

underwater archeology

OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
NATIONAL PARK SERVICE

**PROSPECTUS FOR
UNDERWATER ARCHEOLOGY**

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**Division of Archeology
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National Park Service**

PREFACE

On March 8, 1968, President Lyndon B. Johnson proposed an International Decade of Ocean Exploration during the 1970's -- a decade of intensified and sustained international collaboration to plan, develop, and implement programs for exploring the world's oceans. As the major institution in the United States involved in archeological research, it seems altogether appropriate that the National Park Service join in this Decade of Oceanographic Research by developing and implementing an active program of underwater archeological investigation.

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INTRODUCTION

In early 1968 the staff of the Division of Archeology began investigating the rapidly developing field of underwater archeology for the purposes of determining: legal responsibilities of the National Park Service in this field; present and future needs for underwater investigations on lands under Service jurisdiction; existing National Park Service capabilities and potential for development of capabilities in underwater archeology; and the possibilities and practicality of developing a Service program in the field

There has been a rapidly growing interest among laymen, archeologists, and historians in submerged historic and prehistoric remains. The Service is increasingly called upon to answer inquiries and provide advice or assistance on problems regarding collection of underwater treasure, salvage of sunken vessels, preservation of artifacts recovered from water, and other similar subjects relating to submerged antiquities. The legislation pertaining to these matters, and Service and Departmental policies and regulations, are intricate, ambiguous, and sometimes apparently in conflict. There is a need for clarification of the scope and nature of the Service's responsibilities, and for policy decisions regarding involvement in underwater research and preservation.

NATIONAL PARK SERVICE RESPONSIBILITIES

As with other archeological programs, the primary legal basis for involvement and responsibility comes from the Antiquities Act of 1906 (34 Stat. 225; P.L. 59-209) and the Historic Sites Act of 1935 (49 Stat. 666; P.L. 74-292) under which the National Park Service is responsible for preservation and protection of antiquities. As Departmental Consulting Archeologist, the Chief Archeologist has additional responsibilities for advising the Secretary of the Interior on matters relating to antiquities and for issuing Antiquities Act Permits for scientific investigations on lands under Interior Department jurisdiction.

Through the Submerged Lands Act of 1953 (67 Stat. 29; P.L. 83-31), the Federal Government relinquished to the States full control over all submerged lands to the limit of three miles offshore, except for Florida and Texas on the Gulf of Mexico where the jurisdiction has been extended to three marine leagues (approximately 10 miles). The Outer Continental Shelf Lands Act of 1953 (67 Stat. 462; P.L. 83-212) reserves submerged lands on the outer continental shelf, beyond the area under State jurisdiction, to the Federal Government, and puts regulation of such offshore lands under the control of the Secretary of the Interior.

It is here that the question of jurisdiction becomes confused. In the light of the concept of lands "owned or controlled" by the United States as it has been expanded in the tidelands cases, precedents seem to have been established validating Federal claim to these outer continental shelflands, and Federal laws and regulations should, therefore, apply to them -- including the Antiquities Act. A strong case can, therefore, be made for Interior Department control over antiquities occurring outside the three mile limit and within the outer continental shelf. As the issue has never been pressed, the salvage of sunken vessels of historical value presently takes place under laws governing the commercial salvage of vessels sunken in international waters.

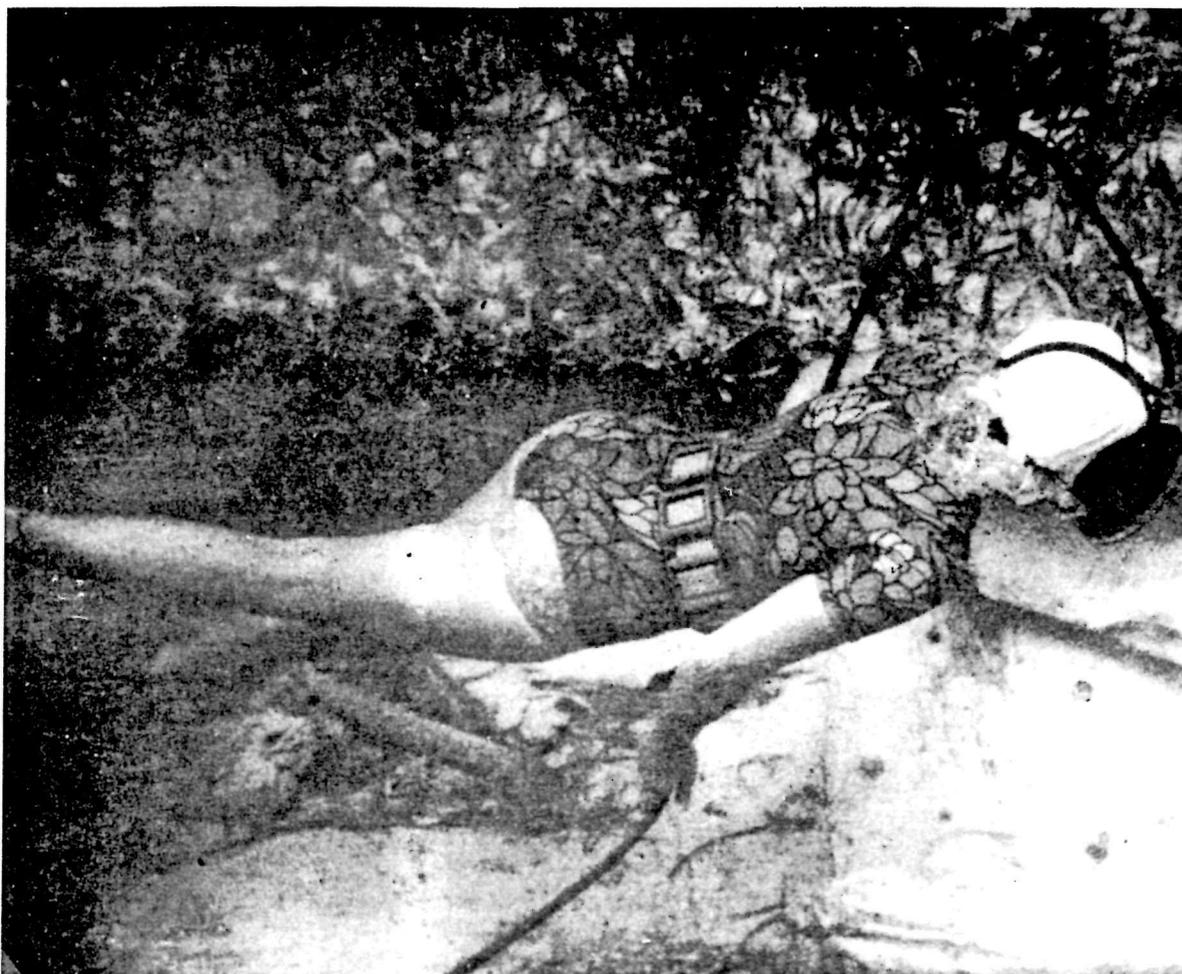
There are a number of other significant legal considerations which must be evaluated in establishing the responsibilities of the Service and of the Department for submerged antiquities. The United States never relinquishes authority over any Federal vessel. It is understood that the treaty ceding Spanish lands in America to the United States included property to which the Spanish Government had claim, including its sunken vessels; these have, therefore, become Federal property, whether located on submerged lands under Federal or State control. The General Services Administration has been delegated the

responsibility for all sunken naval vessels and, by memorandum of agreement with the National Park Service, notifies the Service of salvage applications on such vessels so that we may evaluate their historic significance and recommend action. Otherwise, there appears to be no recognition of applicability of the Antiquities Act by other branches of the Government involved in salvage of sunken vessels and other possible objects of antiquity on submerged lands.

At the present time, Federal control of antiquities found beyond the three-mile limit is not being recognized, and commercial salvors and treasure hunters are destroying wrecks of considerable historic significance. However, if the Department of the Interior could establish its jurisdiction over antiquities occurring on the outer continental shelf, and the applicability of the Antiquities Act, we would suddenly find ourselves in the position of being responsible for enforcement of the Act on several hundred thousand square miles of ocean

This brief and selective summary of the legislative status of underwater antiquities serves to demonstrate the confused and complex legal situation relating to underwater archeology -- a situation which would indicate the necessity of a thorough legal study, followed by development of policies relating to our responsibilities. These laws and

policies should then be thoroughly publicized so laymen, professionals, service personnel, and representatives of other agencies will be fully aware of the Service's responsibilities for submerged antiquities and the manner in which these responsibilities will be handled.



Diving on the Galleon San Jose

IN-SERVICE CAPABILITIES IN UNDERWATER ARCHEOLOGY

There are presently three archeologists certified to dive for the Service who have experience in underwater archeology: Calvin R. Cummings of Sanford Recreation Area; George R. Fischer of the Division of Archeology, Washington, D.C.; and Marion J. Riggs of Walnut Canyon National Monument. Mr. Cummings has had extensive diving experience as a member of the Search, Rescue and Recovery SCUBA Team at Sanford and participated in the underwater archeological survey of Montezuma Well, Montezuma Castle National Monument, Arizona. Mr. Fischer and Mrs. Riggs have had formal training in diving, obtained training in the techniques of underwater archeology by participating in the Smithsonian Institution's investigation of the sunken Spanish galleon San Jose off the coast of Florida, and participated in the underwater survey of Montezuma Well. Roberto A. Costales, Archeologist at Montezuma Castle National Monument is an experienced diver, but has had no formal training and is not certified to dive for the Service. He also participated in the Montezuma Well project. Several archeologists in the Service have expressed interest in becoming divers, and the possibilities for providing them with the necessary training are being investigated. M. Woodbridge Williams, Visual Information

Specialist with the Branch of Still Pictures, Washington, D.C., is a certified diver with extensive diving experience, and is an expert underwater photographer. As photography is an important phase of underwater archeological investigations, Mr. Williams' services would be valuable on any projects conducted by the Service.

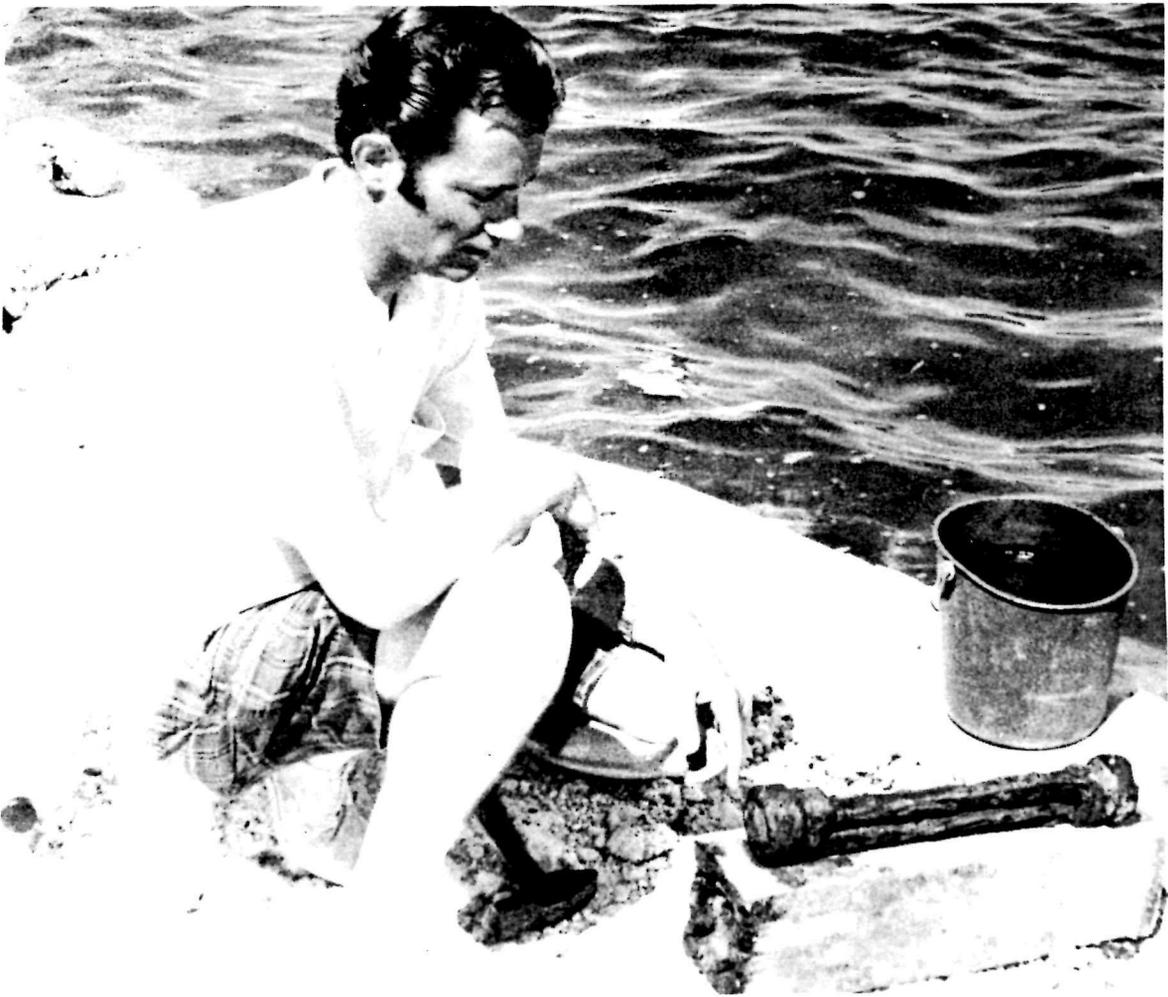
Obtaining adequate training in diving and the techniques of underwater archeology for Service personnel presents some difficulties. The Service presently has a training arrangement with Scripps Institution of Oceanography whereby Scripps provides an intensive course in diving for a limited number of Service participants annually. Because of limitations on the number who may attend this course, and the Service's needs for training divers for recovering the bodies of drowning victims, it has not been possible to provide training for archeologists through this program. U.S. Navy diving training programs have been utilized by Service personnel in the past; but, at present, these programs are operating at reduced capacity for economy reasons while they are also facing a greater demand for trained divers because of the Vietnam war. Both the Scripps and Navy courses have the disadvantages of being directed much more toward emergency diving training than is desirable for archeological purposes. Diving training can also be secured in most urban areas through programs offered by

the YMCA, National Association of Underwater Instructors, Professional Association of Diving Instructors, and other organizations. These courses are brief and, although they provide a good foundation in the basics of diving, should be supplemented by additional training or practical experience.

Training in the techniques and use of specialized equipment of underwater archeology is more difficult to obtain. No formal training program exists, so experience must be gained through participation in an active project. The Smithsonian Institution and the University Museum, University of Pennsylvania, have shown a willingness to permit Service personnel to participate in their underwater archeological investigations, providing excellent training opportunities. It is possible that similar arrangements could be made with other institutions.

As with other archeological projects with which the National Park Service is involved, it will probably become necessary to contract with professionals. If we train more of our Service archeologists as divers and provide them with supervised experience in specialized archeological techniques, we will be able to conduct most of the immediate research with our own personnel. However, as the press of emergency salvage continues, we are likely to find ourselves unable to handle all projects. With the rising interest in SCUBA diving, and the greatly increasing

demand by collectors for maritime objects, the preservation and salvage of such objects under our jurisdiction will become more and more pressing.



Expanding bar shot recovered from the Spanish Galleon San Jose

POTENTIAL PROJECTS IN SERVICE AREAS

A complete list of potential projects in areas currently under National Park Service jurisdiction would be most lengthy. The great potential and need for underwater archeology was one of the surprising facts discovered in investigating the subject. Some of the more urgent and more interesting projects are listed below:

Northeast Region

Great Lakes Lakeshore Recreation Area: The University of Michigan has located an Indian village site offshore with a submarine device. The site is probably worthy of further inspection.

Isle Royale National Park: A survey should be made, as there are many sunken vessels, some rumored to contain gold and other valuables.

Southeast Region

Biscayne Bay National Monument: This area is known to contain a large number of shipwrecks, some of which may be of great historical significance. The proposed recreational use of the area, and its close proximity to a major population center will create a serious protection problem. A survey should be conducted to locate wrecks of particular value which should be salvaged.

Cape Hatteras National Seashore: The Monitor sank somewhere beyond the three-mile limit, but within the continental shelf; it would be located within one square mile by documentation, according to Service historians, and would be of major historical significance if salvaged. There are also several Civil War forts which may be underwater, and one fort constructed during the late 18th and early 19th Centuries which could be underwater. A survey would be important.

Colonial National Historical Park: Several Revolutionary War ships were sunk in the James River at Yorktown. Some salvage work was conducted in the 1930's on at least one wreck. A reconnaissance of the area would be desirable to determine the potential for further investigation.

Fort Jefferson National Monument: Concern has developed over preservation of a number of historically valuable shipwrecks in the area which are being threatened by SCUBA divers and treasure hunters. Plans are presently being developed for historical research to gather as much information as possible on shipwrecks at Fort Jefferson from documentary evidence, to be followed by a full-scale underwater survey of the area in the summer of 1969.

Fort Sumter National Monument (Charleston Harbor): During the Civil War several ships were sunk in the harbor, including two monitors, a British frigate, and the Hunley, the first Federal submarine. A

survey to determine if they are on Federal land is necessary.

Gulf Islands National Seashore (proposed): Fort McRee (Pensacola, Florida), a masonry fort of the period 1830-1860, is mostly underwater; a survey is needed.

San Juan National Historical Site, Puerto Rico: Several ships have sunk off El Morro and San Cristobal; surveys are needed.

Midwest Region

Custer Battlefield National Monument: Work at the river crossings would undoubtedly recover historical material.

Effigy Mounds National Monument: A village site was located along the Mississippi River directly east of the visitor center; construction of a dam has caused the river to rise, and recovery of material from this location is highly likely.

Fort Laramie National Historical Site: Portions of the Laramie River were used as dumps, and should contain significant materials.

Southwest Region

Montezuma Well National Monument: An underwater archeological survey was conducted by Service personnel in October 1968. The project resulted in recovery of some significant archeological and natural science data, provided a training opportunity for Service divers, and

indicated the feasibility and practicality of such a project. It may be desirable to conduct a more extensive project to cover sections of the Well which could not be investigated during the survey, and with the use of equipment which would enable recovery of greater amounts of material.

Padre Island National Seashore: The Spanish fleet of 1553 was destroyed near this area. Local collectors and professional treasure hunters have been most active in their endeavors and a survey is urgently needed.

Roosevelt Lake (Department of the Interior land): When the dam was constructed, sites were not salvaged; in 1955, when water was released, masonry sites were still standing. A survey would be the minimum research needed, and salvage might be profitable.

Western Region

City of Refuge National Historical Park: The changing coastline supports a thesis that material would be recoverable off Honaunau.

Fort Clatsop National Memorial: Significant historical remains might be found in the Columbia River.

Sitka National Monument: The Tlingit Fort is partly underwater; this portion of our history reflecting contact with the Russians would be most significant and warrants investigation.

NON-SERVICE INSTITUTIONS WITH PROGRAMS IN UNDERWATER ARCHEOLOGY

It will be possible, in some cases, to contract for underwater investigation as is done in the reservoir salvage program. The small number of institutions presently capable of doing such work, and the demands made on them by other projects, limit the practicality of this approach.

With the burgeoning interest in underwater archeology, more institutions and individual professionals are developing programs in the field.

Among major institutions with involvements are the Minnesota Historical Society and the University of Minnesota, which are primarily interested in investigations of the fur trade in the Midwest. The Council of Underwater Archaeology in San Francisco has been active in coordinating activities in the field, and has also conducted investigations for the Service at Point Reyes National Seashore. Since the death of the Council's President, John Huston, the organization has become inactive and it is not presently known whether it will again have a significant influence. The most active organization is the University Museum, University of Pennsylvania, which, for the past few years, has been conducting major projects and is, without a doubt, the leader in the field. The University Museum's primary interest is in classical archeology and their efforts have been confined to the Mediterranean

area. Their present involvements are such that it is unlikely the Service would be able to utilize their facilities and staff for our own projects.

The Smithsonian Institution has also been conducting programs in underwater archeology, under the direction of Mendel L. Peterson, Chairman of the Department of Armed Forces History. Mr. Peterson, usually in cooperation with other organizations or private individuals, has been involved in the investigation of a great number of historic wreck sites off the coast of Florida, Bermuda, and the Bahamas.

There are a number of other institutions with more limited programs, and many individuals who are independently conducting underwater studies. It appears that most of the institutions have rather limited capabilities and are, for the most part, fully committed to their own projects at the present time.

SERVICE INVOLVEMENT IN UNDERWATER ARCHEOLOGY

The recent growth and advances in underwater archeology have shown the field to be a practical and highly productive method of investigation. The potential for such investigations within areas of the National Park System is quite high, with the Service exercising jurisdiction over areas which include some highly significant shipwreck sites and other remains. In addition to their scientific potential, developments in underwater interpretation open interesting possibilities for public enjoyment of submerged historical remains. The public interest in skin and SCUBA diving also presents significant problems of protection for such sites. With the Service exercising a position of leadership in the United States in archeology, particularly in historic site investigations, it would seem natural and timely for us to become involved in underwater archeology.

Underwater investigations tend to be more expensive in direct comparison to conventional excavations. However, with a properly equipped and organized project, the difference in cost need not be great. It would normally be well compensated by the much better state of preservation of material remains, and unique types of information recoverable. Such investigations can also provide concrete data to substantiate documentary

research which produces conjectural results, often at greater cost.



Proton Magnetometer survey of Point Reyes National Seashore by the Council of Underwater Archeology

DEVELOPING A SERVICE PROGRAM IN UNDERWATER ARCHEOLOGY

It seems practical and desirable for the Service to develop a capability in underwater archeology. It will be necessary for us to possess some expertise in order to evaluate our needs and arrange to have the research accomplished through contracts with other institutions. Additionally, in many instances, it will be less expensive, or more desirable, for us to utilize our own facilities and personnel to conduct such research.

In developing an in-Service capability for underwater investigations, the present number of archeologists qualified for such work should be expanded to provide a more adequate staff strength. There are also some 25 other certified divers in the Service, including a photographer with experience in underwater photography, who could be made available to provide support and assistance on projects. The Smithsonian Institution has expressed a high degree of interest in becoming involved on a cooperative basis in our projects, and could assist greatly by providing equipment, specialists in such fields as underwater illustration, curatorial and preservation techniques, and other support. Liaison has also been established with the Fish and Wildlife Service, which has active underwater programs in both the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife. The Naval Research

Laboratory, the University of Pennsylvania, Florida State University, and other institutions and agencies have expressed a willingness to provide equipment and advice and an interest in participating with the Service in projects involving underwater archeology.

An effective program will require participation of historians who will specialize in the various problem areas involved. Historical research in conjunction with underwater investigations is a necessity in research on submerged historic sites or shipwrecks. Historians with knowledge of marine architecture and abilities in artifact identification are needed to assist in the research itself and to collaborate in evaluation of data recovered. To be most effective, any Service team of underwater archeologists should include a historian specializing in the unique problems of marine history, marine architecture, and investigation of marine sites.

Preservation of material recovered through activities in underwater archeology presents a major problem. Submerged materials are often preserved in a condition rarely encountered elsewhere. These materials become, however, extremely delicate when removed from their marine environment, and require extensive and highly specialized techniques of preservation to prevent deterioration and loss. There are few individuals in the United States with an adequate background in this

area, and the specialized facilities required for these preservation activities are limited. It will become necessary for the Service to develop expertise and facilities for preservation of submerged historic materials.



Underwater Archeological Survey of Montezuma Well

SUMMARY

The major problem facing the Service is the legal interpretation of our responsibility under the Outer Continental Shelf Lands Act. Obviously, it is physically impossible to patrol and exercise jurisdiction over the outer continental shelf; for purely practical reasons we may have to forego the opportunity of controlling salvage work beyond the three-mile limit, except as it immediately concerns a National Park Service area.

However, within these National Park Service areas, it is entirely feasible, and will become increasingly necessary, for the Service to involve itself in underwater archeological research. We will have to define a policy of concern and interest, must begin an effective program of training, and we must establish liaison and cooperative lines of communication with experts in the field of preservation, marine history, and underwater archeological techniques. Because of the specialized nature of recovery, and particularly of preservation, of underwater materials, the training of our personnel is of paramount concern. Museum personnel must become informed on methods of preservation and they must make this information available to field personnel who will be faced with the immediate in-the-field responsibility. It

has been found that the specialized needs of archeology underwater are fulfilled most effectively when archeologists are taught to dive, rather than divers taught to do archeology. Therefore, we must ascertain which of our field archeologists are interested and best qualified to begin training in this new field. One problem encountered already is that the policy statement of the Service with regard to certification of divers does not take into account the special needs of research. The present policy is oriented toward the work of search and rescue, and we need to make a special policy for research divers or the present statement must be amplified.

The National Park Service has already begun to feel the need for underwater archeological research. We have potential, both in personnel and in projects, which ought to be utilized. The continued interest of amateur historians and archeologists will create an urgent situation for preservation, and we must be prepared in advance to respond to these challenges and provide the research.

These pressures may be expected to increase greatly in the future.

The future of underwater archeology also presents great challenges. Below depths of 600 feet, the preservation of shipwrecks is much better than at lesser depths, primarily because of protection from damage by

shipworms. At greater depths, wooden wrecks are often found in excellent condition. The capabilities of present submersibles, and anticipated improvements in them, make investigations at these depths feasible. The Navy has recently instituted a program which will make research submersibles available for this type of work at no cost to the user agency. Recent developments in deep water work by free divers indicate possibilities for practical operations of divers at depths where work was hitherto impossible.



Materials Recovered During
Underwater Archeological Survey of Montezuma Well