large portions of a site forecloses the Council's opportunity to comment, and circumvents the intent of Section 106. The Executive Director will discourage such "testing," and will notify the Secretary of the Interior, pursuant to P.L. 93-291 Sec.4(a), in instances where such "testing" threatens the irrevocable loss of scientific, prehistoric, historic, or archeological data.

III. Consideration of In-Place Preservation

In review of projects involving archeological properties, the Executive Director will seek to ensure that all due consideration is given to practical methods of preserving such properties in place.

IV. Consideration of Non-Archeological Interests

In review of projects involving archeological properties, the Executive Director will seek to ensure that all due consideration is given to whatever non-archeological historical and cultural values the properties may represent. For example, if an archeological property is also valuable to a local community for cultural reasons, the Executive Director will seek to ensure that this value is considered and given appropriate weight in decisionmaking.

V. Data Recovery Directed to Research Questions

Where it is concluded through the consultation process that preservation in place is not practical, and that data recovery is appropriate, the Executive Director will seek to ensure that the data recovery effort addresses defined and defensible research questions. Such questions should relate to issues of importance in the sciences or humanities, or to matters of importance to local communities with historical connections to the property or properties. It is expected, however, that the specificity of research questions, and their relationship to larger issues, will vary with the character and quality of prior archeological work in the area, the state of existing

knowledge of the property, the nature of local, regional, and topical research efforts pertinent to the property, and the quality of the State Historic Preservation Plan in force in the state at the time the project is undertaken.

VI. Sacrifice of Properties Without Data Recovery

Where an archeological property cannot practically be preserved in place, and the responsible agency proposes to destroy or damage it without data recovery, the Executive Director will seek to ensure that all reasonable consideration has been and is given to the property's potential to yield information relevant to important research questions. The Executive Director will not support or sanction the recovery of data simply because they exist, nor will the Executive Director support arbitrary destruction of data.

VII. Efficiency of Data Recovery

Where data recovery is to be undertaken, the Executive Director will seek to ensure that it is conducted in the most efficient manner possible, in the context of an appropriate data recovery plan. Data recovery programs should be organized to extract, digest, and make available the pertinent data in the most efficient manner possible, taking into account local conditions, the potential for unexpected discoveries, non-archeological concerns, and other relevant factors. The kinds of techniques, tools, and expertise required in a given data recovery program are dependent on the kinds of data to be recovered and analyzed. Although all archeological projects share certain basic principles, there is no single, standard way to conduct archeological fieldwork. As a rule, the Executive Director will seek to ensure that the fastest, most economical methods are used that will achieve the desired research result.

VIII. Consideration of Guidance

Where data recovery is to be undertaken, the Executive Director will seek to ensure that due consideration has been given to the Council's "Recommendations for Archeological Data Recovery" (Part III) and 36 CFR Part 1210 ("Recovery of Scientific, Prehistoric, Historic, and Archeological Data: Methods, Standards, and Reporting Requirements").

IX. Budgets

To the extent feasible given Council and staff priorities and agency contracting policy, the Executive Director will provide advice to agencies, seeking to ensure that budgets developed for data recovery and other archeological activities are reasonable and cost-effective.

X. Negating Adverse Effect: Documenting "No Adverse Effect" Determinations

1. Undertakings that result directly or indirectly in the disturbance of an archeological property clearly have adverse effects on that property. In some cases, however, this adverse effect can be essentially negated through data recovery; in such cases a determination of "no adverse effect,"

pursuant to 36 CFR Sec. 800.4(c), may be appropriate. When an agency makes such a determination, the Executive Director's review will focus on the extent to which the adverse effect will in fact be negated by the data recovery effort. The ability to negate adverse effect depends upon (a) the nature of the affecting action, (b) the nature of the archeological property, and (c) the quality of the data recovery effort proposed.

2. To determine whether a data recovery program will negate the adverse effects of an undertaking, the agency, in consultation with the State Historic Preservation Officer, should answer the following questions:

A(1) Does the significance of the property, as documented in the nomination to or determination of eligibility for the National Register, lie primarily in the data it contains, so that retrieval of the data in an appropriate manner may preserve this significance? If so:

A(2) Does it appear that preservation in place would be more costly, or otherwise less practical, than data recovery? If so:

B(1) Will the effects of the undertaking be minor relative to the size and nature of the property? Examples of such effects include:

(a) Marginal disturbance to an extensive archeological site by construction along one edge.

(b) Minor disruption of the surface of an archeological site whose primary valuable information lies in subsurface deposits, where this disruption is unlikely to have long-range effects on subsurface conditions (e.g., by causing erosion, etc.).

B(2) Is the property subject to destruction regardless of the undertaking, so the agency's action is only slightly hastening an inevitable process? Examples of such a condition include:

(a) Disturbance of an archeological site on a rapidly eroding cliff, where measures to halt erosion are not practical.

(b) Disturbance of an archeological site that is being vandalized or clearly will be subject to vandalism, where there is no practical way to deter the vandals;

(c) Disturbance of an archeological site on land that has great potential for non-Federal development, where no mechanisms (zoning, State or local preservation ordinances, easements) are likely to be employable for protection.

B(3) Is the property not:

(a) a National Historic Landmark, a National Historic Site in non-Federal ownership, or a property of national historical significance so designated within the National Park System;

(b) important enough to fulfillment of purposes set forth in the State Historic Preservation Plan to require its protection in place;

(c) in itself, or as an element of a larger property, significantly valuable as an exhibit in place for public understanding and enjoyment;

(d) known or thought to have historic, cultural, or religious significance to a community, neighborhood, or social or ethnic group that would be impaired by its disturbance; or,

(e) so complex, or containing such complicated data, that currently available technology, funding, time, or expertise are insufficient to recover the significant information contained in it.

3. If the agency and the SHPO agree that questions A(1) and A(2), and questions B(1), B(2) or B(3) are answered in the affirmative, and if the agency establishes a data recovery program consistent with the Council's "Recommendations for Archeological Data Recovery" (Part III) and 36 CFR Part 1210, the agency has grounds for concluding that the data recovery program will negate the adverse effect, and can hence determine that the undertaking will have No Adverse Effect on the property.

4. In documenting a determination of No Adverse Effect based on this conclusion, pursuant to 36 CFR Sec. 800.4(c) and 800.13(a), the agency should:

(A) report clearly and concisely how it has reached its conclusion;

(B) document the concurrence of the SHPO and, if pertinent, consultation with, and the opinions of, other specialists and authorities concerned with the property, concerned social and ethnic groups, local government, and the public;

(C) provide a copy of the data recovery plan; and,

(D) show that sufficient time and funds have been allocated to execute the data recovery plan.

3. The Executive Director will review the documentation provided in accordance with 36 CFR Sec. 800.6(a) to determine whether (a) the property is shown to be valuable primarily for the information it contains, or whether other public interests are involved, and whether (b) it appears that the adverse effects of the undertaking will in fact be negated, thereby justifying a determination of No Adverse Effect.

XI. Preliminary Case Reports

1. Where it is determined that the undertaking will have an adverse effect on historic properties, the Preliminary Case Report developed by the agency pursuant to 36 CFR Sec. 800.4(d)(1) should:

A. document consideration of alternatives that would preserve the archeological property in place, and give reasons for rejecting those alternatives not preferred;

B. where data recovery is proposed, provide a data recovery plan consistent with the Council's "Recommentations for Archeological Data Recovery" (Part III) and with 36 CFR Part 1210; and,

C. where data recovery is not proposed, explain why it is not proposed. An agency may demonstrate that loss of an archeological property without data recovery is acceptable by showing that:

(1) there is no reasonable way to protect the property in place; and,

(2) having made a good-faith effort to identify research questions of the kinds discussed in Appendices A and B of this Handbook, to which the recovery of data from the property would contribute, the agency has been unable to identify such questions. In seeking to identify such questions, the agency should utilize available literature in archeology, anthropology, history, and other disciplines, consult with the State Historic Preservation Officer, and consult with State, regional, and local archeological and historical organizations. The Executive Director will review closely the documentation of such efforts, and may suggest additional research questions or sources of advice to be considered.

XII. Memoranda of Agreement

1. Ordinarily, Memoranda of Agreement executed pursuant to 36 CFR Sec. 800.6(c) that provide for data recovery from archeological properties should include or refer directly to a data recovery plan consistent with the Council's "Recommendations for Archeological Data Recovery" and 36 CFR Part 1210. Exceptions to this rule may include, but are not necessarily limited to:

A. A Programmatic Memorandum of Agreement, which may provide for preparation and review of such plans in the context of an ongoing program;

B. A Memorandum of Agreement that covers a planning process, which may provide for preparation and review of a data recovery plan at a subsequent stage in the agreed-upon process; and,

C. A Memorandum of Agreement that provides for archeological monitoring or other forms of data recovery as guards against uncertain discovery possibilities (for example, where there is some possibility that archeological data will be discovered when a building is demolished). In such an instance, it may not be feasible to develop a detailed data recovery plan because the nature of the possible discovery situation is too uncertain.

2. The purpose of the data recovery plan is to ensure that the data are recovered in an effective manner using the best applicable professional standards under the circumstances. Technical assistance in developing data recovery plans is available from the State Historic Preservation Officer and Interagency Archeological Services, Heritage Conservation and Recreation Service, Department of the Interior. The Executive Director will give data recovery plans the same level of professional review afforded to architectural designs, plans for adaptive reuse, development plans, etc.

3. Memoranda of Agreement may provide for phased data recovery. An example of phased data recovery is:

A. Phase 1: Testing of archeological sites and other research leading to development of a detailed data recovery work plan. The Memorandum of Agreement should set forth guidelines for the testing and other research.

B. Phase 2: Development of a data recovery plan. The Memorandum of Agreement should provide an opportunity for appropriate technical review of the plan, usually by the SHPO and the Council, and where needed, through peer review by outside parties.

C. Phase 3: Selection of a contractor. The Memorandum of Agreement should ensure that the agency provides a reliable mechanism for obtaining the best qualified contractor(s) for the project at the most reasonable cost, consistent with satisfactory work performance.

D. Phase 4: Conduct of the work plan, typically including recovery of data, analysis, curation, and dissemination of results.

4. In developing Memoranda of Agreement including provisions for data recovery, the Executive Director will attempt to ensure that the data recovery plan in fact is the best feasible method of addressing the archeological value of the property in the public interest. An agency can facilitate development of such Memoranda by notifying the Council of the steps it has taken to develop its data recovery plan, by identifying the parties consulted during its preparation, by ensuring that all concerned parties have had an opportunity to contribute to its preparation, and by articulating the plan as clearly and concisely as possible.

XIII. Programmatic Memoranda of Agreement

Where appropriate under 36 CFR Sec. 800.8, the Executive Director will consider execution of Programmatic Memoranda of Agreement with agencies to cover archeological data recovery activities and other activities discussed in this Handbook. Such a Programmatic Memorandum of Agreement should take this Handbook and 36 CFR Part 1210 into account, and specify or stipulate a process for establishing:

1. Conditions in a given State or region, or with reference to the agency's specific types of undertakings, in which data recovery would be appropriate.

2. Guidelines for data recovery, taking into account conditions in a State or region, and/or the agency's types of undertakings and planning/development stages.

3. Methods for procuring appropriate specialists, and controlling costs, and

4. Consultation methods, establishing how the SHPO and other appropriate authorities will be involved in decisionmaking.

XIV. Counterpart Regulations

The Executive Director will use this Handbook in reviewing and helping prepare guidelines, standards, and other measures as part of Counterpart Regulations authorized by 36 CFR Sec. 800.11.

XV. Archeology For Research

1. When archeological excavations are conducted on Federal land for research purposes, and the only Federal involvement in the excavations is issuance of a permit under the Archeological Resources Protection Act of 1979 (P.L. 96-95) the comments of the Council need not be sought (16 U.S.C. Sec. 470 cc(1)).

2. If Federal actions are involved in the research besides issuance of an ARPA permit (eg., funding, other permits or licenses) the Council's regulations (36 CFR Part 800) apply.

A. Research projects to which the regulations apply, that involve the physical disturbance of archeological properties, should in most cases be considered to have adverse effects on the properties; the responsible agency should seek the Council's comments in accordance with 36 CFR Sec. 800.4, or programmatically in accordance with 36 CFR Sec. 800.8.

B. Projects that address management needs as well as research interests may be taken to have no adverse effect on the properties they disturb, if the facts warrant. Generally, the Executive Director will concur in a "no adverse effect" determination when the following conditions exist:

(1) the research project addresses management needs, such as:

(a) excavation of a site that is subject to uncontrollable vandalism;

(b) excavation of a site that is subject to serious natural erosion;

(c) recording of a site or structure that is deteriorating; and,

(d) stabilizing a deteriorating or endangered site or structure

(2) the determination has been made following Sec. X ("Negating Adverse Effect") of this part of the Handbook;

(3) the project will be conducted under the supervision of persons meeting, at a minimum, the qualifications set forth in 36 CFR Part 1210, Appendix C; and,

(4) the project will be conducted in accordance with a research design that takes into account the Council's "Recommendations for Archeological Data Recovery" (Part III).

PART III
RECOMMENDATIONS FOR ARCHEOLOGICAL DATA RECOVERY

The following recommendations are for agency consideration in developing archeological data recovery operations. They are not mandatory under the authority of the National Historic Preservation Act and 36 CFR Part 800, but full consideration of them will facilitate the consultation process. They are designed to be consistent with the standards of the Department of the Interior, issued pursuant to the Archeological and Historic Preservation Act of 1974 (P.L. 93-291), and embodied in 36 CFR Part 1210.3.

I. Identification

1. Data recovery operations should be based on an adequate understanding of the range of archeological properties subject to adverse effect, and their importance and nature relative to other such properties. Accordingly, plans for data recovery should be based on an adequate identification effort.

2. Identification studies should be conducted in a manner consistent with 36 CFR Part 1210, Appendix B, and with the recommendations of the State Historic Preservation Officer. If standards and guidelines for identification have been adopted as part of the State Historic Preservation Plan, the identification effort should be consistent with them.

3. Agencies should use "The Archeological Survey: Methods and Uses" (GPO Stock No. 024-016-0091-9), "Guidelines for Local Surveys: A Basis for Preservation Planning" (GPO Stock No. 024-016-00089-7), and relevant State, regional, and local literature for general guidelines.

II. Qualified Supervision

1. Data recovery operations should be conducted under the supervision of qualified professionals in the disciplines appropriate to the data that are to be recovered. Minimum qualifications commonly required for professionals are set forth in 36 CFR Part 1210, Appendix C. For supervision of most projects, Appendix C qualifications should be taken as a minimum. The agency should develop additional qualifications for supervision of the particular project.

   In some cases, it may be appropriate to select a supervisor whose qualifications differ from those given in 36 CFR Part 1210, Appendix C. In such cases, the qualifications should be specified by the agency in project documents, together with the rationale for their selection.

2. A data recovery operation should be directed by a Principal Investigator, whose background and performance demonstrates:

   A. an understanding of the research value of the property, as specified in location and identification studies,

documentation for determination of eligibility or nomination to the National Register, and/or other relevant documents, such as the scope-of-work prepared by the agency;

B. familiarity with previous relevant research, including research in the vicinity of the proposed undertaking and research on topics germane to the data recovery program regardless of where such research has been carried out;

C. competence to address research problems pertinent to the data to be recovered, taking into account the identified research value of the property and other relevant research and general theory in the social and natural sciences and humanities;

D. responsiveness to the need to recover a usable sample of data on the major research problems that reflect the property's research value, and a sensitivity to other valuable research problems that may become apparent during the project; and,

E. competence in the methods and techniques necessary to recover the pertinent data contained in the property, or in supervising staff or consultants with such competence.

III. Relation to State Historic Preservation Plan and Other Plans

1. Where a State Historic Preservation Plan, developed by the State Historic Preservation Officer and approved by the Secretary of the Interior, details approved methods for data recovery from archeological properties, agency data recovery programs should take these methods into account.

2. Where regional or local plans, developed by the SHPO, professional organizations, local government, or others detail recommended methods for data recovery from archeological properties, agency data recovery programs should take these methods into account.

IV. Data Recovery Plan

1. Every data recovery operation should be conducted in accordance with a data recovery plan (often called a research design). The plan should be designed to ensure that the operation addresses legitimate research questions, that it produces useful results, that it is conducted efficiently, and that it produces the maximum direct and indirect benefit to the public for the least cost. Generally speaking, a data recovery plan should include the following elements:

A. Specification of properties to be studied and not studied within the environmental impact area of the undertaking. A rationale should be provided if it is proposed not to study any property included in or eligible for inclusion in the National Register that is subject to adverse effect.

B. Development of research questions, taking into account the identified research value of the property and other relevant research and general theory in the social and natural sciences and humanities. These are questions of scientific or humanistic concern which are expected to be answered, partially answered, or at least elucidated through the work proposed, such as

(1) questions of recognizable importance to science (cf. Appendix A), and

(2) questions of humanistic interest, or interest to a local community, or of defined local historical value (cf. Appendix B).

In most areas of the United States, enough is known of history and prehistory to establish at least some basic research questions. Therefore, a plan that proposes data recovery because "little is known of the history or prehistory of the area," without setting forth more explicit research questions, should be treated with caution. Such undirected plans provide little basis for conducting research, may result only in the accumulation of useless, trivial, or repetitive information, and are sometimes only masks for the ignorance of the parties preparing the plan. There are, of course, some areas, and some time periods in history and prehistory, for which this is not the case.

C. Establishment of study topics, springing from the research questions. These are the specific topics to be addressed in the study area. For example, if the research question is: "Why was agriculture adopted?" a study topic might be: "When, and in what cultural context, did agriculture appear in the study area?"

D. Establishment of study priorities. It is not necessary, and is often counterproductive, to give the same level of effort to all study topics. The plan should consider all study topics but should establish and justify priorities for their investigation.

E. Definition of data needs. The plan should identify the data needed to address each topic selected for study.

F. Description of methods to be employed in fieldwork and analysis, in seeking the needed data. Methods should be justified in terms of the data sought or expected, but with recognition of the fact that unexpected important data may emerge during fieldwork or analysis and need to be addressed. As a rule, the fastest, least expensive available methods should be used, provided they are effective in recovering the data sought or expected, and provided they do not destroy properties or data that otherwise could be preserved in place.

2. The data recovery plan should be developed and reviewed by the agency, the SHPO, and where needed, the Council, Interagency Archeological Services, and others, before data recovery operations are begun.

V. Staff, Facilities, Equipment, and Consultants

1. A data recovery program should provide for adequate personnel, facilities, and equipment to implement fully the data recovery plan.

2. A data recovery program should provide for adequate consultation with scholars whose research interests or specialties would enable them to contribute to the program.

VI. Methods: Basic Standards

1. Regardless of the research topics being addressed, a data recovery program should employ methods that will ensure full, clear, and accurate descriptions of all field operations and observations. For example, excavation techniques, recording methods, stratigraphic and associational relationships, environmental relationships, and analytic techniqes should be described, insofar as is feasible, in such a way as to allow future researchers to reconstruct what was done, what was observed, and why.

2. To the extent feasible, the methods should take into account the possibility that future researchers will need to use the recovered data to address problems not recognized at the time the data were recovered.

3. If portions or elements of the property under investigation can be preserved in place, the data recovery program should employ methods that will leave those portions or elements of the property in place. Destructive methods should not be applied to such portions or elements if nondestructive methods are practical.

4. Where architectural characteristics are recorded, such recording should be consistent with the standards published by the National Architectural and Engineering Record (NAER). Updated guidelines for recording architectural and engineering data may be obtained from the Director, Heritage Conservation and Recreation Service, or Executive Order Consultant for NAER.

5. To the extent feasible within the data recovery plan, data should be recorded in a manner compatible with those systems utilized by the State Historic Preservation Officer and by State and Federal agencies that store and utilize archeological data, so that they can have maximum applicability to future studies and planning efforts.

6. The data recovery program should include both field operations and post-fieldwork analysis sufficient to address the research topics.

VII. Public Participation

1. To the extent feasible, a data recovery program should provide for public participation, through arrangements for public inspection of the work in progress, the use of volunteers, cooperation with local educational programs, etc.

2. A data recovery program should provide a means by which the public can be informed of the program and its results, before, during, and/or at the conclusion of the program.

VIII. Cost Minimization

1. In developing a data recovery program, agencies should consider methods to minimize costs while ensuring that quality is not sacrificed. Examples of methods that may reduce costs include:

   A. investment in full pre-fieldwork analysis of pertinent available data, to avoid spending time and money in the field gathering data to answer questions that are already answerable;

   B. sharing of personnel and facilities among projects and agencies;

   C. use of volunteers and trainees under appropriate supervision;

   D. appropriate use of mechanized equipment and advanced technology (Experimentation with potentially cost-effecient methods of discovery, recovery, and processing of data is encouraged), and

   E. use of methods to avoid late or accidental discoveries that could cause costly construction delays. (For example, where construction will destroy an archeological site, the last stage of data recovery should be to destroy the site under archeological supervision before construction begins).

2. Seeking to minimize costs by selecting contractors on the basis of bid is generally not encouraged; experience shows that this practice tends to produce substandard results. However, in cases where detailed data recovery plans have been developed in advance of soliciting proposals, and sufficient control is exercised to ensure receipt of technically comparable proposals, an agency might find this practice useful. Agencies should consider 36 CFR Part 1210, Appendix D, when preparing to procure services for data recovery operations.

IX. Reports and Data Management

1. In order for recovered data to be useful, they must be made available to scholars and planners in usable forms. Generally speaking, the following products (other than physical specimens) are expected from a data recovery operation:

   A. a report or reports that describes the operation and its results, with reference to the research topics addressed by the operation;

   B. digested data in the form of tables, charts, graphs, computer software, etc.;

   C. raw data in the form of field notes, photographs, magnetic tapes, etc.; and,

   D. scholarly and other articles utilizing the results of the work for analytic or public-interpretive purposes.

2. All data recovery projects should result in a report or reports containing the reasons for the project, the data recovery plan, the methods employed in both field work and analysis, the data recovered, observations made, insights gained, conclusions reached, and a presentation of pertinent data. The report should meet contemporary professional standards, and should be prepared in accordance with the format standards set forth in 36 CFR Part 1210, Appendix A.

   Provision should be made for disseminating the report. At a minimum, two copies of the report must be provided to the Department of the Interior pursuant to P.L. 93-291, Section 3(a), and 36 CFR Part 1210.5. In addition, agencies are encouraged to disseminate reports to the widest possible audience. Appropriate methods of dissemination include, but are not limited to, publication in scholarly journals, monographs, popular articles, books, and the National Technical Information Service, and presentation of papers at scholarly Conference. Agencies should provide a copy of each report to the State Historic Preservation Officer and other appropriate archives and research libraries.

3. Digested data should be stored in a manner that makes them readily retrievable for further study and analysis. Use of modern systems of information storage and retrieval is encouraged. Such systems should be as compatible as possible with those used by the SHPO and other agencies and institutions with potential uses for the data.

4. Raw data should be stored in a manner that ensures their long-term maintenance and availability, usually in an appropriate research institution (i.e. 36 CFR Sec. 1210.4).

5. Although agencies are not necessarily responsible for developing or supporting the development of scholarly analytic articles, beyond those embodied in the report(s) on each data recovery operation itself, use of recovered data for such purposes should be encouraged.

X. Curation of Specimens

1. A data recovery program should include provision for curation (care, maintenance, and where applicable, duplication and disposition) of recovered specimens. In developing such provisions, the agency should give due consideration to the standards set forth in 36 CFR Sec. 1210.4, and recognize any competing public and private interests. Care should be taken during conservation, curation, and handling of specimens and records to ensure that the material is not lost, inappropriately altered, or damaged.

2. In general, acceptable curation arrangements may include, but are not necessarily limited to:

   A. permanent storage at a regional research center or appropriate public or private repository meeting the standards set forth at 36 CFR Sec. 1210.4(a)(1), provided reasonable access is guaranteed for future study;

   B. return to private owners where private property rights so require, after description, study, and analysis in accordance with the data recovery plan are complete;

   C. loan or lease to public or private parties, after description, study, and analysis in accordance with the data recovery plan are complete, provided access for future study and proper care of the specimens can be expected; and,

   D. return of specimens having religious or cultural significance to practitioners of the religion or cultural institutions in question, after description, study, and analysis in accordance with the data recovery plan are complete.

3. Curation of human remains (eg., skeletons, cremations, mummified bodies), requires careful balancing of the needs of science and a sensitivity to the concerns of genetic and cultural descendents of the dead. Where a demonstrable ethnic affinity exists between recovered human remains and living groups, a systematic effort should be made to seek out and consult with appropriate representatives of such groups to define acceptable methods of treatment. Where recovery of human remains is expected, prior consultation with such groups, and with cultural anthropologists or others capable of serving as sensitive intermediaries where needed, is strongly recommended. If reinterment, cremation, or other disposal is requested that will place the human remains out of the reach of future scientists, documentation of the remains in consultation with specialists in physical anthropology and other pertinent

fields should be completed before disposal. Where no association can be determined between recovered human remains and living groups, the remains should be documented in accordance with the data recovery plan, and curated in a manner appropriate to the dignity and respect befitting any deceased person.

XI. Budgeting

1. At an appropriate stage in the process of developing a data recovery plan or procuring the necessary contractors or staff to execute it, the agency should develop or obtain a detailed budget, and subject it to careful analysis. Line items should refer clearly to elements of the data recovery plan, and should be justified. For example, if technical consultants are budgetted for, they should be those required to recover and analyze the data that are needed to address the research topics. Estimates of man-hours required for supervision, administration, fieldwork, analysis, specialist consultation, and other activities should be developed, together with fee schedules for the various types of personnel required. Time and fee schedules should be realistic in terms of project needs and local conditions. To minimize the danger of establishing budgetary "targets" not based on actual needs, the budget should be prepared without reference to the 1% limitation imposed by Sec. 7(a) of Public Law 93-291 on data recovery funds transferred to the Secretary of the Interior. Should the budget for a project to which Sec. 7(a) applies exceed 1% of the total cost of the undertaking, the Council will assist the agency as possible during the consultation process to find ways to reduce costs or to obtain additional funding.

2. Sufficient funds to support the data recovery program should be clearly identified by the agency. Should there be any uncertainty about the availability of funds, this should be revealed to the Council and SHPO so it can be taken into account during the consultation process. If the agency anticipates that the Secretary of the Interior will fund the program under the authority of Sec. 3(b), Sec. 4(a), or Sec. 7(c) of Public Law 93-291, the agency should document to the Council and the SHPO that the Secretary is aware of and has accepted this responsibility.

XII. Treatment of Non-Archeological Concerns

1. A data recovery program should relate positively to non-archeological concerns with the area and its archeological properties. Such concerns include, but are not limited to:

   A. Religious and other cultural concerns of Native Americans and/or other descendents of the historic and prehistoric people of the study area;

   B. The interests of local communities or other groups in the history of the area;

C. The educational interests of local museums, academic institutions, etc.;

D. The interests of private property owners in maintaining the integrity of their property rights;

E. Any architectural, artistic, or aesthetic values that may be present in the property;

F. Any paleontological, geological, or related values that may be present in the property; and

G. The environmental integrity of the property and its environs.

XIII. Flexibility

1. Situations may arise or data may be encountered that were not anticipated in designing a data recovery program, particularly when it is conducted on a potentially complex property (e.g., a recent town site; a prehistoric site that may contain many occupation layers, cemeteries, or architectural remains). Adequate provision should be made for modification of the program to cope with unforeseen discoveries or other unexpected circumstances.

2. Innovative approaches to data recovery, which are constantly being developed, should be encouraged as long as the basic purposes of data recovery to preserve significant information are addressed.

Appendix A: SOME EXAMPLES OF SCIENTIFIC ARCHEOLOGICAL RESEARCH QUESTIONS

The following eight questions are examples only, and should not be taken as limiting. Archeology is the study of human behavior, beliefs, social institutions, and organization in the past, and it can and does address a very broad range of questions. The examples chosen illustrate something of the range of research questions addressed by archeology, and provide an idea of the kind of general value a research question should usually have to provide a legitimate rationale for expending public funds.

Example 1: Pleistocene Extinctions

At the end of the Ice Age, many species of large mammals in North America died out. Why did this happen? To what extent were people involved in these extinctions? One school of thought holds that the entry of people into North America so upset the balance among species living on the continent that many species could not survive. This question relates to more general questions in ecology about how species interact, and what happens when a new species or new technology is introduced into a stable environment. It also bears on general humanistic issues about the relationship of people to their environment. Addressing this question requires studies of human settlement patterns and lifeways at the end of the Ice Age, as well as the distribution of animal populations and the organization of the natural environment.

Example 2: Forms of Political Organization

Human populations, including North American Indian, Euro-American, and non-native minority groups, exhibit a broad array of types of political organization, ranging from small bands organized around family heads to Nation-States with powerful rulers, bureaucracies, complicated economic systems, and specialized industries. Determining how different forms of political organization came to be not only informs us about the culture-histories of particular groups, but provides a basis for generalization about how different forms of organization have developed elsewhere in the world, and what forms political organization may take in the future. Archeological studies of political organization, and change in political organization, usually focus on the organization of settlements, groups of settlements, particular features that reveal the organization of a given society, such as community planning, architecture, and the organization of cemeteries, and systems of trade and interaction. Information on the reasons for the development of different forms of political orgnization can be developed through the study of both prehistoric and historic archeological properties. Studies of contact and historical sites, utilizing both archeological studies and historical and documentary information, hold particularly fruitful potential for understanding development and change in political organization, expecially in the face of environmental and social pressures.

Example 3: Origins of Agriculture

Throughout the world, the inception of agriculture seems to have been a major event in cultural evolution, related to the establishment of permanent settlements, elaboration of government and social control, and the beginning

of the population explosion. The reasons why people began to practice agriculture are by no means clear, however, and there are important unanswered questions about the relationship between the development of agriculture and changes in other aspects of human life. The map of prehistoric North America is a complex mosaic of agricultural, semi-agricultural, and non-agricultural groups; it is an ideal place to study why and how people began to practice agriculture, and what its effects were. Studies of agricultural origins typically involve seeking evidence of the initiation of agriculture in different areas, and seeking concurrent changes in settlement organization, local economics, trade, population size and distribution, and the nature of the local environment.

Example 4: Contacts between Cultures

Contacts between dissimilar cultures remain a source of problems for humanity today, and have been so in the past. Study of the effects of such contacts in the past, often involving relatively small groups, can allow us to generalize about the effects of such contacts involving much larger, more complex groups today and in the future. Culture-contact studies are particularly appropriate as bases for research in historic sites that reflect contact between American Indian groups and Euroamericans, between Euroamericans and non-native minority groups, or between differing non-native minority groups, and in earlier sites where pre-Columbian contacts are possible.

Example 5: Symbolism

Are there basic structures to the human mind, defining how we visualize, characterize, and categorize things in our environment? What role does culture play in defining what we perceive and do not perceive, and how we organize our universe? Such questions are difficult to address, but they are very basic to our understanding of what being human is, to our understanding of differences and similarities among people, and to improving communication among people. When people have purposely organized something, such as art, writing, the contents of a tomb, or the contents of a house, they have left something physical that reflects, to some extent, how they perceive the world around them. This evidence is potentially interpretable through archeology, and can be used to test predictions based on general theory.

Example 6: Climatic Change

Meteorologists make predictions about changes in the weather that are quite accurate over short periods of time, but they are limited in longer-term predictions by limited information on past trends. Geophysicists and other specialists can make statements about climatic change over tens of thousands of years, but their accuracy is limited because of the nature of their data base. Archeology can reveal information on the nature and extent of climate change in terms of decades and centuries, often with considerable accuracy. Archeological sites may contain direct evidence of environmental change resulting from climate change (in the form of fossil pollen, preserved plant material, animal remains, or different types of soil), and they may also reflect such changes indirectly but with considerable accuracy. For

example, a change in the organization of settlements in an area may reflect a change in methods of getting or growing food, which in turn may result from a change in the environment caused by a change in climate. Such evidence can be used to establish trends in climate change that serve as the bases for predictions about what will happen in various parts of the nation and the world over the next centuries. Although climate change can be easily reconstructed during the historic period, the possibility of checking the archeological record against archival records, including accounts of various people's reaction and responses to marked climatic change, affords great potential to generalize about human behavior in the face of climatic change.

Example 7: Disease

The history of a disease can tell much about its nature, how it responds to varying environments, and how susceptible different types of populations are living under different circumstances. Some diseases leave distinctive traces in the bones, which can be detected either visually or by physical and chemical analysis. Using the skeletal populations of ancient cemeteries, physical anthropologists and paleoepidemiologists can trace the spread of a disease, its effects on different populations, how it changed through time, and how it reacted with populations living under different social, economic, and environmental conditions, and in the face of different medical practices. This makes it possible to make predictions about how the disease, or similar diseases, may behave in the future.

Example 8: Diet and Nutrition

The study of a population's diet and nutrition can provide insight into the social, economic, and other human effects of environmental and population pressure, technological innovation, foreign trade and domestic exchange, etc. Comparative study of bones and other faunal remains, plant remains, and artifacts associated with food processing and storage can indicate the degree of dependence on wild versus domesticated and indigenous versus exotic plants and animals, relative nutritional intake and health conditions, methods of procurement, butchering, cooking and other preparation, and the development of new methods and assemblages of artifacts when new foods are introduced.

Appendix B: SOME EXAMPLES OF HUMANISTIC, HISTORICAL, AND LOCAL-INTEREST ARCHEOLOGICAL RESEARCH QUESTIONS

Humanistic

The study of the humanities is, of course, an extremely broad field, covering aspects of history, philosophy, architecture, and a variety of other disciplines. It overlaps substantially with the social sciences; hence most research questions of the type discussed in Appendix A would be of humanistic interest as well. Example of more strictly humanistic research questions that might form legitimate bases for date recovery include:

Example 1: Study of an architectural style:

A given high or vernacular architectural style might be poorly documented by surviving examples or written and drawn records, or the evolution of the style through time might be poorly known. Excavation or other documentation of structures, or sites where structures once stood that represented the style, might be directed toward elucidating the style and its evolution.

Example 2: Study of an art form:

A site containing prehistoric rock art might be studied by art historians to document the forms and modes of expression it represents in comparison with other types of artistic expression.

Example 3: Study of a philosophy:

Throughout the history of the United States, utopian communities have developed that have isolated themselves from the "mainstream" population to practice their chosen ways of life without contamination. Often elements of the community's philosophy have been expressed in its organization of space (eg., organization along sexual rather than family-unit lines) or in its choice of artifacts (eg., rejection of power tools). Archeological study of an extinct or extant utopian community could both indicate how these elements are expresssed, and how and whether change has occured in such elements over time.

Historical

Virtually any study of an archeological property deals with history in some sense, but some legitimate studies are directed specifically toward checking or correcting historical accounts, or toward broadening and deepening our understanding of history; for example:

Example 4: Early explorers

The lines of march, stopping places, and landfalls of early explorers of North America are often at issue among historians. Archeological studies can contribute to settling such disputes by showing that given locations were or were not occupied at the time the explorer-of-interest was in the vicinity, did or did not look like locations described by the

explorer or members of his or her party, do or do not contain artifacts attributable to the explorer, and so on.

Example 5: PreColumbian Transoceanic contacts

Historians and archeologists have argued for many years about whether there were contacts between Europe, Africa, and Asia and the Americas, before the voyages of Columbus. The pre-Columbian presence of Scandanavians along the Atlantic coast of Canada, and probably of the United States as well, has now been reasonably well demonstrated; some scholars argue for the presence of Sumerians, Egyptians, Lybians, Phoenicians, Hebrews, Basques, and Celts, and support their contentions with archeological evidence ranging from architectural similarities between certain European and American structures, through the identification (and sometimes, decipherment) of rock carvings thought to resemble European and African writing systems, to the discovery of artifacts and evidence of industrial and agricultural practices associatable with Europe, Africa, or Asia. Archeological studies are potentially the primary method for validating or disvalidating such arguments.

Example 6: Descriptions of little-documented social groups, activities, processes

Written history tends to document the activities of the affluent and influential. The contributions of those groups that wielded little economic power, and that were often illiterate, at least in English, to the history of the Nation and its regions are often poorly documented. Archeology can be used to fill in gaps in the historical records, to give a more balanced picture. Similarly, archeology can be used to flesh out the record of groups that have been well documented in certain aspects of their lives. For example, there is much documentary data on southern Plantation life in the early 19th century, but these data provide little besides stereotypes regarding the daily life of slaves, or often of slave/owner relationships. Archeology can fill out this record by revealing what slaves ate, what sorts of groups they lived in, what tools and weapons their owners entrusted them with, etc.; it also can reveal how the owner ate, what he or she imported or produced onsite, and how his or her way of life differed from those of the slaves. Archeology can also be used to elucidate otherwise little-known industrial or agricultural practices; the excavation and mapping of 19th century mill sites, for example, can provide information on how water resources were used and how milling systems operated--information that is often not available in useful form in written records.

Local Interest

A local community, neighborhood, or social group may have cultural interests in its past that can be satisfied or developed through archeology. These may provide an important basis for data recovery; for example:

Example 7: Traditional history

A local American Indian, Eskimo, Hawaiian, or other traditional cultural group may want to know how its traditional history relates to information in and on the ground. The group may have traditions about its origins,

the other groups it encountered in coming into its area, early leaders, wars, natural catastrophes, or other events that can be elucidated through archeology. Very ancient traditional history, which often involves supernatural events, is seldom subject to very detailed archeological study, but more recent historical events may be fixed precisely in time, and described in detail from the archeological record.

Example 8: "How our ancestors lived"

The residents of a community or neighborhood that has been long at the same location may simply be curious about how their ancestors lived. Particularly where the community or neighborhood represents a population that is poorly represented in written records, archeology may be the only way to satisfy this curiosity, which in turn is an expression of the identity and sense of place whose perceived imminent loss in large part stimulated enactment of the National Historic Preservation Act.

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