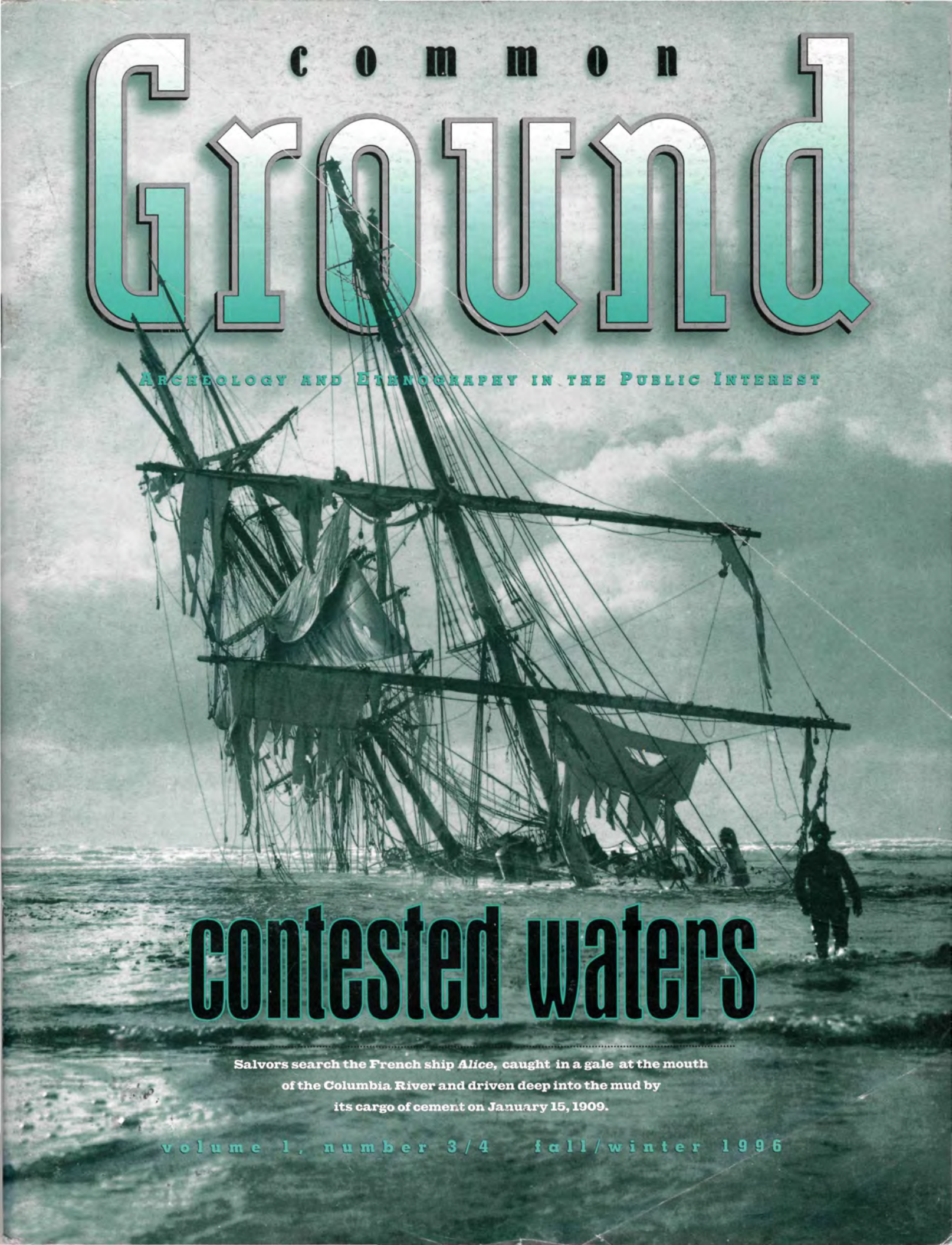


common Ground



ARCHEOLOGY AND ETNOGRAPHY IN THE PUBLIC INTEREST

contested waters

Salvors search the French ship *Alice*, caught in a gale at the mouth
of the Columbia River and driven deep into the mud by
its cargo of cement on January 15, 1909.

volume 1, number 3/4 fall/winter 1996

Abandoned Shipwrecks

Historic Property or Just Property?

FRANCIS P. McMANAMON

SHIPWRECKS AND THEIR CARGO commonly have been regarded as property. The first recorded recoveries from sunken ships were commercial ventures. The Greek historian, Herodotus, records such efforts in the 5th century B.C. Sunken cargos, weapons, fittings, even major ship components, all were salvaged whenever technically feasible. For centuries after the classical Greeks, shipwreck recoveries were thought of only in commercial terms. For the most part, the earliest recoveries of ancient artifacts of interest for archeology, art history, and history date to the 19th century. Then, salvors and sponge divers occasionally came across ancient objects while carrying out their work.

This is a strikingly different perspective than the one we have regarding terrestrial sites. Even the early historic exploration and excavation of sites on land aimed to recover works of art and curiosities. The purpose of these initial efforts was not strictly commercial, although recovered objects often had inherent monetary value also. Since 1906 in the United States, through the public policies established in the Antiquities Act and expanded throughout the century by other statutes, archeological resources, and other kinds of historic properties, have come to be viewed mainly for their commemorative, educational, and scientific value.

The fact that shipwreck excavations continue to be associated in the public mind primarily with treasure shows how difficult it can be to change perceptions. The fascination with such projects, whether done for treasure or science, feeds particularly on the mystique of adventure, danger, and derring-do that often is associated with archeology. Underwater excavations, particularly, conjure up the swashbuckling, treasure-loving, havoc-spreading dark side of Indiana Jones that is part and parcel of this image.

One reason for this is that shipwreck sites are as exotic and remote as ancient sites were at first discovery by Europeans. Typically they are difficult to find and require elaborate logistics to investigate. Due to this relative inaccessibility, museums and collectors may see treasure hunters as their only source of artifacts. Even certain governments—motivated by fame, money, or the desire to develop tourist attractions—allow, and sometimes promote, treasure hunting or salvage.

All these factors make protecting submerged sites difficult for both organizations and individuals, from the local level to the national. In the United States, the Abandoned Shipwreck Act of 1987 envisions an approach that balances a wide range of interests. In enacting the statute, the United States declared that the commemorative, educational, historic, and recreational

value of shipwreck sites are of special importance. As such, the federal government asserted an interest in having these sites protected and preserved for public enjoyment and education. However, the law recognizes that the states should have the responsibility for caring for historic shipwrecks and deciding the appropriate uses of them.

To assist states that already have submerged cultural resources programs, as well as those that do not, the ASA directed the National Park Service to prepare guidelines for the comprehensive management of historic wrecks. Published in 1990, these guidelines recognize and try to balance the variety of interests at stake.

Given this backdrop, how can we promote preservation? The general challenge is a long-term approach to changing public attitudes. Essential to such an approach is working with teachers to modify school curricula, as is underway to meet similar challenges in preserving terrestrial sites. Students should be introduced to archeology as a way of learning about these wrecks and the stories that can be derived from proper study of them. An important part of this message is that historic shipwrecks should be preserved for the public benefit.

Products aimed directly at the public—exhibitions, brochures, TV programs, newspaper stories, and World Wide Web sites—are also needed. Such products, likewise, should promote a preservation theme.

Effective law enforcement has a role in a long-term approach. A few believe they have the right to plunder shipwrecks, even those protected by federal, state, or local law. When an individual or organization is caught in illegal actions, law enforcement must be swift and effective. Successful prosecutions of plunderers should be widely publicized to serve as a deterrent. This publicity will also provide a reference point for the public on what constitutes inappropriate and illegal behavior.

However, the law must go beyond protecting against looters. There is a critical need for planning and zoning laws, on all levels, to protect submerged sites in harm's way of projects like dock construction, public or private. Where such laws exist, preservationists must ensure that they are implemented.

Historic shipwrecks have an exotic history and their preservation is inherently difficult. However, at least some of the keys to their preservation and commemoration are the ones that ensure the same for their counterparts on dry land.

Francis P. McManamon is Chief, Archeology and Ethnography Program, and Departmental Consulting Archeologist, National Park Service, Department of the Interior.

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SPECIAL REPORT: UNDERWATER ARCHEOLOGY

Raising Standards: A Modern Framework for Protecting Our Common Maritime Heritage Gordon P. Watts, John C. Neville, and Roderick Mather 16
 Some are driven by profit or adventure, others by formal research or legal requirement. Be they land managers, archeologists, or treasure salvors, all must work together or our heritage is lost.

Shipwreck Preservation in Michigan: Two Decades On John Halsey 26
 For 20 years, Great Lakes preservationists have persevered in the difficult legal and philosophical terrain between sport diving and a rich history of shipwrecks. Without funds, however, how long can they go on?

The Art of the Possible: Preserving Maryland's Maritime Heritage Joseph Flanagan 34

How one state has mobilized its talent, resources, and concern in an effort to preserve its legacy.

Underwater Archeology in Unexpected Places Daniel J. Lenihan 42
 The National Park Service is custodian of an underwater world that, in many cases, is far from any ocean.

Shipwrecks, Satellites, and Computers: An Underwater Inventory of Our National Parks Larry Murphy 46

There are 720 million acres of federal land about which little is known, archeologically. Less is known about what lies underwater. An NPS unit pioneers a high-tech tool to get a better look beneath the surface.

Heritage in Peril: A Naval Perspective William Dudley 52
 From wooden coastal raiders to nuclear submarines, the ocean bottom is rich with naval history. What the U.S. Navy is doing to protect our national treasures.

Closing the Gaps in Domestic and International Law: Achieving Comprehensive Protection of Submerged Cultural Resources

Caroline M. Zander and Ole Varmer 60
 The submerged heritage of the nation—indeed, the world—is threatened by gaps in the law. What needs to be done.

A Question of Abandonment Peter Pelkofer 64
 In 1865, the *Brother Jonathan* sank off the coast of California, joining a long line of vessels that shared a similar fate. Today, however, the ship is at the center of a contested legal case concerning the essence of the Abandoned Shipwreck Act.

Deep Dilemma Tim Janaitis and Jeff Burns 70
 In search of a WWII Japanese submarine, an ocean exploration firm wades into the ideological fray between preservation and profit.

Mutate, Migrate, Adapt, or Die Toni Carrell 72
 In the author's view, treasure hunting and archeology are competing in a Darwinian contest for survival.

This page: The curious gather around wreckage from the steam schooner *Aberdeen*, which wrecked off San Francisco in 1916.

Back cover: The wreck of the bark *Albert* at Ten Mile Beach, Point Reyes, California, January 26, 1919.

THIS PAGE, FRONT AND BACK COVERS: SAN FRANCISCO MARITIME NATIONAL HISTORICAL PARK

DIGGINGS

News, Views, and Recently Noted

What Makes a Site Significant?

REPORT REVEALS
SPECTRUM OF
VIEWS

What does it mean to say that an archeological or cultural site is significant? How, when looking at artifacts, landscapes, or old buildings, is significance defined?

The Corps of Engineers has published the first in a series of reports that deal with the complex issue. *Trends and Patterns in Cultural Resource Significance: An Historical Perspective and Annotated Bibliography* ana-



FRED BRIUER

SHIFTING SIGNIFICANCE: Texas's Bear Creek Shelter (like this shelter at Fort Hood) exemplifies the changing perceptions of significance. At one time considered insignificant, the site was declared eligible for the National Register of Historic Places after reevaluation with more recent criteria.

lyzes a spectrum of approaches used by archeologists and land managers—

in peer-reviewed publications as well as in the unpublished, narrowly dis-

tributed articles, monographs, and reports of the so-called "gray literature." Eighty-three sources were selected, ranging from 1972 to 1994, with 21 concepts regarding significance identified. Each concept is broken

down to its key points, with charts, indexes, and cross-referencing to assist the reader.

The concept that has elicited the most discussion is the idea that significance is dynamic and relative. According to this view, significance is not inherent, but changes with time and the observer. Another concept emphasizes repeated field investigations, instead of single surveys, to establish significance. Still another posits that the sites representing the greatest diversity of cultural activities are important.

The significance issue, say authors Frederick L. Briuer and Clay Mathers of the Corps' Center for Cultural Site Preservation Technology, "has neither been resolved nor disappeared," continuing to be one of the most challenging issues facing preservationists. The objective of *Trends and Patterns*, they say, is to promote broader, more efficient and objective approaches.

For additional information about the report, or to find out about other publications by the CCSPT, contact Frederick L. Briuer, U.S. Army Corps of Engineers, Waterways Experiment Station, Center for Cultural Site Preservation Technology, Attn: CEWES-EN-R, 3909 Halls Ferry Rd., Vicksburg, MS 39180-6199, (601) 634-4204, fax (601) 634-2835. His e-mail address is briuerf@ex1.wes.army.mil.

CCSPT publications are also available on the World Wide Web. The address is: <http://www.wes.army.mil/cl/ccspt/ccspt.html>.

Looking for the Confederacy's Indian Allies

RESEARCHERS SEEK
ANCESTORS OF
HISTORIC BATTLE

Pea Ridge National Military Park commemorates one of the most decisive Civil War battles fought west of the Mississippi. When Confederate troops tried to encircle a Union force, it is believed that about a thousand Indians joined them in battle.

Now, the National Park Service is beginning an ethnographic study that



PEA RIDGE NATIONAL MILITARY PARK

NATIVE COLONEL: Stand Watie, who commanded the 2nd Cherokee Mounted Rifles at the Battle of Pea Ridge, was a colonel in the Confederate army. Watie led one of two Cherokee factions created by a rift related to the 1835 Treaty of Echota and the tribe's forced removal from its homeland.



STEVE PITTLEMAN, NPS

PRESENTING THE PAST: Park Service archeologist Robert Grumet presents the culmination of a four-year theme study to former director Roger Kennedy: Grumet's book *Historic Contact: Indian People and Colonists in Today's Northeastern United States in the 16th Through 18th Centuries*. The study led to the creation of 20 new National Historic Landmarks. Kennedy called the book, published by the University of Oklahoma Press, "an excellent model for how the NPS can turn research done for commemorative and administrative purposes to wider use by the general interested public and scholars." The presentation took place in Washington, D.C., on October 25.

aims to incorporate the Native American perspective. The hoped-for outcome is more Indian involvement in interpretation and education as well as in environmental assessment. NPS cultural anthropologist Michelle Watson is seeking out Native Americans with cultural ties to the area.

The battle of Pea Ridge lasted for two days in March 1862, ending with the Union in control of Missouri, its namesake river, and the upper Mississippi—a prime objective in the war's early years. It was one of the largest battles in which Indians fought as part of a Confederate force. Alongside the Confederates were the 1st and 2nd Cherokee Mounted Rifles and a squadron of the 1st Choctaw and Chickasaw Mounted Rifles.

It is not known how today's Cherokee, Choctaw, Chickasaw, Muscogee Creek, and others view the battle, or what, if any, impact it had on shaping their culture. The number of Indians who took part eludes scholars, as does the fate of those who died. Twenty-four years before the battle, an area that is now in the park was part of the Trail of Tears, traversed by Cherokee, Chickasaw, Choctaw, Muscogee Creek, Seminole, Delaware, Yuchi, Shawnee, and others during their forced removal from ancestral homelands in the southeast. Recognizing the cultural impact of this event is also important to the study. Pea Ridge was part of the traditional lands of the Osage, Quapaw, and Caddo. Researchers seek to know if

Modern Hindsight . . .

In the course of the last 20 years, American history has been re-made," wrote Eric Foner in *The New American History*. The National Park Service has made some changes as well, revising what is called its "thematic framework." Revision of the National Park Service's Thematic Framework—1996 resulted from a workshop co-sponsored by the Organization of American Historians and the National Coordinating Committee for the Promotion of History.

Today, inspired by the social movements of the 1960s and '70s, historians have expanded their focus on great men, epic events, and the march of democracy to include the crucial role of ordinary people and everyday life. The changes have been so profound that the group charged with infusing the new scholarship into the framework concluded that an entirely new approach was needed.

The first framework, which was adopted in 1936, was conceived in terms of the "stages of American progress." Revisions followed in 1970 and 1987, but the latest change is the most definitive.

The revised framework recognizes themes that are central to the way the nation took shape, such as peopling places, social institutions and movements, expressing cultural values, science and technology, and others. This will help the NPS, working independently and with partners, to evaluate significance, enhance interpretive programs, and assess how well the themes are represented in the parks.

The framework is available on the World Wide Web at <http://www.nps.gov/history/thematic.html>; printed copies are available in limited numbers at the address below.

...And the View Ahead

The approach of a new century has been the occasion for the National Park Service to contemplate its role as preserver and educator. "We have, in effect, 369 campuses," said former NPS director Roger Kennedy. "Our chartered responsibility is to preserve and protect the wondrous places in our charge and to teach about them, as well as in them." At Kennedy's request, the National Park System advisory board's humanities review committee convened to consider ways to improve the intellectual and educational environment for the humanities throughout the Service. As a result, the committee has produced *Adapting to Change: Humanities and the National Parks*.

Kennedy sought advice on facilitating exchange between NPS and outside scholars, broadening opportunities for the intellectual enrichment of its personnel and ensuring that

interpretive programs reflect current professional methods, techniques, and interpretations in innovative and challenging ways.

Adapting to Change stresses the need to build partnerships, tapping the new scholarship that has developed in an array of disciplines, re-evaluating the structure of the Park Service itself, taking advantage of new technologies, and reflecting the nation's diverse voices.

"We stand as professionals, proud of our mission, next to other professionals who teach the same subjects in other institutions," Kennedy wrote in the foreword. "This report helps us reach out to them . . . in a grand undertaking to reinvigorate America's sense of its past and to make it more likely that an educated public will help us assure the continued preservation of the American landscape."

Adapting to Change can be found on the World Wide Web at <http://www.nps.gov/history/report.html>.

Printed copies of both publications are available in limited quantities. Contact Dwight Pitcaithley, Chief, National Register, History and Education, National Park Service, P.O. Box 37127, Washington, DC 20013-7127, (202) 343-8174, fax 343-1244. Also available in limited quantities is the 1997 directory of nearly 250 NPS historians, which will be updated regularly throughout the year on the World Wide Web at <http://www.cr.nps.gov>.



JACK ROUBIN/DAISY

the Osage, Quapaw, and Caddo consider parts of the park to be traditional cultural sites.

It is anticipated that the study would produce descriptions of sites, structures, objects, and landscapes valued by Native Americans then and now. Proposed too is a bibliography of ethnographic information on Pea Ridge to help manage the park. A list of interpretive topics would be another product.

On September 27, NPS representatives met at Pea Ridge with members of the Cherokee, Choctaw, Muscogee Creek, Seminole, Osage, Quapaw, and Delaware tribes to discuss the study and address the Civil War's effect on policy toward Native Americans. Other topics included treaties, casualties of the battle, burials, myth, folklore, the influence of missionaries, and Native American internships. In the near future, Watson will be conducting interviews and doing archival research in the states where the tribes currently reside.

To facilitate the Pea Ridge project, Park Service scholars would like to know of any current studies, theses, dissertations, or articles—published or unpublished.

For more information, contact Michelle Watson, National Park Service, Great Plains System Support Office, Midwest Archeological Center, Federal Building, Rm. 474, 100 Centennial Mall N., Lincoln, NE 68508-3873, (402) 437-5392, fax 437-5098, e-mail michelle_watson@nps.gov.

Site Watch

Protecting the Nation's Archeological Heritage

Retired Professor Sentenced in Vatican Case

THEFT FROM ANCIENT TEXTS INVOKES CHARGE UNDER ARCHAEOLOGICAL RESOURCES PROTECTION ACT

Anthony Melnikas, a former professor of art history at the University of Ohio, was a familiar sight at the Vatican Library. With special access to its rare medieval manuscript collection, Melnikas was described as "like a piece of furniture," and was often



TIM REVELL, COLUMBUS DISPATCH

alone with the objects of his passion.

On November 15, Melnikas was sentenced by a U.S. District Court judge in Columbus, Ohio, after pleading guilty to eight federal charges stemming from the theft and attempted sale of six ancient manuscript pages from the Vatican and the libraries of two cathedrals in Spain. The case marked the first ARPA prosecution for trafficking in artifacts from foreign lands. The charges were one count of violating ARPA plus four counts of possessing stolen property and three of concealment of smuggled property. Melnikas received 14 months in federal prison, 250 hours of com-

FROM ROME TO OHIO: U.S. Customs agent Mark Beauchamp lays out four of the 600-year-old pages taken by retired OSU professor Anthony Melnikas.

munity service, two years supervised release, a \$3,000 fine, and as yet undetermined restoration costs. The prosecution was led by Michael Marous, Assistant U.S. Attorney for the Southern District of Ohio.

Melnikas aroused the suspicion of a rare book dealer in Akron in May 1995, when he asked him to find buyers for two pages from an ancient document. The pages turned out to be from a manuscript commissioned by the 14th century poet-philosopher Francesco Petrarch, and contain his handwritten notes.

The dealer, Bruce Ferrini, contacted the U.S. Customs Service. Ferrini valued the two pages at \$500,000, describing them as "the best . . . to come on the market in this century." A third

page, that, like the others, had been slit from the bound Petrarch manuscript, was found in Melnikas' home. Investigators believe he took the pages in 1987.

Melnikas had done business with Ferrini earlier, in March 1994, when he placed two other ancient pages with the dealer. Ferrini claims that there was nothing particularly remarkable about them and there was no way for him to know they had been missing from the library of a cathedral in Toledo, Spain, since at least 1973. Records show Melnikas visited that library in 1965.

One of those pages, sold to a collector in Europe, is due to be returned to Toledo. The other was recovered in Melnikas' home by investigators. Two other pages, stolen from a library in Tor-

tosa, Spain, had also at one time been shown to Ferrini. They, too, were found at the Melnikas residence.

On each of the four charges of possessing stolen property, Melnikas faced a maximum penalty of ten years in prison. The smuggling charges could have brought five years, and a first-time ARPA felony is punishable by a maximum of two years. Each of the eight counts could have resulted in a fine of up to \$250,000.

Edmund A. Sargus, Jr., U.S. Attorney for the Southern District of Ohio, credited international cooperation in the case, which was investigated jointly by Vatican, Italian, Spanish, and Interpol officials as well as the U.S. Customs Service and the Departments of State and Justice. Dennis Kennedy

of the U.S. Attorney's Office for the Eastern District of Virginia and the Department of the Interior provided special assistance in prosecuting the case as a violation of ARPA.

Pottery Recovered from 22-Year-Old Heist

BUT MYSTERY REMAINS

Pottery stolen from Georgia's Kolomoki Mounds State Park in 1974 occasionally resurfaces. Of the 129 items taken in the burglary, 12 were recovered in 1978, and in 1986,

Tip Leads to Ill-Gotten Stash

Wealth of Artifacts Discovered

On May 20, Mark Brubaker, 30, and Kathryn Preis, 37, both of Santa Barbara, California, pled guilty in state court to misdemeanor charges arising from the theft of Chumash artifacts and a pygmy mammoth femur from Channel Islands National Park. They also removed artifacts from archeological sites on state park lands.

The guilty pleas were the culmination of a multiyear investigation conducted by NPS criminal investigator Todd Swain and rangers from Channel Islands with cooperation from Joshua Tree National Monument, the state, and Santa Barbara County. Brubaker and Preis, his girlfriend, pled to charges of receiving stolen property and unauthorized acts on public lands. The case was prosecuted by Lee Carter of the Santa Barbara District Attorney's Office.

In January 1995, Channel Islands Chief Ranger Jack Fitzgerald received an anonymous phone call informing him that Brubaker had a large collection of artifacts, including human remains. Brubaker had been cited for surface collecting at Channel Islands in 1993, and fearing his house was going to be searched as a result, had moved his sizeable collection to another place. Undercover Park Service agents paid numerous visits to Brubaker and Preis, during which they figured out where the artifacts were hidden. A search warrant was served in July 1995 by NPS and California park rangers and local deputies.

Hundreds of artifacts were recovered from Brubaker's residence, some of which were mounted in display cases. The pair had been collecting for many years. Each was fined \$700 and sentenced to three years' probation. The entire collection was forfeited to the U.S. government.

DESERT THIEVERY: Investigators from Joshua Tree National Monument, who helped out with the Channel Islands case reported here, have much to contend with closer to home. Top, looter's holes on BLM land near Joshua Tree; bottom, booty from a private home.



NINETY YEARS AND COUNTING: The November issue of CRM, the Park Service preservation journal, has a special section on the Antiquities Act, passed 90 years ago to preserve national treasures such as Montezuma Castle (above). The statute laid the basis for much of today's preservation law and policy.

Three articles make up the segment: "The Antiquities Act: Setting Basic Preservation Policies," by Francis P. McManamon; "In Defense of Digging: Archeological Preservation as a Means, Not an End," by William D. Lipe; and "The Antiquities Act: Regulating Salvage of Historic Shipwrecks," by Caroline M. Zander.

The December issue, which focuses on forensic archeology, will also be of interest to readers of Common Ground.

To obtain copies or to subscribe to the free publication, contact Karlota Koester, Production Manager, CRM, National Park Service, P.O. Box 37127, Washington, D.C., 20013, (202) 343-3395, fax 343-5260, e-mail koester_karlota@nps.gov.

authorities located another. Now, investigators from the Florida game and fresh water fish commission have turned up another two.

Photographs of two effigy pots were given to a Florida taxidermist by a man who was interested in selling

them. The taxidermist, who collects artifacts, contacted archeologist Ann Cordel of the State Museum of Natural History, who, in turn, notified the commission, which has been active in investigating cultural property crimes such as the looting

of the Civil War battlefield at Olustee (see spring 1996 Common Ground).

The investigation led to Thomas Duddy of St. Petersburg, who had been showing photographs at artifact shows and other venues. Duddy's mother purchased the pots at a flea market three years ago. Duddy, unaware the pots had been stolen, is not being charged.

Though the two pots were returned to Kolomoki, authorities are no closer to finding out who committed the burglary 22 years ago. According to the commission's Captain John Moran, "Everything we seem to come across happened years ago, and a lot of the people involved are dead."

Kolomoki is one of the oldest large mound sites in



GA. DEPT. OF NATURAL RESOURCES

One of the Kolomoki artifacts that resurfaced 22 years after being stolen.

Georgia. The 1,500-year-old pots, which feature likenesses of birds, were excavated from the site in the 1950s. The Georgia department of natural resources is working on a brochure publicizing the missing pots in the hopes of bringing about their retrieval. The returned effigy pots will be included in the department's inventory of items required by the Native American Graves Protection and Repatriation Act.

continued on page 12



HOW OLD IS enough?

Court Rules Artifacts

Belong to the U.S., But Case

Raises a Question of Age

A recent federal case in Texas has brought to the forefront the fundamental issue of how old an artifact must be to qualify as an "archeological resource" under federal law. According to the Archaeological Resources Protection Act, an item qualifies if it is 100 years old. But some agencies—such as the Forest Service—consider material remains 50 years old and up to be archeological resources as well. In the case of Billy Ray Shivers, a U.S. Circuit Court of Appeals has taken note of the discrepancy in the regulations.

OVER THE YEARS, Billy Ray Shivers' East Texas Treasure Hunters Association made regular visits to Angelina National Forest. Using metal detectors, the group searched the site of a 1903 lumber mill and associated buildings (pictured here) and in the process dug 547 holes. In March 1992, a Forest Service agent detained Shivers and two others, seizing several items, including 19 old tokens with which the lumber company had paid its employees (the tokens served as scrip, which could be exchanged for goods).

The Forest Service contemplated criminal charges against Shivers, but abandoned the idea when problems arose with the warrant used to search his house. The U.S. Attorney for the Eastern District of Texas authorized return of property seized during the search—except for the tokens, deemed the property of the United States. Shivers took the government to court to get the tokens back.

In a motion before a U.S. magistrate judge, he argued that the tokens did not qualify as what ARPA calls "archeological resources" (ARPA; 16 U.S.C. 470bb[1]), since they were not 100 years old. While acknowledging that the Forest Service 50-year regulation (36 C.F.R. 261.2) includes the tokens, Shivers, relying on case law, contended that when there is a conflict between the intent of Congress and the regulations of a federal agency, the court is obliged to enforce the will of Congress, which, in this case, would mean ARPA provisions precluding all others.

He also argued that coins are excluded from ARPA's reach (16 U.S.C. 470kk[b]). The law actually says that coins are not archeological resources per se, but can be considered such if found in a direct physical relationship with other archeological resources (see 36 C.F.R. 7.3[a][1] and 7.4[a][4][i] and [ii]).

In opposing Shivers' motion, Assistant U.S. Attorney Thomas Kienhoff made the case that though ARPA could not be applied to Shivers' conduct, Congress and the Secretary of Agriculture have the authority to control the use of

national forest lands both by law (16 U.S.C. 551) and the "Property Clause" of the Constitution. Kienhoff argued that the Forest Service 50-year rule was a reasonable and prudent exercise of the agency's authority to manage its lands. In any case, he maintained, the validity of the Forest Service regulation was irrelevant, since Shivers could have been prosecuted for theft of government property (18 U.S.C. 641).

In his recommendation to the district court (*Matter of Shivers*, No. 1:92-M-148 [E.D. Tex. May 8, 1995][1995 WL 293188]), the magistrate stated that the real issue was ownership of the tokens, not the validity of the 50-year rule or whether Shivers could have been prosecuted for general theft. The question then became one of which side could prove "lawful possession." The magistrate found that ARPA itself does not grant title to archeological resources (49 Fed. Reg. at 1024).

Moreover, case law implies it is ownership of the soil, not the status of items as archeological resources, that vests title.

Under property law, the tokens fit the definition of "abandoned property" since they were deserted by their original owners without the intent of ever recovering them. Therefore, in the absence of a transfer of title, the common law of finds—the "finders-keepers" rule—would normally give the finder title to such property.

There is an exception to the finders-keepers rule, however: when abandoned property is embedded in the soil, it belongs to the owner of the soil. Thus, the magistrate concluded that the tokens belonged to the United States, which is the landowner, and denied Shivers' motion. That recommendation was

accepted by the U.S. District Court for the Eastern District of Texas (*Search and Seizure of Shivers*, 890 F. Supp. 613 [E.D. Tex. 1995], *reconsideration denied*, 900 F. Supp. 60 [E.D. Tex.]).

Shivers took his case to the U.S. Court of Appeals for the Fifth Circuit, arguing that if the tokens were not archeological resources for purposes of ARPA, then ARPA did not apply to the collection of the tokens. To Shivers, this meant that ARPA authorized individuals to remove coins—and tokens—less than 100 years old from public lands. He also tried to invoke the "arrowhead exception" (ARPA exempts arrowheads on the surface of the ground because their removal can be penalized under other regulations).

The Fifth Circuit affirmed the district court's judgement (*United States v. Shivers*, 96 F.3d 120 [5th Cir. 1996]). It ruled that ARPA (16 U.S.C. 470kk[b]) did not divest the United States of ownership of the tokens, nor did it say anything about non-archeological resources since they are not even covered under the act. The court rejected the "arrowhead exception" as well, ruling that it was not intended to encourage the removal of arrowheads from public land, and besides, Shivers and his group dug for most of the artifacts. The court also affirmed the "embeddedness rule" of property ownership.

The opinions of the District Court and the Fifth Circuit both took note of the conflict between ARPA and the Forest Service regulation. In fact, the magistrate wrote in his opinion that he was inclined to accept Shivers' argument regarding the invalidity of the 50-year rule, which, though not binding, can have some impact in future cases. The Shivers case raises an important issue that land managers may want to address soon.

[The plaintiff] contended that when there is a conflict between the intent of Congress and the regulations of a federal agency, the court is obliged to enforce the will of Congress ...

THIS PAGE, LEFT: ANGELINA NATIONAL FOREST



BIG BEND NATIONAL PARK

Pothunters Nabbed at Texas's Big Bend

REMOTE PARK GETS SHARE OF LOOTING, VANDALISM

In March, an Austin man previously investigated for pothunting at Big Bend National Park returned again to try his luck. He wound up in a U.S. courthouse instead.

Charles Sheldon's luck soured when his white-and-bronze pickup, parked at Big Bend, jogged the memory of Ranger Bill Wright. He and Ranger Stephen Spanyer immediately set up surveillance. Twenty minutes later, they spotted four people wandering slowly through the sparse vegetation. Using binoculars, the rangers watched as the four picked objects up off the ground, tossed some back, and put others into plastic bags.

The rangers went to a junction in the road to intercept the party. There, they stopped a vehicle occupied by Charles and Phyllis Shel-

don and Vincent and Judy Hensel. A search produced 38 archeological, cultural, and natural specimens. Although the Hensels said they didn't know of laws prohibiting collecting such items from federal land, Mr. Hensel admitted he did after three projectile points were found concealed in a half-full box of Kleenex. Sheldon said he brought the Hensels to Big Bend because they weren't having any luck finding artifacts elsewhere.

According to park archeologist Thomas Alex, the items collected were "a hodgepodge of lithic material" that, though relatively

RUIN-ATION: A San Antonio gang left its signature spray-painted on the inside walls of Big Bend's Livingston House, above.

insignificant, had now been stripped from their archeological context, the story they could have told about the place thus lost. The collectors also picked up a butcher knife—once favored by the region's cowboys—along the trail.

The Sheldons and Hensels appeared on March 11 before Magistrate-Judge Katherine Baker at the U.S. Courthouse in Alpine, Texas. Each was found guilty of possessing archeological

resources (36 C.F.R. 2.1) and fined \$100. According to Alex, a few sites at Big Bend have been excavated by looters, but rangers have yet to catch anyone at it. Some of approximately 40 known rock art sites have been spray-painted with graffiti, as have some of the park's historic buildings.

Burglars Hit Indian Museum

COLLECTION OF WOVEN BASKETS MISSING

The Native American-operated Sierra Mono Museum in North Fork, California, was burglarized in early August, with thieves removing 70 to 100 Indian baskets and at least one ceremonial obsidian blade. The baskets, made by the Mono Indians—who also run the small museum—were taken from display cases and storage areas in the late evening hours of August 8 or early morning hours of August 9.

The baskets, which were used for cooking and are passed down from one generation to another, are described by museum officials as "of tremendous value" on the art market. "All the ones they took were in excellent condition," says Cultural Specialist Lois Conner. "We're just hoping it was a local heist and [the thieves] are scared and don't know what to do with them."

The museum and the Madera County sheriff are appealing to art dealers, the academic and preservation

Little Bighorn Souvenir Returns to Haunt

While strolling near Little Bighorn's Last Stand Hill, Joseph Anderson made a startling discovery: a pair of binoculars lodged in the hard-packed soil. Kicking them free—and breaking one of the lenses in the process—he took them as a memento. It was a keepsake that would have serious consequences.

This June, over two decades later, the park received an anonymous phone call from someone who had seen the binoculars in 1991 in the office of a trucking company where Anderson worked. Anderson had told this person where the binoculars came from, and, according to NPS investigators, the information had troubled the caller for years. The agents convinced the informant to call Anderson—to see if he still had the binoculars—while they taped the conversation.

The informant told Anderson that he was interested in buying the binoculars as a gift for his father. A meeting was arranged between Anderson and an agent posing as the father. Anderson sold the agent the binoculars for \$5,000, provided a sketch showing where they were found, and offered to write a statement of authenticity in case the purchaser wanted to re-sell them.

Anderson was served a search warrant and the binoculars and



KEEPSAKE WITH CONSEQUENCES: In this formal portrait, General George Armstrong Custer poses with binoculars resembling the pair stolen from Little Bighorn's Last Stand Hill.

money were seized. Since the crime took place before ARPA was enacted, he cannot be charged with theft under the statute. He can, however, be charged under the trafficking provisions of ARPA. Charges are pending.

Agents confirmed that Anderson once worked as a seasonal ranger at Yellowstone, and that items he owned—such as a cannonball and belt buckle—came into his possession under "questionable circumstances."

communities, and the public to come forward with information. Museum staff can

provide photos and descriptions of the items. Contact Anna Dandy, Sierra Mono

Museum, P.O. Box 275, North Fork, CA 93643, (209) 877-2115.

LITTLE BIGHORN NATIONAL BATTLEFIELD

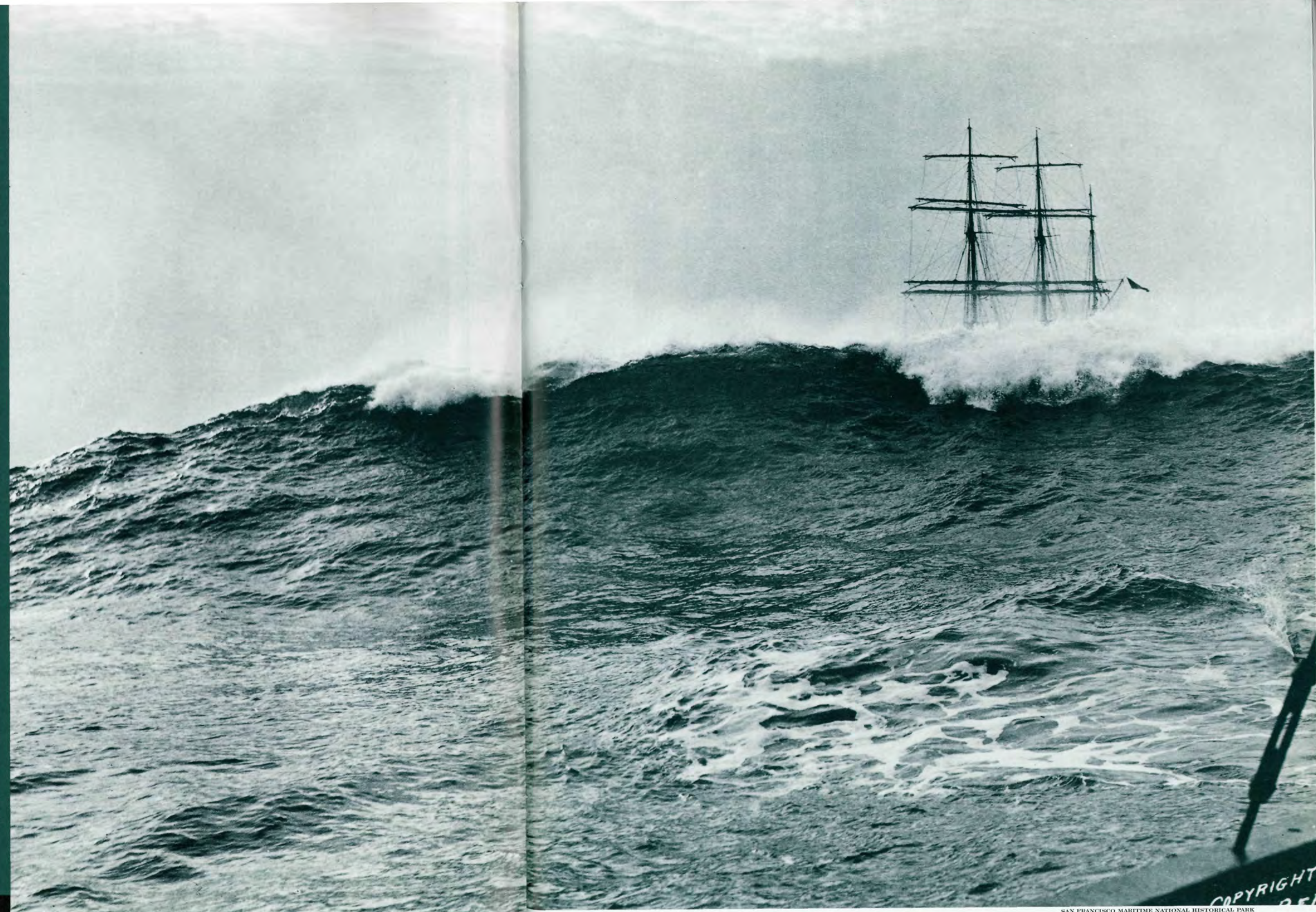
Public awareness, interest, and support for submerged cultural heritage is one of the most dynamic aspects of historic preservation today. In particular, recreational diving communities are among the most energetic participants in preservation of these kinds of resources precisely because they want to ensure that their children and grandchildren in the future will have the same extraordinary underwater discovery experiences as themselves.

Often, those experiences are extraordinary because preservation of underwater sites is both incredible and fragile. New and better developed submerged cultural resources programs are needed as larger and more varied groups increase their participation. Additionally, the Abandoned Shipwreck Act is a relatively new tool by which federal and state agencies can cooperate to improve heritage preservation in the public interest. Submerged cultural resources managers, especially those in state historic preservation offices, have met these challenges head on, in many instances with little or no substantial increases in available staff and funds.

This issue of *Common Ground* is about current trends in submerged cultural heritage: the status of program development, growth in research method and theory, technology transfer, long-term protection, and the thrilling opportunities just around the corner. It is clear that with imagination and care, we can open new directions into better appreciation of our shared pasts underwater.

—RICHARD C. WALDBAUER

RIGHT: BARK UNDER TOW, 1912.



SAN FRANCISCO MARITIME NATIONAL HISTORICAL PARK

SPECIAL REPORT
UNDERWATER
ARCHEOLOGY

A FRAGILE HERITAGE

RAISING Standards

A MODERN FRAMEWORK FOR PROTECTING
OUR COMMON MARITIME HERITAGE

Since the dawn of recorded history, there have been seafarers. Our common maritime heritage is based on nautical traditions that have evolved over several millennia. Today, shipwrecks and the remains of docks, wharves, and harbors represent the most extensive and complex source of new information about our nautical past. Although largely untapped, the archeological record associated with this legacy has already rendered new insights into the history of seafaring. In the years to come, rapidly growing interest in research of this area promises to add

dramatically to what we know today. But maritime archeological sites, finite and irreplaceable, are being disturbed and, in some cases, destroyed, at an increasing rate. The seriousness of this situation demands that these sites be effectively preserved and managed, and that the public be better educated about their importance.

Those who investigate wrecks and other submerged sites fall into three general categories: treasure salvors, academic archeologists, and archeologists working for public agencies. Each has different—and sometimes com-

peting—interests, methods, and goals. Since salvage and excavation necessarily result in the destruction of a site, all three groups must share responsibility for the proper recovery

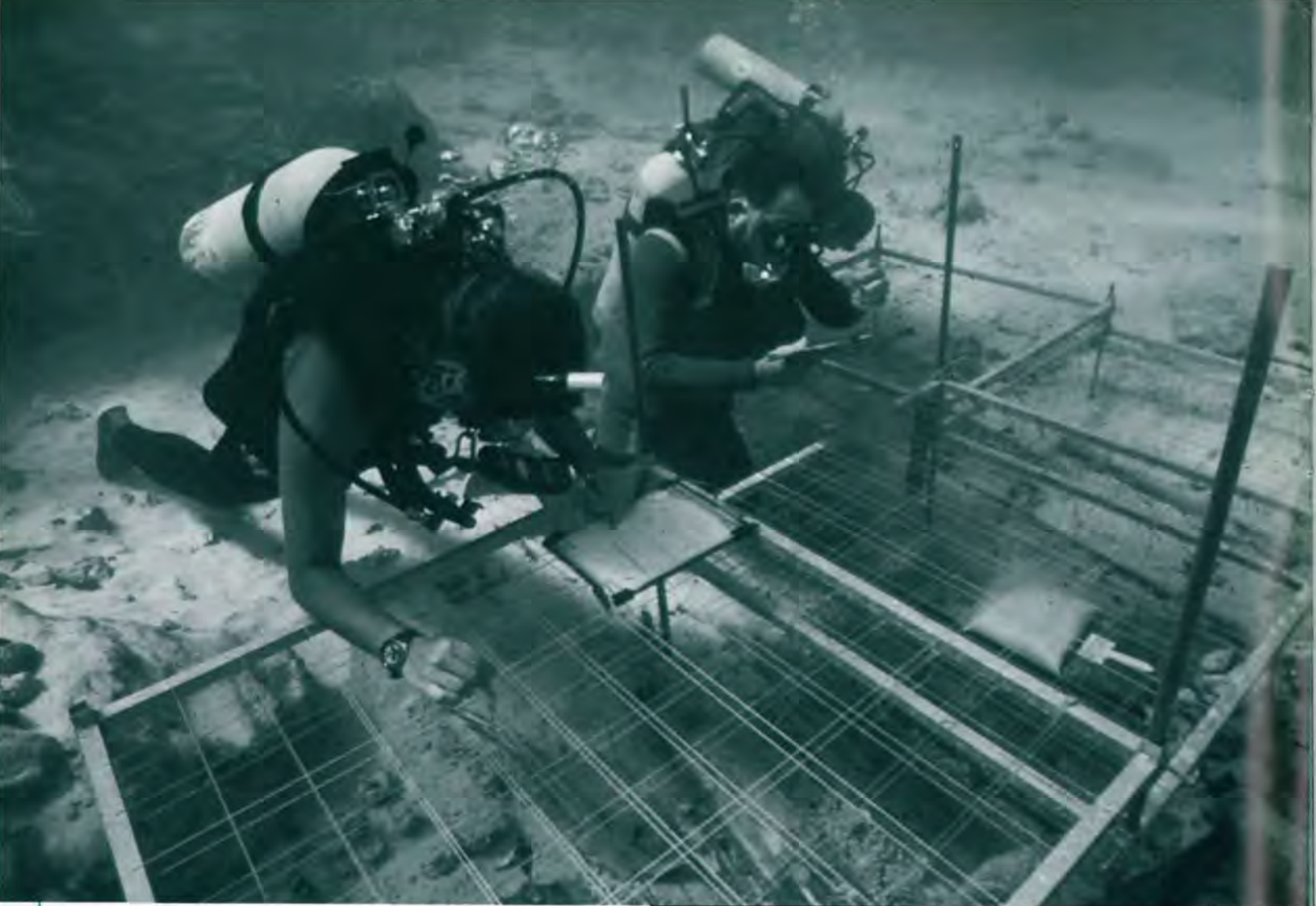
of any information that it may yield. In this article, we examine the approaches of each of these groups. Then we recommend ways to dovetail their interests, raising the standards for managing, excavating, documenting, and interpreting these fast-disappearing remains of our maritime heritage.

BY GORDON P. WATTS, JR., JOHN C. NEVILLE, AND RODERICK MATHER

RIGHT: ARCHEOLOGY STUDENTS FROM EAST CAROLINA UNIVERSITY TRAIN WITH A FIBERGLASS MODEL WRECK.

TIDEWATER ATLANTIC RESEARCH, INC.





LEFT AND RIGHT: TIDEWATER ATLANTIC RESEARCH, INC.

THREE APPROACHES TO INVESTIGATING SHIPWRECKS

ABOVE: WORKING ON A 16TH CENTURY WRECK IN BERMUDA;
RIGHT: ARTIFACTS FROM SAVANNAH'S FIG ISLAND WRECK.

The history of salvage is old as seafaring itself. The concept of the shipwreck as a source of salvage is tied to traditional rights developed in admiralty law to reward the saving of lives and the recovery of valuable property. Admiralty law has long been used by salvors to assert their right to shipwrecks. This is in direct conflict with the more recent concept that shipwrecks and other submerged sites are historic entities to be protected and investigated as part of the public trust.

Attempts to resolve this conflict have focused on both litigation and legislation. Today, most state and federal laws recognize the interests of salvors, archeologists, and the diving public. Unfortunately, in states where treasure hunting is well established, the traditions of the salvor survive despite the loss of historic shipwrecks and significant amounts of archeological information. Salvage programs have done virtually nothing to protect the historic value of these wrecks, which are frequently destroyed in the search for treasure, with little or no regard for documentation of the site. Generally, artifacts are inadequately preserved and catalogued.

To further complicate matters, recovered artifacts are often dispersed when they are divided between the salvor and the gov-

ernment agency overseeing the operation. The salvor disposes of his "share" in order to pay expenses and the oversight agency places the rest in state-maintained collections. Frequently, however, there are not sufficient funds for curation or exhibition. Traveling exhibits, when they are done at all, are usually attempts by salvors to raise the market value of their "treasure." Books, similarly, often tout the idea of wreck hunting. Thus, with the exception of a few small museum exhibitions, there is little public benefit to justify the damage done.

Since the realization that shipwrecks represent an invaluable source of archeological and historical information, a considerable amount of legislation has been passed to remove them from the jurisdiction of admiralty law. Based largely on the Antiquities Act of 1906, legislation such as the Archaeological Resources Protection Act, the National Historic Preservation Act, the Archeological and Historic Preservation Act, and the Abandoned Shipwreck Act created requirements for the preservation of submerged sites. The result: an increased demand for underwater archeological research to comply with the preservation dictates of these laws. Predicated on the concept that underwater wrecks and ruins are publicly owned and of historic value, this type of research—contract archeology—has generated the largest

"ADMIRALTY LAW HAS LONG BEEN USED BY SALVORS to assert their right to shipwrecks. This is in direct conflict with the more recent concept that shipwrecks and other submerged sites are historic entities to be protected and investigated as part of the public trust."

amount of information and material from archeological sites.

As a consequence of its legislative origins, contract archeology takes place only when sites are threatened by development. For example, when improvements in the Savannah River recently threatened a number of historic shipwrecks along the riverbank, the U.S. Army Corps of Engineers commissioned a comprehensive program of excavation and documentation before the sites were destroyed. The work produced valuable insight into the maritime heritage associated with Savannah, Georgia's most significant port. If the sites had not been in danger, the research would not have taken place.

The legislative basis of contract archeology also requires that investigations be conducted to professional standards. Following the completion of field work and data analysis, reports are filed with the contracting agency and the state historic preservation office. Often, these reports have limited availability, and are not then "translated" or made available to the general public in other ways. Similarly, even when artifacts are fully stabilized, documented, catalogued, and curated (and often they are not) access to collections is limited. Contract archeologists deal with an exceptionally wide range of subject matter and produce a prodigious amount of information. However, because the circulation of this data is so limited, much of the work remains obscure.

Academic archeological projects, although not as numerous as those done under contract, usually generate the highest caliber final product. Academic archeologists are able to choose a site based on its significance alone. Unlike contract archeologists, they are not subject to the demands of a construction crew waiting to build a highway through the site, nor are they driven by financial profit, like salvors.

Academic research does frequently suffer, although to a lesser degree, from the same limited exposure as does the results of contract archeology. Although a few significant sites get widespread attention through publications and occasional film documentaries, the final product of much academic research is circulated only among a relatively small group of peers. Also as in public archeology, access to academic collections is limited. Only select artifacts and information end up interpreted for the public in museum exhibits.

LOOKING FOR SOLUTIONS

Clearly, there is a critical need for uniformly high standards of site management that can be applied across the spectrum of those

who investigate shipwrecks and other underwater archeological sites. Although it is true that sites are protected to some degree, further steps need to be taken to avoid squandering, or losing altogether, the evidence of our maritime heritage found only in the archeological record.

FIRST STEPS. An appropriate first step would be to strengthen contract requirements on salvors and treasure hunters carrying on the tradition of "wrecking." Like archeologists, salvors should share the responsibility for recovering the information from the sites they disturb. Therefore, regulatory agencies must require that salvors maintain the same level of site documentation as archeologists. Standards for mapping and recording should be spelled out in salvage contracts.

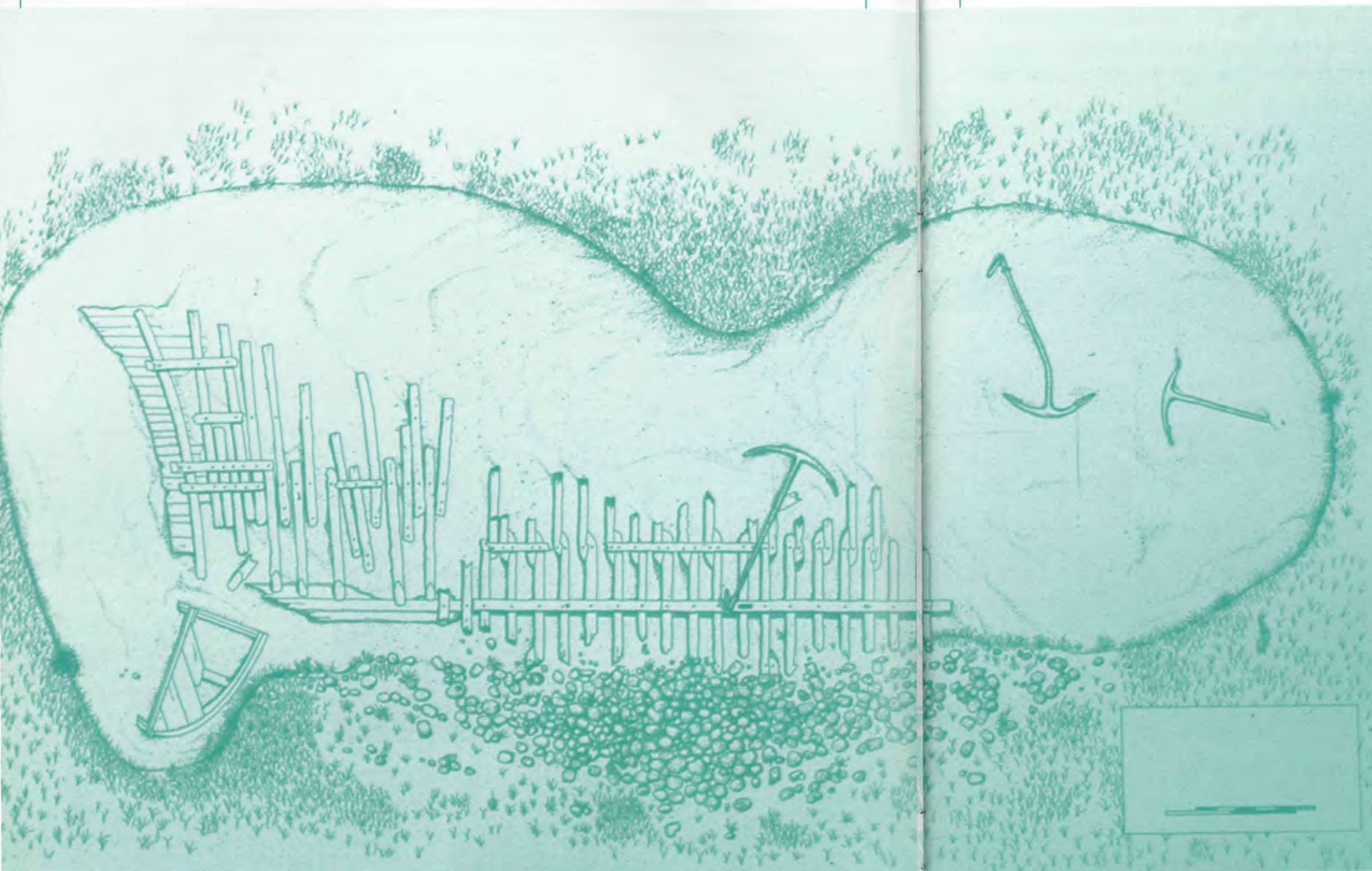
In contract archeology, after sites are documented, they are often destroyed by the bridge building or channel dredging that follows. In cases where a site is deemed significant enough for nomination to the National Register of Historic Places, development plans can be redesigned to avoid destruction. In other cases, it is possible to remove, preserve, and display remains of shipwrecks without incurring unacceptable costs.

The remains of the lumber schooner *Lottie Cooper*, identified during a contract archeological survey of the harbor at Sheboygan, Wisconsin, were raised prior to dredging and turned into an on-shore exhibit. Today, the vessel gives the public a unique view of Sheboygan's maritime heritage. Shipwrecks, which preserve a tremendous amount of technological and historical information, elicit a great amount of public interest. For

those reasons, preserving them should be seriously considered in cases where it is practical to do so. Where that is not possible, wrecks could be reburied so they will be available for future study.

Another option is to reconstruct and develop sites for the diving public. A number of wrecks in U.S. and Canadian waters, set aside for that purpose, are very popular [see the articles by John Halsey and Joseph Flanagan in this issue]. In Minnesota, the Great Lakes Shipwreck Preservation Society repaired structural deterioration that threatened several wrecks in Lake Superior. Now divers can safely explore them. Reconstructed sites such as these can also provide important opportunities for public education and training. Minnesota, Wisconsin, Maryland, North and South Carolina, and Florida have organized activities for sport divers interested in learning about the methods of shipwreck archeology.





ARCHEOLOGIST'S RENDERING OF WHAT IS LEFT OF FLORIDA'S TURTLE SHOAL WRECK. THE REMAINS OF THIS 16TH CENTURY VESSEL WERE DESTROYED BY SALVORS.

MAKING THE RESEARCH AVAILABLE. Making sure the results of research and excavation get exposure has always been one of the archeologist's mandates. Traditionally, this has meant publications—both professional and popular—and museum exhibits. Yet, in spite of a great interest in maritime archeology, the bulk of research is out of sight to the general public. Even when a group like the Institute of Nautical Archaeology provides

access to its work—as it has at Turkey's Museum of Underwater Archaeology—articles about it in *National Geographic* reach far more people. Beyond a few notable publications, however, the public has little opportunity to understand the field without plowing through a mass of hard-to-find professional literature.

This could change with the revolution in communications and information technology. With the Internet, 3D imaging, Geographic Information Systems, CD ROM, and virtual reality, the possibilities for sharing archeological research with the public seem endless.

THE INTERNET. Through the Internet, every excavation could be available to anyone with access to a computer. This has already

been done on a limited, ad hoc basis. For example, an Internet site on Italy's Poggio Colla Etruscan excavation gives the viewer an excellent overview of the site as well as a much more detailed perspective if desired. In a similar vein, the Mary Rose Trust maintains an award-winning web site on its namesake, a 16th century warship.

Disseminating information over the Internet should be a standard part of archeological research. This is not to say that web sites should replace conventional, high quality publications. Rather, they should complement them. The web site could serve as an introduction to the project, whetting the viewer's appetite for more detailed information available in print.

As with publications, there should be standards for web site development. Just as an archeological site tells a story, so should its web site follow a format designed to use maps, site plans, photographs, and professional and personal narratives. More than a

"DISSEMINATING INFORMATION OVER THE INTERNET should be a standard part of archeological research."

static collection of images, the web site should change and expand as the excavation reveals new information.

These standards might be developed through a survey of the archeological community. At a minimum, a stock "fill in the blanks" web site package could then be developed based on the consensus. The highest quality web sites would, no doubt, enlist professional web site developers and designers.

Of the three groups, contract archeologists would probably benefit most from the Internet, given the amount of information their projects yield. Major investigations of wrecks in the Savannah River's Fig Island Channel, the 19th century schooner known as the "Hilton Wreck" in North Carolina's Cape Fear River, and the Confederate ironclad *Fredericksburg* in Virginia's James River, could all be part of a universally available body of archeological knowledge.

With agreed upon standards, web sites could become a common part of an archeological project, submitted as part of the final report. It might even be the contractor's responsibility to maintain the final product on-line. Alternatively, a central electronic library could be established, perhaps at a university or research institute, to maintain web sites and act as an information clearinghouse. Submission of reports to this library, in a web format, could be made a requirement of any public project.

GEOGRAPHIC INFORMATION SYSTEMS. One of the most useful and important management tools recently developed for the computer is the Geographic Information System, which can be used to store, sort, and recover geographic data. Powerful GIS software can be run at relatively low cost on desktops. GIS can contain maps, images, and other information related to archeological sites. Such a system can be used to assess options in land management as well as the likely impact of proposed development on archeological sites and historic properties.

California's historic preservation office has such a system; Tide-



"THE PRINCIPLE ADVANTAGE of CD ROMs is their vast data storage capacity . . . the user could explore the wreck, see underwater video, learn about the vessel's history, watch the excavation in progress, and view artifacts both in situ and after they are conserved."

water Atlantic Research, Inc., has designed them for Charleston Harbor and the James River. They can also be used to manage individual sites. The Institute for International Maritime Research has recently begun work on a GIS system to manage the USS *Monitor*. With GIS data increasingly exchangeable from one software package to another, a state could compile a central database of all its archeological sites in a uniform format. Site plans, documentation, and artifact analysis could be offered to the user in standardized categories of information.

3D IMAGING AND VIRTUAL REALITY. The future of 3D imaging and virtual reality in archeology shows no bounds. While 3D imaging is still an expensive and time-consuming process in its most advanced form, high quality, near-affordable software pack-

in digital format, it may be practically and ethically possible to dispose of or re-bury all but a representative sample.

Computers, of course, will never replace the artifacts themselves. Nor can an image replicate the connection with our ancestors that comes through physical contact with an artifact. Three dimensional imaging, however, could still revolutionize collections management. Future collections could be a fraction of their former size. Ultimately, it should be affordable to create a virtual site with all its artifacts and features in place. The researcher could then attempt reconstruction and experimental archeology through the computer.

CD ROM AND MULTIMEDIA. CD ROMs can be used in a variety of ways to give scholars and the public greater access to our maritime heritage. The principle advantage of CD ROMs is their vast data storage capacity. It is now possible to store site plans, text, drawings, photographs, even entire artifact inventories on compact discs.

This technology offers exciting possibilities for developing multimedia learning tools for children and the public at large. A shipwreck presents the ideal subject. The user could explore the wreck, see underwater video, learn about the vessel's history, watch the excavation in progress, and view artifacts both in situ and after they are conserved.

Archeologists should give careful consideration to creating educational CD ROMs of this nature. A series of them in every school library could do more in a week to protect the future of wrecks and other underwater sites than a decade of lectures and school visits.

A LEGACY AT RISK

For much of human history, waterborne transportation was the only means of international and intercultural exchange. As a consequence, maritime research and underwater excavations have a truly international audience and global relevance. It is a heritage that belongs to us all. Whether sold by salvors, hidden away in storage cabinets, buried in academic obscurity, or dredged into oblivion, it stands to become a national loss.

For more information, contact the authors at the Institute for International Maritime Research, P.O. Box 2494, Washington, NC 27889, (919) 975-6659, fax (919) 975-2828, e-mail: iimr@coastalnet.com.

LEFT: THE FIG ISLAND WRECK IN SAVANNAH; ABOVE: ARCHEOLOGISTS DOCUMENT A WRECK IN LAKE SUPERIOR.

ages for personal computers are commonly available. It is now possible to create 3D images of artifacts, features, and sites and store them digitally. Digitizers are available consisting of a mechanical arm and stylus for outlining the structure of 3D objects.

As a result of these advances, artifact collections can now be analyzed on the computer rather than in the laboratory. Experts around the world can examine the same collection simultaneously.

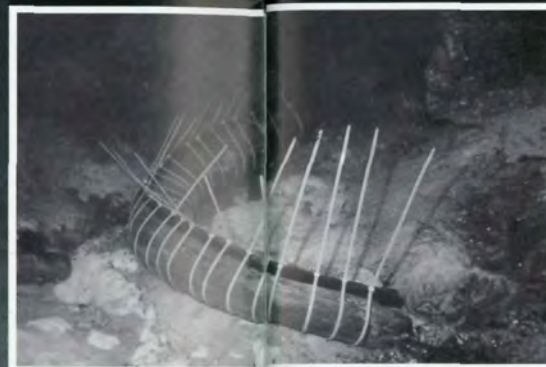
Frequently faced with vast numbers of artifacts, archeologists perpetually debate strategies for managing collections. After objects are documented, the choices for maritime archeologists are redeposition, storage, disposal, or display. As we have seen, it is a near impossible task to conserve and store all finds from a site. Storage of artifacts as 3D images, however, could alleviate some of these problems. With all artifacts documented and stored



TIDEWATER ATLANTIC RESEARCH, INC.



UNDER



WATER

THE DISCOVERY OF A HANDFUL OF chert flakes in Florida would be a mundane find under normal circumstances. What excited archeologists was the fact that they were found at Ray Hole Spring, a sinkhole over 20 miles offshore and 35 feet underwater. The site has been the focus of study ever since. Ray Hole Spring is within the jurisdiction of the Minerals Management Service, which has investigated the site with assistance from Florida State University and the Florida Bureau of Archaeological Research. It is believed to be the farthest offshore prehistoric site recorded anywhere. Projects like Ray Hole Spring are blossoming across Florida, which probably has the highest concentration of submerged prehistoric sites in the United States. These investigations are producing new information about early paleoindian presence in North America.

According to Jim Dunbar of the Florida Bureau of Archaeological Research, the state's rivers, swamps, and coast contain an "untapped prehistoric potential." The Aucilla River Project, which has been underway since 1983, has turned up a wealth of paleoindian and early Archaic artifacts, including flints, Clovis points, fluted points, and ivory foreshafts. Substantial remains of Pleistocene and early Holocene fauna are also present, which is unusual east of the Mississippi, says Dunbar.

His overtures to the diving public resulted in the professional investigation going on at Aucilla today. Public cooperation has been one of the project's hallmarks. When it started there were 22 submerged prehistoric sites recorded in the state. Four years later, there were an additional 46 in the Aucilla River and offshore from its confluence with the Gulf of Mexico.

The Aucilla study, which is being conducted by the state's museum of natural history, has been funded by the National Geographic Society since 1987. More recently, the project has received three substantial grants from Florida's division of historical resources. Dunbar and the museum's curator of vertebrate paleontology, S. David Webb, initiated the investigation. Webb and curator of archeology Jerry Milanich secured the preservation grants.

Unlike shipwrecks, whose metal parts are ready targets for a magnetometer, there is no direct technique for finding prehistoric sites. There are new technologies that promise to solve this problem in the future, but in the meantime, common sense and a little innovation have paid off. "We knew of some formulas for finding sites on the land end of things," says Dun-

ANCIENT FLORIDA

bar. Since chert outcrops, sinkholes, and river channels were good bets on land, archeologists decided to try the same thing offshore. It is believed that the area off Florida's west coast was mostly an arid plain in the late Pleistocene. As it turns out, the water is shallow enough that prehistoric sinkholes, river channels, and flood plains can be seen from the air, different in color because they are filled with darker sediment. Fathometers have worked as well, simply by recording variations in depth.

Ray Hole Spring was known to the archeologists because of its reputation for grouper fishing, but their theory about ancient people being drawn to sinkholes yielded evidence: a large, 8,200 year-old slab of live oak, 7,000 year-old brackish water shells, and debris left over from tool-making. Nearby, FSU geologist Joe Donoghue discovered an ancient river channel that, unlike most, is completely filled with sediment. A seismic profile revealed flood terraces on either side.

"Most of these sites were nowhere near the coast during the Pleistocene," says Dunbar. Submerged inland sites such as those in the Aucilla have produced some of the oldest squash and gourd seeds found in the Americas, 32,000 years at one site and 12,500 at another. Mastodon remains have been found as well.

University of Southern Illinois paleobotanist Lee Newsom has found remains of "unusual" plant species at many of the wet sites she has examined. Artifacts immersed in the oxygen-free sediment are preserved much as if they had spent the last few thousand years in a dry cave in the Southwest, and can be retrieved in excellent condition.

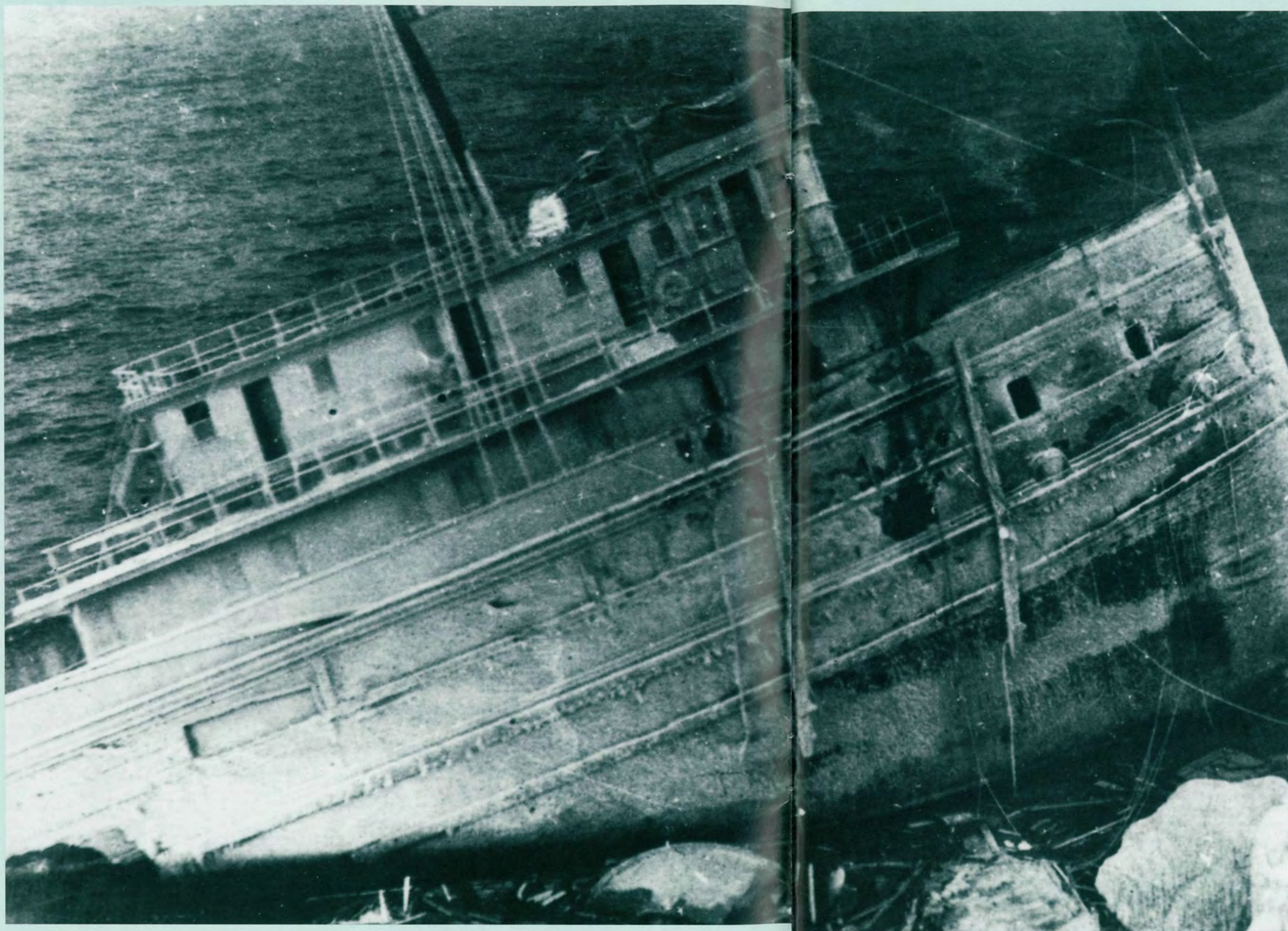
According to the FBA's Michael Faught, the age and concentration of Florida artifacts poses a challenge to the conventional Beringian migration theory. In light of the long-held notion that people migrated from the northwest, the wealth of evidence now coming from the southeast suggests that other scenarios are possible.

Though Florida is turning up the majority of underwater sites, finds in other states will undoubtedly help to produce a clearer picture of the geography of the prehistoric southeast. Minerals Management Service archeologists are currently working on Texas' McFadden Beach, a paleoindian site that, according to Dunbar, is well-known but little understood. The research being done there is expected to be a significant contribution. The University of Georgia's Erv Garrison and his students have discovered fossil remains of extinct terrestrial animals at Gray's Reef National Marine Sanctuary, 16 miles off the Georgia coast.

For more information, contact James Dunbar, Florida Bureau of Archaeological Research, 500 S. Bronough, R.A. Gray Building, Room 312, Tallahassee, FL 32399-0250, (904) 487-2299, e-mail jsdunbar@mail.dos.state.fl.us. Also visit the bureau's paleoindian page at http://www.dos.state.fl.us/dhr/bar/hist_cotexts/paleo.html.

JIM DUNBAR, FLORIDA BUREAU OF ARCHAEOLOGICAL RESEARCH

LEFT: MASTODON TUSK AT THE BOTTOM OF FLORIDA'S ICHETUCKNEE RIVER.



20

YEARS

ON Shipwreck Preservation in Michigan

By JOHN R. HALSEY

In taking the preservation message directly to sport divers, state archeologist John Halsey has sometimes felt like he's "going to target practice with bulls-eyes on both sides of my shirt." Yet Halsey and other Great Lakes preservationists have been surprisingly successful, thanks to creative alliances and tireless commitment. But without funds how long can it last?

The Monarch, which carried passengers as well as freight, ran into a rock wall known as "The Palisades" just a few months before this 1907 photo.

THE DEPTHS of the Great Lakes hold an unparalleled record of the development of maritime transportation in the mid-continent. From the LaSalle's *Griffin* to *Edmund Fitzgerald* to unheralded yachts and other recreational vessels, the lakes continue to claim victims, unlucky, unwise, or unprepared.

The cold, freshwater depths preserve, very nearly intact, the structures of the ships, their cargoes, possessions of crews and passengers and sometimes their bodies. Although many vessels were salvaged after they sank, these waters hold examples of every major variety of ship to sail the lakes—schooners, steam barges, whale-backs, bulk freighters, side-wheel palace steamers. Many are unique, epitomized perhaps by a captured Word War I German submarine. Often the wrecks represent the only real documentation of the ship as it once was, with blueprints and plans, if they ever existed, lost.

Certainly the remains of these vessels are invaluable. Yet most states in the region rank their preservation very low on the priority list. For the foreseeable future, shipwreck managers have had to face the fact that these vessels will continue to be valued primarily as recreational spots for sport divers. This, combined with the ongoing battles over who owns the wrecks, makes their preservation a formidable challenge. Given these facts, I hope to explain how Michigan, whose borders

enclose nearly 40 percent of the lakes, has attempted the daunting task of managing this remarkable resource.

Two Steps Forward . . .

Passage of the Abandoned Shipwreck Act of 1987 and Michigan's Public Act 452 of 1988 (a revision of Public Act 154 of 1980) did much to lessen, but not end, the seemingly eternal controversy over who owns the vessels and their contents. The federal law vested ownership of wrecks with the various states in whose waters they lay. The Michigan act, which has become the model for similar legislation in Ohio, further confirmed state ownership, clarified administrative and enforcement ambiguities from earlier legislation, and set aside bottomland for underwater preserves.

The preservation activism embodied in these acts, and in the federal guidelines, focused attention on long-deferred problems of shipwreck management, site protection, and sport-diver education. The downside is that the state has had its responsibilities greatly expanded with no increase in resources. Neither law includ-

ed funding for research, evaluation, law enforcement, or education, even as the preserves have spurred sport diving as a recreational industry along the lakes.

The principal problem that is facing state shipwreck managers is that they generally have little control over the sites, often not knowing exactly where they are. The creation of accurate shipwreck site files was a relatively late addition to most state historic preservation offices. There are so many potentially important bits of information about a ship and so many places where it can be hidden. The average dirt archeologist-turned-shipwreck manager, faced with a bewildering variety of unfamiliar, fragmentary, and often inaccessible sources, is often the last to hear about a wreck.

Sport divers—who are the underwater archeologist's main source for information and field crews—are also those chiefly responsible for disturbing these vessels. To make a discovery is the dream of most; a virgin wreck is considered a high-class trophy. It is also the first and last opportunity to record the scene in a pristine state. Divers may take copious photographs and videos, and even make some drawings, but do little in the way of plotting individual remains. Once the wreck is opened, artifacts, if they do not disappear, are quickly displaced from where they were when the vessel came to rest. Research is focused on the wreck incident, seldom on the role of the vessel or the site in its archeological or historical context. I am unaware of any private individual undertaking the research needed to complete a National Register nomination.

"TO MAKE A DISCOVERY IS THE DREAM OF MOST [SPORT DIVERS]; A VIRGIN WRECK IS CONSIDERED A HIGH-CLASS TROPHY. IT IS ALSO THE FIRST AND LAST OPPORTUNITY TO RECORD THE SCENE IN A PRISTINE STATE."

Divers dismiss as unnecessary or impossible the suggestion that they do this kind of documentation (buddies will dive to be in

Some Great Lakes divers vigorously and vocally support what they consider the "diver's right of access," vehemently oppos-

ma and galvanizes the dive community like nothing else. Divers' concerns usually have an origin with an incident such as early



MITCHELL KREZAR

on the thrill of discovery, but the hard grind of recording draws few volunteers). It is even more distressing when this suggestion is distorted to imply that THE STATE is trying to stop people from finding new wrecks. Yet personal responsibility for what happens to the wreck-that-didn't-need-to-be-found is quickly shed as the seeker moves on to the next quarry.

NPS archeologist Dan Lenihan examines the engine of *Glenlyon*, which lies in about 30 feet of water off Isle Royale's Siskiwit Bay. The ship hit a reef in November 1924 while seeking shelter from a storm.

ing any real or perceived regulations to limit their diving on any wreck, any time. This is true even when the regulations are intended to help preserve artifacts in place, the avowed goal of most dive organizations. Any hint of additional regulation is anathe-

NOAA attempts to prohibit diving on the Monitor. This has led to the demonization of shipwreck managers as—in the words of one flyer aimed at divers—"bureaucratic vampires who should be buried so deep that he/she burns in h—, forever."



U.S. ARMY CORPS OF ENGINEERS, CANAL PARK MARINE MUSEUM

Hi-tech equipment makes it increasingly easy for shipwreck hunters to act on this perceived right. In the Great Lakes, side-scan sonar is the tool of choice. Combined with intensive historic research on the

location. There is then a rush to dive the newest wreck.

Loran-C navigation aids and side-scan sonar have made finding and—just as important—relocating shipwrecks an activ-

ity well within the range of many private citizens. In the past, wreck sites were found, but then lost again due to inadequate recording techniques or navigational skills. Today, a wreck once found stays found.

The use of remotely operated vehicles in the Great Lakes is still a novelty. The equipment's great expense, combined with the requisite logistical support and operator experience, all militate against this technology's becoming a major factor. The use of ROVs has been limited to photographing extremely deep wrecks such as *Hamilton* and *Scourge* in Lake Ontario and *Edmund Fitzgerald* in Lake Superior. A new technology with great potential for documenting certain kinds of sites is video-

mosaic imaging, which involves videotaping along a grid, then manipulating the images with a computer to create a nearly seamless mosaic. Of course, a diver using a hand-held video camera can also record hours of detailed images. Few have used magnetometers in Michigan or elsewhere in the Great Lakes, principally because there is hardly a need for them. When you have 150-year-old wrecks with the masts still standing, there is little call for a machine designed to detect the nails and bolts that held them together.

Right: "She is all right in every way," the Cleveland press wrote admiringly of the *Henry Chisolm* when the steam barge was launched in 1880. Built for hauling freight on Lake Superior, the *Chisolm* struck a reef at full speed (nine knots) and sank off Isle Royale in 1898. Here, a diver examines one of the ship's steam water pumps. **Above:** The rescue of *Mtaafa* crewmen on Lake Superior, near Duluth, Minnesota, November 1905.

SAUL LOEB/ARND BRONKHORST

Tools Without the Means

Given the array of equipment, it may come as a surprise that there has been relatively little archeology done on shipwrecks if by that is meant recovery and conservation of artifacts. However, there is no lack of maritime survey and salvage

water survey and inventory, but there was always a problem coming up with matching monies. Today the flat funding of the state program means that there is no budget for surveys except those mandated for certified local governments.

For the foreseeable future, I believe the recording of shipwreck remains will con-

nerships, legislative efforts, and education. By taking the preservation message directly to even our most hostile audiences, we've recruited many allies.

Michigan has always taken a flexible approach to preservation, bringing together various agencies that all have a stake in the resource. In the early 1970s, important

"THERE IS NO LACK of maritime survey and salvage firms owning a cornucopia of sensitive detection and recording devices who would be glad to rent their services to archeologists. Sadly, the cost of obtaining these services is FAR BEYOND THE ABILITY OF STATE OFFICES."

firms owning a cornucopia of sensitive detection and recording devices who would be glad to rent their services to archeologists. Sadly, the cost of obtaining these services is far beyond the ability of state offices, few of which have the funds for even a day or two. The cost of side-scan sonar, while constantly declining, is beyond dreaming for most. Michigan did have some success using the national Historic Preservation Fund to promote under-

tinue to use the "low-tech" method of establishing a baseline, then using trilateration to produce a scale drawing of the structure. Despite demonstrably high error rates, these techniques require little expensive equipment and are easily learned and applied to many situations.

Dealing with the Dilemmas

In spite of the above factors, we have had some success, largely due to creative part-

individuals in the law enforcement and executive divisions of the Michigan department of natural resources determined that the agency had a legitimate responsibility for shipwrecks. They established a management ethic that continues today (which, unfortunately, is conspicuously absent at other natural resource agencies around the lakes). The department of environmental quality's coastal zone management program has been a consistent source of financial



"ANY HINT OF ADDITIONAL REGULATION IS ANATHEMA . . . ONE FLYER AIMED AT DIVERS [CALLED SHIPWRECK MANAGERS] 'BUREAUCRATIC VAMPIRES WHO SHOULD BE BURIED SO DEEP THAT HE/SHE BURNS IN H—, FOREVER.'"

wreck incident, it is an extremely potent finding aid. Many wrecks are so well preserved that a side-scan portrait is sometimes sufficient to identify them without even diving. The cost of side-scan sonar (around \$50,000 and dropping) is well within the range of private individuals, who have ready access to the equipment, the boats to carry it, and the eager support of fellow divers to carry out the cold, dark, and highly dangerous work of photographing a wreck at depths of more than 200 feet. Shipwreck hunters tend to be extremely secretive and the location of a new wreck is closely held until the discoverer decides to "give out the numbers," the Loran-C coordinates revealing the exact

support for a wide range of maritime historical and archeological projects. The office of the attorney general has successfully defended the state's legal claims to shipwrecks using as expert witnesses staff from these departments and the Michigan department of state.

That department, a co-manager of shipwrecks with the other two, has also attempted to address its shipwreck responsibilities since the early '70s. Four staff members at the Michigan Historical Center, an agency of the state department, are now certified open water divers and three have some underwater archeological experience. In 1992, a state historical marker was placed next to the wreck of the tug *Sport*, the first time an underwater site had been so designated.

Shipwreck managers from the eight Great Lakes states and the Province of Ontario are now on a first-name basis because they share common problems and generally seek common solutions. Knowing that sport diver cooperation is essential, they have formed the Great Lakes Regional Conference on Underwater Cultural Resource Policy to enlist the support of the dive community and to be open about their management goals. The proceedings of their first meeting in 1993, *Great Lakes Underwater Cultural Resources: Important Information for Shaping Our Future*, was published by Michigan State University with financial support from the Park Service archeology and ethnography program, among others. The Michigan State Police's underwater recovery unit has offered to videotape new discoveries and document artifacts in place.

An Attitudinal Sea Change

Lacking funds, many of us use our personal time to go where divers gather. Although as bureaucrats we are an easy target, we have gradually fostered a general maturation of ethics in the diving community. More divers now understand that if everyone takes a souvenir or engages in unlimited or unregulated salvage, there will soon be no wrecks worth diving on. This attitude allowed for the passage of Public Act 154 and the significantly stronger Public Act 452 of 1988, which governs the recovery of submerged artifacts and increased the allotment for preserves to 10 percent of Michigan's 38,000

square miles of bottomland. It was at sport diver insistence that the 1980 law was toughened. Unfortunately, however much the rate has slowed, artifacts continue to disappear, showing that the preservation ethic has yet to reach everyone.

A few divers have begun to undertake their own recording and documentation projects. Dozens participated in a basic course in underwater recording techniques sponsored by the Straits of Mackinac Underwater Preserve in the late 1980s. Others have been actively involved in the return of artifacts to the wrecks from which they were taken or, in one remarkable case, actually recreating and installing a figurehead on a wreck from which the original had been removed.

There are probably more than 100,000 certified scuba divers in the Great Lakes region; at times it may seem they are the only ones with an interest in what lies on the bottom. This is certainly not the case.

Many organizations, public and private, have been involved in shipwreck management and study. Michigan State University's Michigan Sea Grant College Program has performed landmark studies on the economic significance of sport diving, encouraging positive diver attitudes toward preserves and preparing documents such as the Michigan Bottomland

Preserve Inventory. Sea Grant agents have been tireless promoters of bottomland preserves and the shipwreck conservation ethic in coastal communities. The work of Sea Grant has been continued by the Center for Maritime and Underwater Resource Management at Michigan State University through ongoing projects, conferences, and excellent reports such as the award-winning *Inventory of Maritime and Recreation Resources of the Manitou Passage Underwater Preserve*.

Many discoveries have contributed to our understanding of the maritime past, deepened some of the mysteries surrounding it, and offered opportunities to foster public interest. The discovery of shoreline

shipwrecks at Grand Haven, at the mouth of the Upper Peninsula's Millecoquins River, and at South Manitou Island in northern Lake Michigan highlight the ability of deep sandy shorelines to capture and conceal vessels, preserving them virtually intact. The name *Three Brothers of Buffalo* still adorns the stern of the South Manitou wreck. The Millecoquins wreck still has its paint and caulking although it



Exhibits have a limited life span, but publications continue to educate for decades. Over the years, Great Lakes readers have turned to Fred Stonehouse's books to experience the drama of how various ships were lost. *Telescope and Inland Seas* also provide information. *Michigan History Magazine*, a popular journal published by the department of state, frequently includes articles on shipwrecks

zine), was written for both lay and professional audiences with hopes that how the state viewed its maritime preservation responsibilities would be understood. All these publications can be found in mainstream bookstores, not just dive shops.

A Course for the Future

As Great Lakes maritime archeology continues to grow, it is hampered by a dearth

excavation of the *Millecoquins* shipwreck only four months after the first season of field work is a tribute to all who participated in it.

Maritime archeology excites intense public interest. The media seldom give front-page treatment to finds on land unless skeletons are involved (at least in Michigan!). Yet the discovery of a shipwreck, no matter how mundane its career,



The steel steamer *America* at her launching in 1898, during her working days along Lake Superior's north shore, and her end, when she wrecked in shallow water in 1928.

(the entire November/December 1992 issue was devoted to maritime history). Books like Steve Harrington's divers' guides describe Great Lakes shipwrecks, where they are found, what condition they are in, and how to behave when diving on them. Chuck Feltner's *Shipwrecks of the Straits of Mackinac* presents an immense amount of information while never becoming unnecessarily technical. My own contribution, *Beneath the Inland Seas: Michigan's Underwater Archaeological Heritage* (produced by Michigan History Maga-

of experienced, professional practitioners and a lack of focused, committed, long-term funding. The proposed creation of a national marine sanctuary in Lake Huron's Thunder Bay could give our maritime resources yet another showcase and some professional on-site managers. Concern for the maritime past respects neither state nor national boundaries; our Canadian colleagues have been especially active in organizing conferences to address issues of concern to all. Much information on Great Lakes history lies in private hands; given the proper circumstances, remarkable results are obtainable. The fact that the Association for Great Lakes Maritime History produced an interim report on the

is guaranteed a feature. While archeologists may view these vessels as time capsules of culture, and divers see them as recreational venues, the general populace perceives them as exciting stories. Our greatest challenge now is to successfully communicate to the 99 percent of the population that doesn't dive that these are their wrecks too. Until then, managers and archeologists will continue to wage an uneven battle with the trophy wreck finders, wreck rapers, and souvenir hunters.

For more information, contact John R. Halsey, State Archeologist, Michigan Historical Center, Department of State, Lansing, MI 48918.



SUSAN LANGLEY

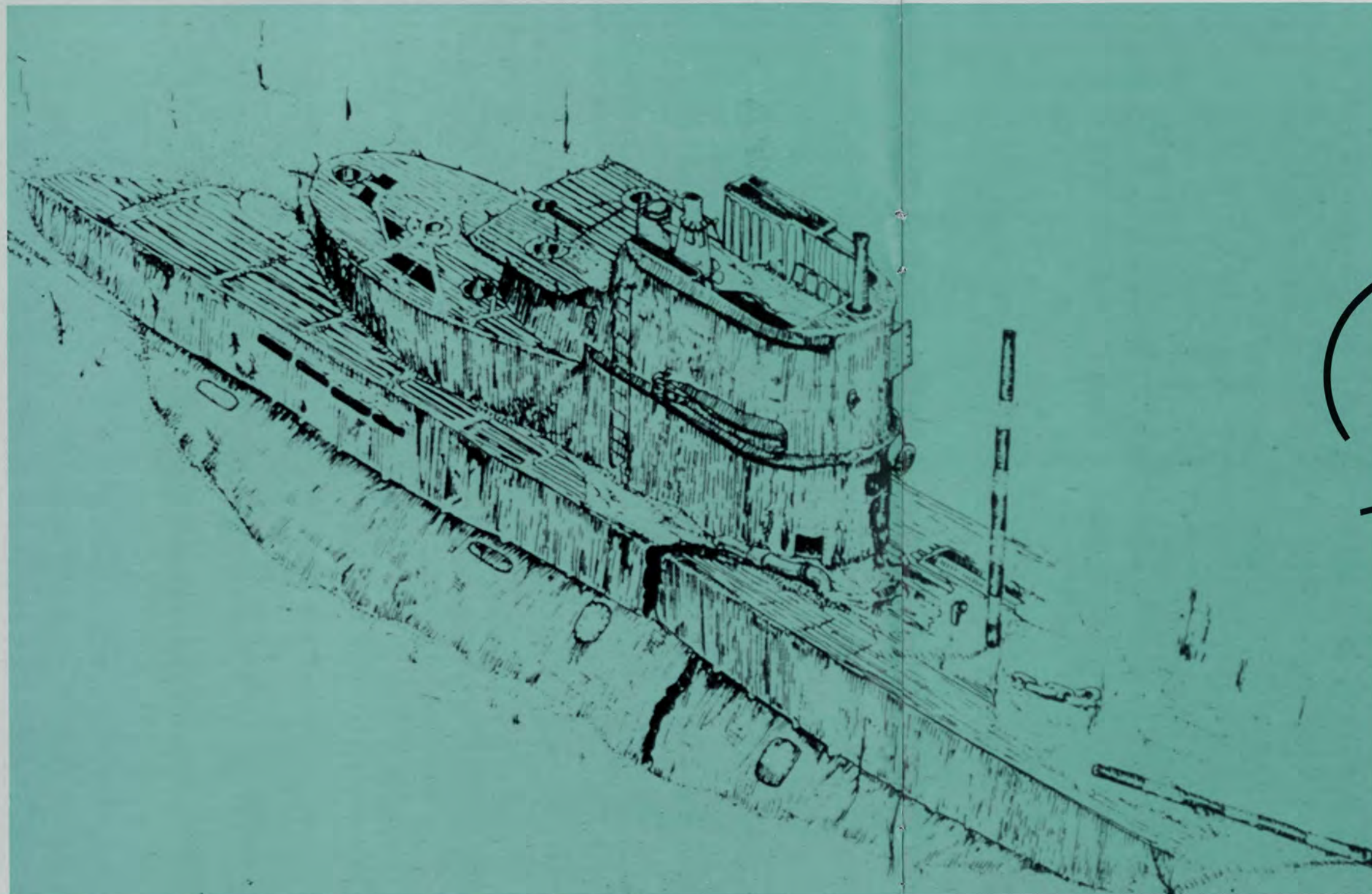
the *art* of the POSSIBLE

By Joseph Flanagan

How one state, thanks to creative leadership, has found a measure of success in caring for the heritage its waters hold in trust.

BY VIRTUE OF ITS GEOGRAPHY, MARYLAND HOLDS A RICH ARCHEOLOGICAL RECORD. THE MYRIAD WATERWAYS FLOWING INTO THE CHESAPEAKE HAVE DRAWN PEOPLE FOR CENTURIES, PROVIDING SUSTENANCE, COMMERCE, AND TRANSPORTATION. THE IMPORTANCE OF PRESERVING THE WEALTH OF INFORMATION IN THE STATE'S RIVERS, CREEKS, AND BAYS HAS BEEN THE CATALYST FOR A PROGRAM THAT IS EXEMPLARY IN UNDERWATER ARCHEOLOGY. CHARACTERIZED BY INVENTIVENESS, FLEXIBILITY, AND STRONG EMPHASIS ON EDUCATIONAL OUTREACH, THE MARYLAND HISTORICAL TRUST'S

Above: Maryland State Underwater Archeologist Susan Langley assessing historic remains at a public landing;
Left: Volunteers excavating saturated wharf structure at 18th century Pemberton Hall, Salisbury, Maryland.



War-era Stephen Steward Shipyard, the subject of the recent Trust video *Where Ships Were Born*. Among the many other projects in motion is a possible preserve at Mallows Bay, where lie the wrecks of 92 World War I-era wooden steamships (the Trust is encouraging a plan to protect the bay's environment in tandem with its archeological heritage). And under Navy sponsorship, the Trust has surveyed the wreck of the Civil War gunboat USS *Tulip* and is developing a management plan for its care. In addition, Trust archeologists regularly lecture, hold workshops, and visit classrooms.

Still, as in most states, funds are scarce, and work underwater is nearly always more expensive than on land. Shipwrecks and other submerged sites, powerful lures for looters and salvage

DOZENS OF VOLUNTEERS HAVE SHOVELED TONS OF HEAVY, STINKING MUD TO INVESTIGATE THE SATURATED REMAINS OF A WHARF THOUGHT TO DATE ONLY TO THE 1800s. THE HARD WORK PAID OFF WHEN TREE-RING-DATED WOOD SAMPLES PROVED THAT THE WHARF IS, IN FACT, AS OLD AS THE PLANTATION ITSELF.

divers, are very difficult to monitor, and the total budget for Maryland archeology is under \$40,000.

Program director and State Underwater Archaeologist Susan Langley stresses the importance of donations. For states struggling to preserve their maritime heritage, she suggests establishing a "friends organization" early on. "Have some kind of affiliation with non-profits," she advises.

"A lot of funding agencies don't want to give to a state because it looks bad. It looks like you're giving money to the government." Funders are much more inclined to give to a known charity. Tap the same organizations that contribute to the arts and humanities, she says.

Donations, though, have their own set of pitfalls. "We have to be very careful how we ask for donations," Langley says. For example, while she does accept donated equipment, it must come "with absolutely no strings attached." The program cannot give the appearance of promoting individual brands or products.

Langley also relies heavily on partnerships. MMAP often trades assistance, expertise, and the use of equipment with the State Highway Administration. The Navy, which is taking stock of its submerged wrecks and aircraft in all of the nation's waters, is another strong partner. This inventory, funded by the Department of Defense Legacy preservation program, led to the establishment of the U-boat preserve. The research on the USS *Tulip* was also conducted with Legacy funds. MMAP continues to cooperate with the Navy on other projects, like the search for the 1812 fleet.

The program also plans to work with federal agencies that control large tracts of the site-rich Tidewater. MMAP has consulted

Maritime Archaeology Program is arguably one of the nation's best. Even in a time of tight budgets and constant competition with terrestrial sites, the program has managed not only to produce showcase projects, but to forge strong partnerships with the diving community and the general public.

A recent project at Mulberry Landing, part of the 18th century Pemberton Plantation historic park, typifies the program's success. What began as a one-weekend opportunity for public participation

ARTIST'S SKETCH OF THE U-1105 ON THE POTOMAC FLOOR. THE NAVY DELIBERATELY SUNK THE CAPTURED GERMAN SUBMARINE AFTER TESTING ITS CAPABILITIES. soon turned into a once-a-month, two-season project. Dozens of volunteers have shoveled tons of heavy, stinking mud to investigate the saturated remains of a wharf thought to date only to the 1800s. The hard work paid off when tree-ring-dated wood samples proved that the wharf is, in fact, as old as the plantation itself.

Other examples come quickly to mind. Under an agreement between the Navy and the Trust, a U-boat in the Potomac was established as the state's first historic shipwreck preserve. The Trust also located the remains of a 31-vessel fleet from the War of 1812 in St. Leonard's Creek and the upper Patuxent [see page 40]. Staff and students from the University of Maryland—along with members of the Archeological Society of Maryland—worked with Trust archeologists to investigate the Revolutionary

JAMES CHRISTLEY

with the U.S. Fish and Wildlife Service about a programmatic agreement to allow mutual assistance on specific projects. The two have already worked together on the exhumation, study, and reburial of historic skeletal remains exposed by erosion in a wildlife refuge.

There are also potential projects with the National Park Service, notably at Assateague Island National Seashore, whose submerged sites have never been surveyed. The park's management plan calls for "informal" interpretation of these sites, which will be allowed to "deteriorate naturally." This is more grim than it sounds, Assateague told Langley; in fact, the NPS submerged cul-

Students learn research and archival techniques, ship architecture, photo and video documentation, conservation, report writing, and preservation law. This year, Langley's program is putting \$20,000 toward producing a video version of the class, with the hope of reaching a wider audience. "We're not just going to show a talking head," says Smailes. "We're going to film a real project, where you can actually see something being surveyed, mapped, and drawn."

MAHS members use their own boats, gas, equipment, and time to monitor the U-boat preserve. So far, the only incident noted is the disappearance of one of the sub's running lights, which hap-

junk, because none of it was conserved." It was a catalyst as well as a stark warning to the people of Maryland that if something wasn't done, the state's maritime heritage would continue to disappear.

"I have a pretty good idea who the 'bad guys' are," Langley says, and though she generally tries to get to divers through outreach programs, she will occasionally drop in for a visit. She notices things like keepsakes and trophies lying about. Even in the absence of incriminating evidence, the state's diving community is insular enough that it is hard to keep a secret. Word eventually gets around.

Proponents of underwater archeology in Maryland have gone to great lengths to enlighten the diving community and the public. The Ocean Survey Project, operated by Michael Pohuski and Kiser, is a private sector effort undertaken with state encouragement. The project invites members of the public to help out in the mapping, recording, and photographing of the estimated hundreds of wreck sites in the Atlantic off Maryland and the Delmarva Peninsula.

Efforts like the Ocean Survey Project, while designed to educate, are also meant as a pitch to win people over to the side of preservation. The idea is that participants will get excited enough to take an advanced course in underwater archeology and perhaps get involved in other ways.

Wreck-a-Wreck, run by Jody Hopkins and Steve Deems, takes divers to a quarry where they learn how to sketch maps underwater, fill out site forms, and take a quick measurement of the unexpected find—using arms' lengths or a line of knotted string. Like OSP, Wreck-a-Wreck is meant to entice students into advanced courses.

The Maritime Archaeological and Historical Society offers both a basic course and field school, where students survey a cabin cruiser intentionally sunk in a Haymarket, Virginia, quarry. With the schooling under their belts, students can then volunteer on an actual project. This year, they examined the hull of the *Peter Cooper*, deliberately run aground by her captain in 1870 after catching fire in the Patuxent. An earlier field school examined the site of a Revolutionary War shipyard on Virginia's Chickahominy River.

Recently, Maryland's Anne Arundel Community College donated the use of its pool for a three-weekend free primer taught by Langley, Kiser, Hopkins, and MAHS. "Wreckage" was scattered in the pool for students to map using squares on the bottom as points of reference. Kiser discussed remote sensing and site safety. In the one session, students practiced measuring and drawing a "shipwreck" made from a plastic downspout and vinyl siding provided by MAHS. According to Langley, there was a waiting list to get into the 20-person class.

With Virginia's underwater program dismantled, Maryland is playing a role there as well. "Just trying to keep the dialogue up," is how Smailes puts it, helping Virginia state archeologists Catherine Slusser and Randy Turner reach out to the diving community. With Virginia having been at the heart of the Civil War, Langley estimates that its creeks, rivers, and shoreline are full of historic archeological sites. Many are being looted, she adds. And yet there appears to be great public interest that could be tapped.

In some of the Maryland courses, more than half of the participants are from Virginia. In addition, there are more dive shops there. Kiser has been asked to teach his course in the state, and discussion continues on how Virginia might gradually rebuild some kind of preservation program for its submerged sites.

In the meantime, the Maryland Historical Trust continues to search for ways to make the most with very little. Though volunteers are critical, they are not a panacea, says Langley. It is often not possible to demand from them the kind of time many projects require. Also, everyone wants to dive, widely perceived as the most exciting part of underwater preservation. But help is needed in less glamorous areas, such as recording and documentation. Volunteers are a blessing, but, she says, "there comes a time when you actually need some hard cash to give the project a shot in the arm." The program also plans to encourage more masters' theses and doctoral dissertations on the



LARRY PUGH, LEFT, AND DALE SHOMETTE, RIGHT, EXAMINE PART OF THE FRAME OF ONE OF THE CHESAPEAKE FLOTILLA VESSELS. AFTER BEING DRAWN AND PHOTOGRAPHED, THE PIECE WAS RETURNED TO ITS ORIGINAL POSITION.

state's maritime archeology.

The conviction that has seen the program persevere is obvious

when volunteers fan out abreast in the mud flats looking for the old wharf at Pemberton, or the remains of Stewart Shipyard, burned by the British during the American Revolution. Probing the muck with 10-foot-long metal rods, can be "boring, dirty work," says Jim Smailes. "And if the mosquitoes are up and there are snakes in the water, it's no fun." Yet when the mud gives up a multitude of arrowheads and other artifacts, as it did at Stewart Shipyard, the volunteers get to thinking about the people who were here thousands of years before them. "That," says Smailes, "is when we know the importance of the work we're doing."

For more information, contact Susan Langley, Maryland State Underwater Archeologist, Division of Historical and Cultural Programs, 100 Community Place, Crownsville, MD 21032, (410) 514-7662, fax (410) 987-4071, email mdshpo@ari.net. The Maryland Historical Trust's web site address is <http://www2.ari.net/mdshpo>.

THOUGH VOLUNTEERS ARE CRITICAL, THEY ARE NOT A PANACEA, SAYS LANGLEY. IT IS OFTEN NOT POSSIBLE TO DEMAND FROM THEM THE KIND OF TIME MANY PROJECTS REQUIRE. ALSO, EVERYONE WANTS TO DIVE, WIDELY PERCEIVED AS THE MOST EXCITING PART OF UNDERWATER PRESERVATION.

tural resource unit did some preliminary survey work last fall, but funding for further work was not available.

At Mallows Bay, one of the largest ship graveyards in North America, if not the world, Maryland has considered using the Endangered Species Act to enlist federal involvement. The fleet of wooden-hulled steamers, built for World War I but never used, are now little more than a collection of hulls protruding above the water line. Plant life has claimed many of the wrecks, and the place is a haven for several endangered bird and insect species. MMAP is encouraging the county to purchase land as part of a plan to protect the species, their habitat, and the archeological sites therein.

Of all its accomplishments, perhaps the most critical has been the alliance MMAP has formed with the diving community. If not for the small Washington, D.C.-based Maritime and Historical Archeological Society, much of what Maryland has done would not have been possible. The all-volunteer group has been a fixture during many of the surveys and excavations.

MAHS' biggest contribution, says president Jim Smailes, is experienced divers. "You have to be skilled to work the Tidewater because the visibility is so awful," he says. Several members are professional archeologists, but most represent other walks of life. "We sign an ethics statement," Smailes says, "so we can assure Susan or any other archeologist we work with that we understand the importance of the work, that we understand the integrity of the sites, and that none of us will come back to loot later."

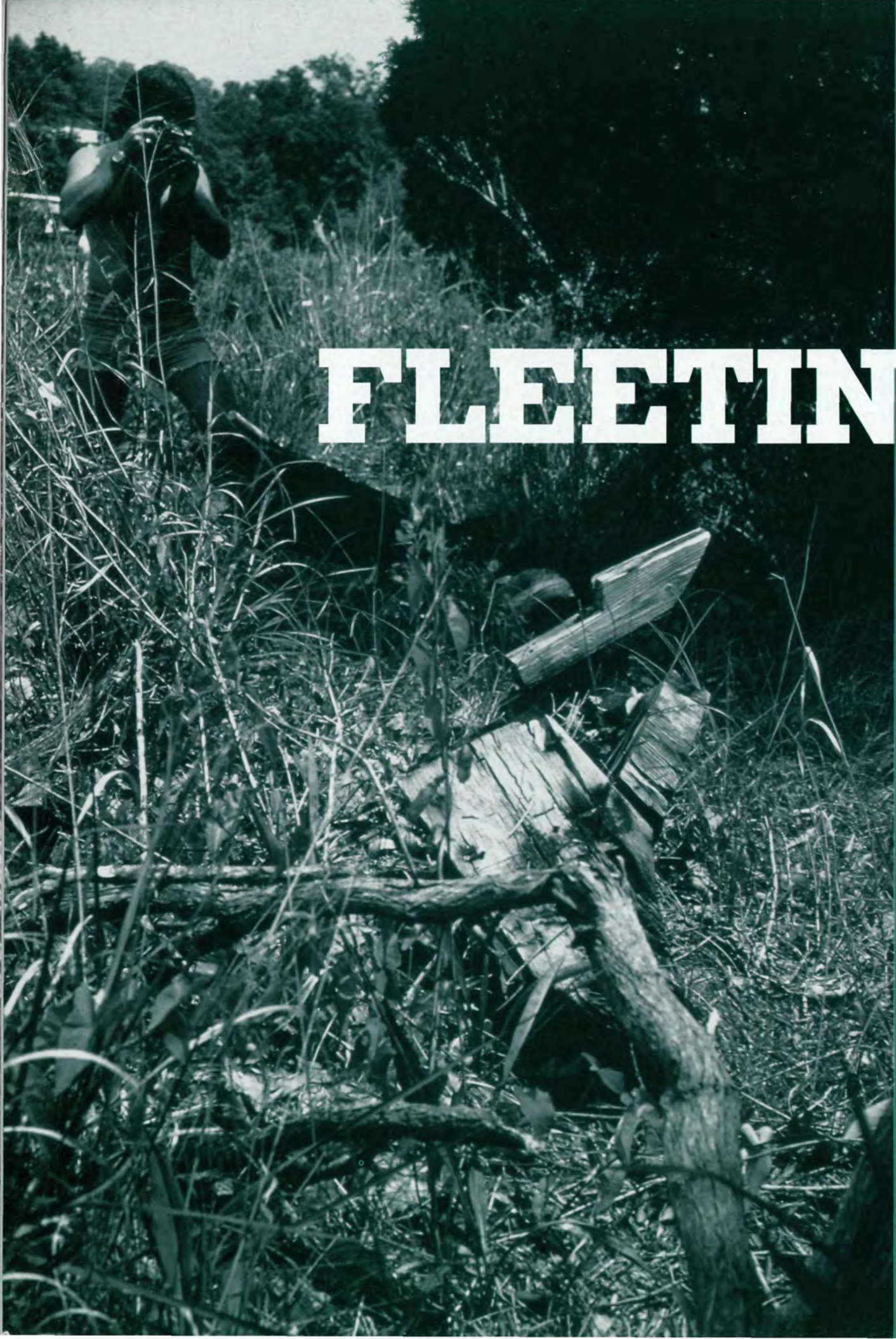
"MAHS has been a godsend," Langley says. The group teaches a 10-session course in basic underwater archeology every winter.

opened shortly after the preserve opened. For safety's sake, Navy divers have sealed all of the boat's entrances. The Potomac, like most of the region's waterways, rapidly accumulates silt, which does its share in keeping looters away. The conning tower is all that protrudes through the sediment. Given the strong currents, only experienced divers are allowed to make the 85-foot descent. It is, as Langley says, "an intimidating place to dive."

John Kiser, a dive shop owner who helped establish the preserve, may be the most important contact with sport divers the state has on its side. Kiser spent nearly a decade as the U.S. Naval Academy's diving instructor; now he runs Sea Colony Aqua Sports, which teaches basic underwater archeology. Like the MAHS volunteers, Kiser has donated equipment and a great deal of time, producing a newsletter that goes to 15,000 divers.

Kiser is credited as being one of the primary forces in charting Maryland's maritime archeology. It was not a coincidence that the state's Submerged Archaeological Historical Property Act quickly followed the passage of the Abandoned Shipwreck Act in 1988. Kiser and maritime historian Donald Shomette lobbied for the legislation and got then-governor William Donald Shafer excited about the issue. Shafer later became a staunch advocate of underwater archeology in the state.

An important event leading to the legislation was the thorough pillaging of the 1870 wreck *New Jersey*, which sank while making stops along the Chesapeake to deliver mercantile goods. With much of her cargo still aboard, the ship was a treasure chest for divers, who picked it clean in the 1970s and 1980s. "Eventually," Langley says, "people started showing up with buckets full of rusty



FLEETING HISTORY

MARYLAND EMBARKS ON PROJECT TO SURVEY AND INTERPRET WAR OF 1812 FLOTILLA



f all the places where the nation's heritage is held in trust, the muck of Maryland's Tidewater region is perhaps one of the last to come to mind. But the silt in rivers such as the Patuxent has been the custodian of a virtual time capsule for 182 years, and the state has embarked on a plan to pass the torch.

over 100 years in an oxygen-free environment, a veritable trove came up from the murky water. There were apothecary items, a deck stove, munitions, carpenters' tools, navigational gear, and more. Investigators had discovered the flotilla's flagship, *Scorpion*, but the project was halted due to cutbacks in funding, and did not resume in earnest until 1995.

In March of that year, the Maryland Historical Trust awarded a grant to maritime historian Donald Shomette to develop a plan for researching and managing the remains of the Chesapeake Flotilla. Shomette's proposed six-year, three-phase (survey, testing, limited excavation) project was approved. In December '95, the Navy began a preliminary aerial remote sensing survey on behalf of the project,

The Chesapeake Flotilla Project will employ the latest advances in technology, research, education, and exhibitry to tap this rich vein of history: 31 naval and merchant vessels sunk during the War of 1812. The Maryland Historical Trust's Maritime Archaeology Program, in concert with other agencies and museums, has far-reaching plans for the six-year project, including satellite uplinks for researchers and students, digitization of data for the Internet, and inclusion of local War of 1812 thematic tour routes around the state.

Early in the war, the British Navy roamed the Chesapeake and its rivers freely, looting and burning all along the Maryland and Virginia coast. Revolutionary War hero Captain Joshua Barney proposed the construction of a fleet of shallow-draft gunboats that could move quickly, shadowing the British landing parties while staying out of reach of their big naval guns and deep draft frigates.

They were hastily constructed at several shipyards and manned by crews that were a mix of whites, slaves, and freemen. In the summer of 1814, the heavily outgunned Chesapeake flotilla played cat-and-mouse with the British Navy up and down the Patuxent and its tributaries. The flotilla's luck ran out in August, when it was cornered above Pig Point, where, to the astonishment of the British warships moving in for the kill, it was intentionally blown up and sunk.

The search for the boats began in 1977, as part of the Patuxent River submerged cultural resources survey. Intensive research produced a preliminary documentation of the flotilla's history and the probable location of its remains. In 1979, investigators using a magnetometer in St. Leonard's Creek registered a series of "hits" over an area nearly two miles in length. The flotilla had made a stand at St. Leonard's Creek, turning back repeated British attempts to reach them in small craft armed with the latest technology of the day—the Congreve rocket. An attempt to break out drove the British further down the river and bought the Americans some time.

Divers discovered portions of boat frames projecting out of the mud. The next year, archeologists employed a coffer dam to isolate a portion of one vessel and found it to be under five feet of sediment and almost

PHOTOGRAPHING THE REMAINS OF A 19TH CENTURY LOG CANOE, ST. LEONARD'S CREEK.

90 percent intact. Preserved in excellent condition after

covering 800 acres of wetlands around the upper Patuxent in search of potential wreck sites.

In April of last year, Shomette and members of Maryland's Maritime Archaeology Program conducted an aerial infrared photographic survey of the flotilla's main burial ground in the Patuxent. Then came a magnetometer survey and side scan sonar at St. Leonard's Creek, which was joined by the Maritime Archaeological and Historical Society. Of the scores of anomalies picked up by the magnetometer, two proved to be vessel remains. One was 36 feet long and over 12 wide, with 18 inches of its framing visible above the silt. It was fitted with iron spikes and treenails (wooden pegs that swell when wet). The design of the boat, as well as its location, indicate that it may be one of two scuttled before the escape from St. Leonard's Creek for fear they were too slow and would fall into British hands.

Investigators also brought remote sensing and side scan sonar to the Patuxent, where the rest of the fleet is thought to lie. MAHS divers checked out 14 targets, but none appeared to be wrecks. Since the Patuxent gets an average silt deposit of 235 tons per square mile a year, that is not surprising. Most of the wrecks are believed to lie between 5 and 10 feet below the river bottom. The team plans to employ other kinds of remote sensing, such as sub-sediment imaging and ground-penetrating radar.

As the search for the Chesapeake flotilla unfolds, it is planned that students and museum visitors will be able to look on via satellite uplinks from the field as well as the lab—a first for Maryland. The project is also gleaning research and archival data from across the country as well as Canada and Britain, which will be available on the Internet. Also planned is the reproduction—using polysulfide casting—of vessel sections for study as well as exhibit. Exhibitions and educational programs are expected throughout the six-year project.

Six tour routes related to the flotilla and the war are planned, with a traveling exhibit featured in Tidewater museums serving as interpretive centers. For more information, contact State Archeologist Susan Langley at the Maryland Division of Historical and Cultural Programs, 100 Community Place, Crownsville, MD 21032, (410) 514-7662, fax (410) 987-4071, email mdshpo@ari.net.



LEFT: JOHN BROOKS, NPS; RIGHT: DAN LENIHAN, NPS

U N D E R W A T E R
A R C H E O L O G Y

Unexpected

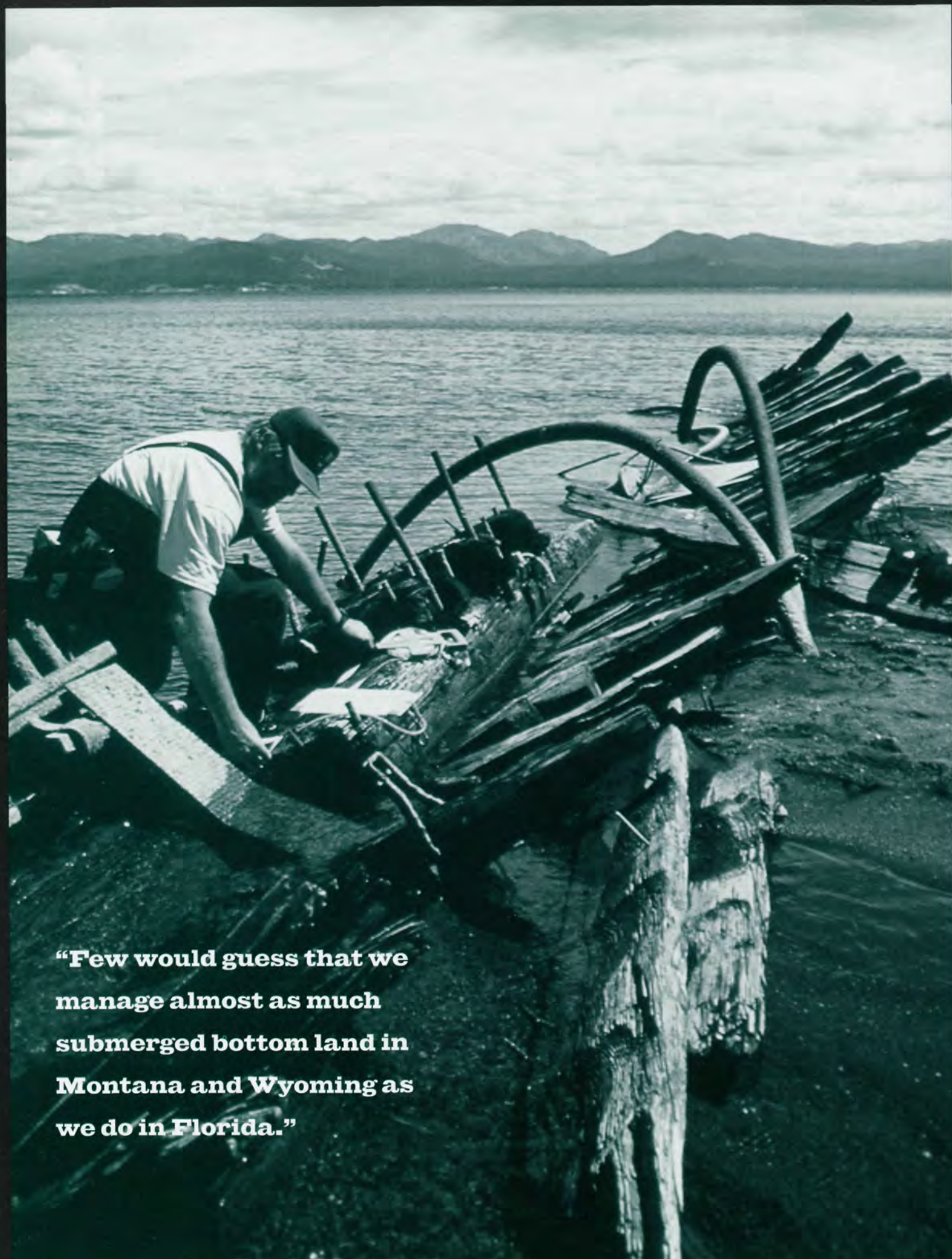


PLACES

By Daniel J. Lenihan

IT SHOULD BE NO SURPRISE to anyone involved in public archeology that the submerged lands of the Park Service have a significant cultural legacy. The marine parks come immediately to mind—"common ground" both wet and salty: Cape Cod National Seashore, the Virgin Islands, California's Point Reyes, and Florida's Biscayne National Park, to mention a few. Then, of course, there are the inland seas—our five Great Lakes. One of these parks, Michigan's Isle Royale, even had one of its historic shipwrecks used as the setting for a popular murder mystery. What we tend to have very little awareness of is the underwater world of our classic

Left: Investigating Jenny Lake in Grand Teton National Park; above: Survey at Kintla Lake, Glacier National Park.



“Few would guess that we manage almost as much submerged bottom land in Montana and Wyoming as we do in Florida.”

inland parks, far from the Gulf Coast or the shores of Hawaii. Few would guess that we manage almost as much submerged bottom land in Montana and Wyoming as we do in Florida (if we don't count semi-submerged places like Big Cypress and Everglades).

Yellowstone Lake—larger than Florida's Dry Tortugas and five times deeper—has everything from submerged steamboats to old docks and wagon wheels. Glacier has large natural lakes with associated pre- and post-European contact use, as well as two that are manmade. There are high altitude lakes in Rocky Mountain National Park and Jenny and Jackson Lakes in Grand Teton.

Anasazi ruins rest deep in Lake Powell and a sunken steamboat protrudes from the water near Lee's Ferry, both in Glen Canyon National Recreation Area. Lake Mead, together with Glen

of water, which necessitated swimming down murky staircases and feeling through restroom stalls.

There is un-inventoried archeology underwater at Lake Meredith in Texas, barely touched at Oklahoma's Chickasaw NRA, and we can only guess what's under the many square miles of water in Montana's Bighorn Canyon, Colorado's Curecanti, and Washington State's Coulee Dam NRA. Upper Delaware Scenic River and the Water Gap are others on the unit's to-do list.

SCRU and Pacific field area archeologists made a start in the survey of Kauhako crater at Kalaupapa NHP, miles inland on Molokai. An ancient Hawaiian occupation area covers the rim of the hourglass-shaped crater. Considering that the water is over 700 feet deep, turns anaerobic after the first 20, and is crystal clear

“NPS archeologists and rangers spent several harrowing days in 1984 removing a drowned diver from a powerhouse, then under a hundred feet of water, which necessitated swimming down murky staircases and feeling through restroom stalls.”

Canyon—its sister NRA on the Colorado River—has enough surface water to cover half of Rhode Island. These flooded river valleys, under 300 to 500 feet of water, contain more than 2,000 documented prehistoric and historic sites. Many of the standing walls of the Anasazi structures have collapsed but others have merely slumped. Careful examination with a dive light can bring into focus pre-Columbian rock art and other ancient features such as bedrock mortars, arrow-shaft straighteners, and loom anchors.

In addition to the reservoir sites, Arizona and Nevada parks have some underwater gems in bodies of water that are not man-made. Montezuma Well, surrounded by a Salado occupation area, is an archeological gold mine. A submerged limestone karst feature (powerful loci for archeological sites) at Death Valley's Devil's Hole has geologic cousins in caves at Ozark National Scenic Riverway, Buffalo National River, Kentucky's Mammoth Cave, and Lake Amistad in Texas.

Just last year at Amistad, an NPS dive team including members of the submerged cultural resources unit rediscovered the entrance to Goodenough Springs venting through the lake's limestone bottom. At 130 feet down, the murky depths are pierced by a large volume of warm, crystal-clear water emerging from what had been, prior to inundation by the lake, the third largest natural

Left: Jim Bradford documents the wreck of the E.C. Waters at Yellowstone National Park; above: ranch house at Amistad National Recreation Area.

spring in Texas. Other sites at Amistad NRA include the flooded stratigraphic profiles of Arenosa Rockshelter—with over 40 feet of cultural deposits—as well as historic ranch houses and the remains of old dam structures that, in different circumstances, might qualify for the National Register of Historic Places.

The tendency of dams to cannibalize their upstream ancestors actually presents a bit of a management problem. NPS archeologists and rangers spent several harrowing days in 1984 removing a drowned diver from a powerhouse, then under a hundred feet



from there to the bottom, it doesn't take much imagination to see the archeological potential. The unit decided to hold off on further dives when the risk in helicopter operations became apparent, even though U.S. Marines were helping us out. They were happy to assist further but we and our National Geographic Society partners did not want “a few good men” on our consciences.

The NPS has a distinguished history exploring and inventorying the underwater world of our national parks, from grabbing for artifacts from clam shell dredges at Virginia's Colonial National Park in 1935 to nascent scuba projects at Arizona's Montezuma Well in 1968. Early on, NPS archeologists worked closely with park protection and maintenance personnel not only in research but to assist in body recovery, marina inspections, and replacing boundary buoys. The Park Service, in partnership with Scripps Institution, developed the federal government's first civilian diving policy.

Some of the NPS underwater universe is indeed unexpected but, with some consideration, should be quite predictable from an inventory standpoint. Underwater sites take some thinking before they come into focus. Charles Lyell, a gentleman who helped form the very foundations of modern earth and evolutionary science, summed it up over 160 years ago: “It is probable that a greater number of monuments of the skill and industry of man will, in the course of the ages, be collected together in the bed of the ocean than will exist at any other time on the surface of the continents.”

And so they will. They will also be collected together in the nooks and crannies of the national parks.

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LEFT: BRETT SEYMOUR, NPS; ABOVE: LARRY MURPHY, NPS



LEFT AND RIGHT: JOHN BROOKS, NPS

Shipwrecks, satellites, Computers



An Underwater
Inventory of Our
National Parks

By LARRY MURPHY

Given the acreage managed by the Park Service, inventorying its terrestrial sites is a challenge, to say the least. But what about those that are *not* on land? Submerged wrecks, cargo, docks, wharves, and other remains pose a special problem—out of sight, out of mind, and all but out of reach. To develop a prototype for underwater surveys, the Park Service has brought high technology to an isolated old fort on the fringe of the continent.

IN 1991, THE NATIONAL PARK SERVICE identified a critical weakness in carrying out its mission: although responsible for preserving archeological sites and artifacts, park managers didn't know where most of them were. Only about 2 percent of the more than 360 Park Service areas had been systematically surveyed for archeological materials; more than 80 percent had not been surveyed at all. The situation was worse for submerged land: considering the two-and-a-quarter-million acres managed by NPS in 65 park areas,

Left: Setting up the differential GPS base station at Dry Tortugas; above: archeologists work on the remains of the HMS *Fowey* in Biscayne National Park.

there had been one systematic survey published, for Drakes Bay at California's Point Reyes National Seashore. Many sites had been documented, but systematic inventory projects were not feasible.

The situation changed with the initiation of the Systemwide Archeological Inventory Program, an ongoing survey funded by Congress since 1992. The program's goal is to locate, evaluate, and document archeological sites and artifacts both on land and underwater. An important aspect of SAIP is to recommend strategies for preserving archeological materials in place, in addition to

few systematic surveys had been conducted anywhere for submerged remains, there was no previous work to use as a guide. So SCRUI decided to select a single park to develop the method, and then cross-test it in other parks.

Site managers at Florida's Dry Tortugas National Park enthusiastically agreed to host the pilot project. In the Gulf of Mexico about 68 miles from Key West, the park contains seven small sand islands surrounded by shallow coral reefs, encompassing 100 square miles of submerged lands. The Dry Tortugas, discovered and named by Ponce de Leon in

fifty-foot-high, eight-foot-thick walls, the fort established America's presence in the Caribbean and denied access to the Tortugas' safe anchorages for any enemy fleet attempting to blockade U.S. ports.

Commercial development and military activity have left numerous wrecks here, as have the competition among nations in the New World, the construction of the fort, fishing, and other activities. Consequently, the park contains a remarkable collection of more than 250 documented wrecks over a long period, representing an important international maritime heritage about which little is known. The isolation has minimized looting damage; this, plus the fact that summers bring predictably favorable weather, made a compelling argument for developing the SAIP model here.

LAYING THE GROUNDWORK

The first step was to assemble what was known about the area. A comprehensive study examined the environmental and historical context, reviewed past work, located wreck and maritime casualty reports, and also presented some recent evaluations of sites known to the park. *Dry Tortugas National Park Submerged Cultural Resources Assessment*, published in 1993, defined the research framework for the survey, which began the same year.

The survey would be regional in scope, systematic, comprehensive, and cumulative. It would also employ minimum-impact evaluation techniques. Most archeologists have approached shipwrecks as isolated sites disconnected from a larger context. A single wreck is usually evaluated in terms of its preservation and research potential, then excavated to recover all the artifacts. Academic investigations are normally descriptive accounts of methodology, recovered cargo, and other material; it is a rare report that goes beyond description to discuss a wider context.

Generally, studies done to assist in managing public lands, even though most are not excavations, parallel the academic approach: questions of "what"

1513, lie on the western edge of the 75-mile-wide Florida Straits, through which passes the north-flowing Gulf Stream and the major shipping lane connecting the 1,200-mile Gulf coastline with the northeast United States and Europe. The straits have served as a corridor of commerce since the days of Spanish conquest, and as their western terminus, the Dry Tortugas have claimed many a vessel that ventured too close (the park is what archeologists sometimes call a "ship trap"). In the 19th century, the construction of Fort Jefferson—the largest of the masonry harbor forts built prior to the Civil War—demonstrated the strategic importance of these islands to the young nation. With its half-mile perimeter of



Left to right: Sub-bottom profiler, launching a magnetometer sensor, RoxAnn bottom classification data.

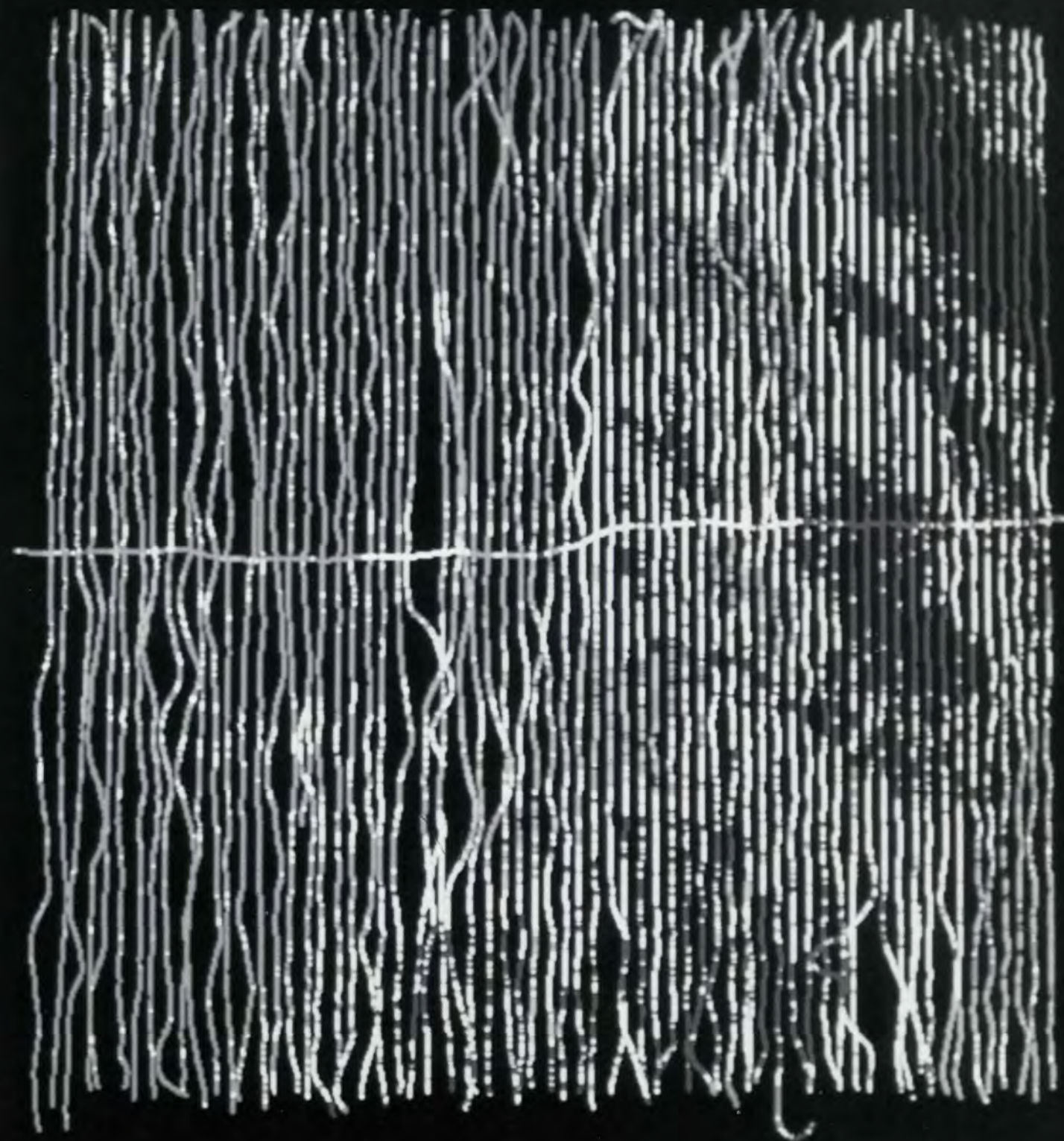


managing and interpreting them in ways parks have traditionally done. Each NPS region was to develop its own plan to implement SAIP. The submerged cultural resources unit—the Park Service underwater archeological team, established in 1980—was asked to create a model submerged site survey method adaptable to different regional environments.

Submerged archeological sites are less known than those on land—they really are "out of sight, out of mind." Underwater archeology is a new discipline, getting its start in the late 1950s. Because

Biscayne National Park Survey Block BISC006

ROXANN Natural Resource Data



National Park Service

Submerged Cultural Resources Survey System
Systemwide Archeological Inventory Program, 1994

LEFT AND RIGHT: TIM SMITH, NPS

and "where" are usually paramount. NPS managers, on the other hand, are not just concerned with the what and the where, but also with historical significance, with how and why an event occurred. Thus the Dry Tortugas project approached wrecks and other sites such as groundings (where ships ran aground but were later released by the tide) as the result of many complex environmental and cultural factors, not simply as random accidents. The primary assumption was that a maritime site reflects cultural patterns in its unique features as well as in the features it shares with similar sites throughout a region. The concentration of casualty sites was approached not as a haphazard conglomeration of unlucky vessels, but as a representative sample of all maritime activity in the area.

The numerous Tortugas wrecks represent a cross-section of multi-cultural interaction throughout the Gulf and north Caribbean. From this perspective, site interpretation is ultimately directed toward understanding sociocultural patterns responsible for the wrecks. Investigators analyze processes of culture change, commercial expansion, and conflict and competition among maritime nations operating in the region. The region's development, in turn, is looked at as an antecedent to today's economy, which is largely a product of maritime activity. The idea is that the shipwrecks in this centuries-old crossroads can provide important clues to the evolution of the global economic system we live in. This approach is way beyond merely making additions to the historical record.

FORWARD IN REVERSE

The survey was done in reverse of most projects; that is, the products were designed before the method. Both park managers and researchers told us that an integrated database that was comprehensive, cumulative, and computer accessible would be the most useful. From the outset, the survey was planned to produce data in a Geographic Information System format, which allows integration of disparate,

spatially related data sets. In 1992, when the survey was planned, GIS was not widely used. Recent advances in computers allow GIS to be used on PC-based hardware instead of dedicated workstations that require a specialist, which makes it accessible to small parks. A singular strength of GIS is that multiple data sets can be readily compared, with additions to the database easily made.

Because no off-the-shelf survey system

THE IDEA IS that the shipwrecks in this centuries-old crossroads can provide important clues to the evolution of the global economic system . . . This approach is way beyond merely making additions to the historical record.

was available, SCRUI designed one specifically for this project (in fact, this was one of the first underwater remote sensing surveys to be designed specifically for GIS). Dry Tortugas, like many places where the unit works, is quite remote, with little or no technical support. In remote coastal areas, often there are no survey control monuments (ground control points established by professional surveyors) that allow positions to be tied to geographic coordinates. As a result, the positioning and navigation system has to be capable of geodetic survey as well as real-time accuracy. The system has to be simple, portable, hardened for a rough environment, and completely self-sufficient, utilizing readily available equipment to minimize development and procurement costs. It has to accommodate various suites of remote sensing instrumenta-

tion, including a magnetometer (to locate ferrous material representing archeological sites), a survey fathometer (to measure depth), a sub-bottom profiler (to record stratigraphy below the seabed), a RoxAnn bottom classification device (to characterize the sea floor), and—in some applications—side-scan sonar (to render seabed topography and materials on and above it). This variety of sensors, which can be deployed as required for both natural and cultural resource surveys, provides a cost-effective solution that works in a range of park areas. Finally, the hardware has to install quickly and easily in small boats. Typically, SCRUI operates out of NPS crafts of opportunity, which are generally less than 30 feet long.

Accurate, real-time positioning is a basic requirement for seaborne survey projects. In shifting waters, submerged site surveyors must know their exact location from moment to moment to ensure systematic coverage of an area. Unlike terrestrial surveys, hydrographic surveys have no landmarks; simply put, it is very difficult to occupy and then reoccupy the same point and to know exactly where you are at all times.

By combining GIS with the satellite-based Global Positioning System, we solved this problem . . . almost. GPS can provide relatively accurate positions at one-second intervals. But due to the Department of Defense's policy of "Selective Availability"—along with other factors natural and manmade—accuracy is reduced to about 100 meters. In order to obtain the 2-meter accuracy that we require for archeological survey, we had to "differentially correct" the raw positions to remove inaccuracies.

A base station, set up on land at a geodetic GPS control point (which has an accuracy equivalent to a professionally surveyed monument), delivers the highest precision. The base station receives the satellite signal, corrects it, and retransmits to the survey vessel. Corrected base station signals can be picked up from U.S. Coast Guard navigational beacons and some commercial sources. Due to the remoteness of the Dry Tortugas, however, SCRUI had to set up its own station.

THE MAIDEN VOYAGE

For its maiden voyage, the Archeological Data Acquisition Platform was deployed on a 25-foot fiberglass outboard. To ensure systematic coverage, vessels must use GPS positions to follow pre-plotted transects, or lanes, typically within a rectangular area several kilometers long. Survey data are collected on 30-meter lane spacing with each 1-2-second data point coordinating the GPS positions with the time, depth, heading, speed of the vessel, and various instrument readouts. We've found that 30-meter lanes provide cost-effective magnetometer coverage with very high probability of locating most materials related to colonial-period shipwrecks—the most difficult to find because of their small size and few large iron objects.

The onboard computer, following the preplotted course, tells the vessel pilot where he is relative to the desired transect. Position and course information, generated by the onboard GPS receiver, is sent to a steering display on the helm showing cross-track error, speed, course, distance to end-of-line, and bearing to end-of-line. Data from towed sensors are transmitted to the computer with the GPS information and logged to disk for later GIS analysis.

This system produces impressive, comprehensive coverage for submerged lands. Few terrestrial methods compare. However, its real utility lies in being able to manipulate the data with the GIS software. In this case, SCRUI developed procedures to produce archival-quality information in the most general format available, ASCII, since no protocol existed at the time. ASCII files can be imported into most surface modelling modules and CAD software. From there, bathymetric and magnetic contours are easily produced, manipulated, and analyzed. The magnetic contours, in turn, can pinpoint concentrations of cultural materials.

Natural resource data for benthic survey was produced by the RoxAnn Bottom Classification Device, which indicates the sediment type of the seabed—

sand, coral, or rock. This data, presented as a map, can become part of the park's GIS database. Aerial photographs, bathymetry readings, and other GIS layers can then be overlaid on top. The result is a picture of the environmental context, for both archeological sites and natural resources. The RoxAnn device considerably enhances cost-effectiveness; natural and cultural data sets are collected simultaneously, with no additional costs beyond that of the instrument. A recent multiple-resource survey of Yellowstone demonstrated the success of this approach.

Once the entire suite of survey data is collected, sites can be easily located by examining the GIS layers. When a promising area is selected, usually based on the magnetic data, a site can be located by loading its computer-generated coordinates into a portable GPS receiver and following the range and bearing to its position in the water. Archeologists arrive at the site with accurate environmental information in hand. Once there, they can visually inspect it for cultural materials. The data they ultimately collect varies from a determination of "nothing found" to a large volume of information, including maps, photographs, video, and photogrammetric documentation of sites and features. All data are collected in a manner retrievable through the GIS.

In the Dry Tortugas project, we scanned in aerial photographs and historical maps (some dating from the 1700s) and overlaid them on the GIS data. The aerial overlays help spot "ship tracks," scars left on the bottom by vessels that ran aground, dumped ballast, and then continued on when refloated by high tide. Most of these sites are non-magnetic and thus easily overlooked by researchers relying solely on magnetometers. Because the Dry Tortugas are sand islands perched on a Pleistocene reef, they have moved, reshaped, disappeared, and reappeared over the centuries. Many have had different names at different times. Laying old maps over current ones shows changes in both topography and terminology. Static cartography becomes a dynamic.

GETTING THE BIG PICTURE

We operated the system in the summers of 1993, 1994, and 1995, completing more than 1,500 linear miles of survey lanes to cover about 27 square miles of the park. Most areas we surveyed were in depths of less than 30 feet, where wrecks are likely to occur (the rest of the park will be randomly sampled).

In some places, the density of magnetic anomalies surpassed 200 per kilometer, indicating many artifacts and much intermingling of sites. This has altered some of our notions about shipwrecks; here, they are rarely discrete. Rather, there are submerged areas of greater and lesser concentrations of material, reflecting multiple events over time. In one area, for example, there are at least four shipwrecks from the 1870s or so—some showing evidence of salvage—overlying an area where cannons were dropped perhaps half a century earlier, all close to where another vessel ran aground and offloaded two piles of ballast stones to release itself at high tide. We are treating spots like this as maritime casualty and activity areas. Thus we are learning to seek different evidence about the past than if we had dealt with each wreck separately. GIS is basic to this approach because it can track complex relationships over wide areas.

GIS has already proven to be a very powerful tool on land; now, with SCRUI's adaptation, it can inform those whose knowledge ends at water's edge. It is difficult to overstate the importance of cumulative databases whose variables can be easily manipulated; they have revolutionized the management of land in the National Park Service. Seaborne GIS inventory programs promise the same for submerged sites.

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submerged peril

RESOURCES IN

By WILLIAM S. DUDLEY

FROM ITS DAYS AS A FLEDGLING COLLECTION OF COMMERCE RAIDERS to its arrival as the fearsome instrument of a superpower, the United States Navy has left many wrecks on the ocean floor. Their fighting days are over, but these rusting hulks and silt-covered ruins are at the center of a new battle today.

Right: Artist's interpretation of the first shots fired in the historic battle between the USS *Kearsarge* and the CSS *Alabama* off the coast of France, summer 1864.

A U.S. Naval Perspective

NAVAL HISTORICAL CENTER





NAVAL HISTORICAL CENTER

In the late 1980s, two watermen plying the waters of Virginia's James River in search of a pair of famous Civil War wrecks finally found what they were looking for. Over a period of several years, they repeatedly visited the wrecks of the USS *Cumberland* and the Confederate raider CSS *Florida*, dredging up artifacts, some of which they advertised for sale in *North-South Trader*, a magazine for collectors of Civil War memorabilia. Brass and copper spikes from the *Florida* were melted down to make belt buckles.

A few years later, I had the pleasure of observing a ceremony at Norfolk's Nauticus Museum, in which the National Park Service presented a cash reward to the Confederate Naval Historical Society for its role in bringing the looters to justice. The society had gotten word that the artifacts were being trafficked interstate and informed the FBI, which ultimately resulted in guilty pleas from the parties involved.

Artist's interpretation of the USS *San Diego* sinking off the coast of Long Island after being torpedoed by a German submarine in July 1918.

Treasure Hunters and Thrill Seekers

Unfortunately, wreck-stripping is common these days. Naval ship and aircraft wrecks have become targets of opportunity for underwater souvenir hunters, for personal pleasure, profit, or both. Scuba gear and the technology of underwater detection has made it possible for people to locate and identify shipwrecks—both public and private, domestic and foreign. The lack of sufficient law enforcement personnel has made it possible for looters to exploit shipwrecks on an unprecedented scale. The spectacular salvage of the Spanish galleon *Atocha* and SS *Central America* and the retrieval of SS *Titanic* artifacts, while legal, serve as incentives for others to do the same, whether it is legal or not.

This situation sets the scene for the challenge facing the Navy

and other federal agencies, such as the Department of Commerce's NOAA and the National Park Service's Maritime Initiative and submerged cultural resource unit. The Navy's particular concern, of

The government had gotten the message that the public cares about its sailors and its naval heritage.

As naval custom and law have evolved, the government owns and the Navy is custodian of its wrecked ships and aircraft. They are not considered abandoned by virtue of neglect or the passage

U**NTIL THE 1960S, MOST SHIPWRECKS were considered fair game for salvage if they were abandoned by their owners. Indeed, soon after the disasters that sent its ships down, the Navy usually tried to retrieve what was recoverable, either through contract firms or their own salvage unit.**

course, is for its own historic ships and aircraft that now rest on the ocean floors and lake beds.

From time immemorial, naval shipwrecks have been treated with superstition and respect, partly because they usually contain remains of drowned sailors, and partly because wrecks can be dangerous places for unwary and undereducated divers. Shipwrecks are broken ships, whose compartments are usually torn up and are sometimes unrecognizable because of battle or storm damage. Unexploded, unstable ordnance can be strewn about the wreck or its debris field, posing life-threatening hazards. USS *San Diego*, sunk a few miles south of Long Island, is

one example of this kind of shipwreck, yet we know it has been visited by divers for many years.

Gone But Not Forgotten

Until the 1960s, most shipwrecks were considered fair game for salvage if they were abandoned by their owners. Indeed, soon after the disasters that sent its ships down, the Navy usually tried to retrieve what was recoverable, either through contract firms or their own salvage unit. Yet an incident that occurred not long after the Civil War provides an interesting counterpoint. One of the most dramatic events of the war was the loss of the ironclad USS *Tecumseh* during the battle of Mobile Bay in 1864. The ship sank very rapidly with 93 sailors aboard, including her captain. Less than 10 years later, the Navy and Congress attempted to sell the ship to a private salvor. When the project was announced, a tremendous public outcry arose. The sentiment was that the vessel was the last resting place for her sailors and that it should not be disturbed. Congress reversed itself. *Tecumseh* is still embedded in the Mobile Bay ship channel with the remains of its 93 sailors.

of time. They remain government property in perpetuity unless the Navy chooses to divest itself by a formal abandonment, which usually requires the consent of Congress.

The Navy also recognizes and defends the title of other governments to their warships, whether in U.S. or international waters. We expect reciprocity from foreign governments in like manner when U.S. Navy ships are discovered wrecked in their waters. The recent International Convention on the Law of the Sea includes provisions for protection of these wrecks.

Such a case is the Confederate cruiser CSS *Alabama*, rediscovered in French territorial waters in 1984, 120 years after she sank in battle with USS *Kearsarge*. After several years of negotiations, France recognized the U.S. claim to *Alabama* in 1989. The United States, in turn, recognized French control of the site and the water immediately around it. Further, the two nations established a joint scientific committee of maritime historians and archeologists to oversee excavations in conjunction with the French Ministry of Culture.

The project continues with good will on both sides and has had successful recovery dives each year since 1990. Some significant artifacts have been recovered, such as the ship's wheel, galley stack, pivot gun tracks, ceramics, Brazilian coins, mechanical flush toilets, and a Blakely gun with a shell still in the barrel. These are being conserved to the highest standard and most of the articles have been displayed in museums in Washington, Mobile, Paris, and Cherbourg. The *Washington Times* and *National Geographic* both featured in-depth articles on this enterprise.

In 1966, President Johnson signed the National Historic Preservation Act into law, which obliges federal agencies to identify, protect, and preserve historic properties under their control. If a property is eligible, the agency responsible is obliged to nominate it to the National Register of Historic Places. This law includes both submerged and terrestrial properties. The Department of Interior was given latitude in developing regulations for the implementation of this law. In August 1992, the Secretary of the Navy signed Instruction 4000.35, a directive specifically giving the Navy responsibility of undertaking historic preservation.



NAVAL HISTORICAL CENTER

Above: The sinking of the *Cumberland* by the ironclad *Merrimack* off Newport News, Virginia, March 1862; below: The submarine *Capelin*, which was never heard from again after leaving Port Darwin, Australia, on November 17, 1943.

Preserving Our Maritime Heritage

Since that time, the Naval Historical Center has actively implemented the NHPA for the Navy's submerged properties, in close cooperation with the Navy's General Counsel, its federal preservation officer, the admiralty law staff of the Navy Judge Advocate General, and the National Park Service. Implementation of the 1966 act and the 1992 directive is fraught with difficulties, characterized by the unknown scope of the properties to be identified, protected, and preserved, and the lack of adequate resources to do the job properly. Even with strong determination, support from above, and an abundance of people and equipment, this would be a terrific undertaking. We have determined, in a less-than-perfect world, to make the most of cooperation among federal agencies and states with interests and responsibilities similar to ours.

Assigned to oversee the protection and management of Navy wrecks, the NHC is currently building a program that will establish administrative procedures to help us accomplish that task. To date, the center has drafted a submerged resources management plan, initiated a comprehensive global inventory of its over 2,500 shipwrecks and 5,000 aircraft wrecks, and funded projects involving underwater archeological investigations of Navy wrecks and conservation of their artifacts.

Funding for this is provided by the Department of Defense's Legacy resource management program. The availability of funds is limited and legacy requests are subject to Congress' annual review and appropriation. However, significant achievements in the management of Department of Defense cultural and natural

Park Service's National Maritime Initiative, the National Conference of State Historic Preservation Officers, and universities. Other sources, such as the Navy Federal Preservation Office, the JAG Admiralty Division, Naval Investigative Service, and the Justice Department are helping out, as are, in some instances, naval units that specialize in underwater salvage and ordnance disposal.

Partnerships with SHPOs for the stewardship of naval wrecks within their waters are key elements for a successful preservation program. Although the NHC is producing comprehensive wreck inventories and an overall federal management plan, we cannot effectively monitor all naval wrecks at the local or state level.

The potential benefits of alliances between the Navy Department and the states are manifold: Helping to create and refine the Navy's national inventory of naval wrecks; providing site assessment and monitoring; developing management plans for wrecks; and making recommendations for protection and interpretation. A fusion of state and Navy efforts is already facilitating wreck surveys and assessments, funding management plans, and allowing for scientific research and public interpretation.

SHPOs and underwater archeologists are being contacted by NHC's shipwreck database manager for their assistance in refining the Navy's wreck inventory, which promises to be one of the largest and most comprehensive inventories of naval shipwrecks in the world. It will be an important tool for preservation, management, and interpretation, with benefits to federal and state agencies, the scientific community, and the public. At present, however, it is incomplete and unavailable for public access.

resources are being made. Most of the NHC's submerged resources program is conducted by means of partnerships with the National

The Navy is taking an increasingly active role in providing federal oversight to protect Navy wrecks and, in coordination with the appropriate SHPOs, encouraging legitimate archeological investigations. Recent examples of Navy oversight and support include the Civil War wrecks USS *Cumberland* and the Navy prize CSS *Florida* sunk in Hampton Roads, Virginia; CSS *Gaines*, USS *Philippi*, and USS *Tecumseh* in Mobile Bay, Alabama; CSS *Virginia II*, *Fredericksburg*, and *Richmond* located in the James River; and USS *Eastport*, lost in Louisiana waters.

Ongoing archeological projects currently funded by Legacy through the NHC include the survey of Revolutionary War and War of 1812 naval vessels in the Penobscot River and the Bay of Maine, and the survey and recording of USS *Allen* in Lake Champlain.

A series of plans providing for the management and protection of important Navy wrecks such as USS *Tecumseh*, USS *Cumberland*, and CSS *Florida* are being prepared through Legacy funding. The NHC is working with SHPOs and state universities to draft cooperative agreements and prepare management plans for Navy shipwrecks within their respective states. Prototypes of such partnerships are being developed with the states of Vermont, Maine, Texas, and North Carolina, and the NHC is attempting to implement similar projects in Florida, Maryland, and Rhode Island.

We are also attempting to serve the interests of the diving community by providing public interpretation of naval wrecks through the development of shipwreck preserves. In 1993, the North Carolina department of cultural resources and the Navy entered into the first cooperative agreement to administer a diving preserve involving the wreck of USS *Huron*, sunk during an 1877 storm and now listed on the National Register of Historic Places. Under the supervision of North Carolina's underwater archeology unit, the *Huron* preserve provides an experience that both educates the public and is a recreational adventure for sport divers.

In a similar vein, the Maryland Historical Trust and the Navy have entered into an agreement to develop the wreck of the captured German U-boat U-1105 as a diving preserve. In preparation, Navy dive teams secured U-1105 for sport diving by sealing openings into the submarine and removing debris, thus eliminating safety hazards.

The Legacy program also will provide for the conservation of U-1105 artifacts and an exhibition at nearby Piney Point Museum, as well as a report on the history and rediscovery of the submarine. The U-1105 diving preserve opened in 1995. These initiatives, established through the NHC and funded by the Department of Defense's resource management program, are providing protection and preservation, as well as interpretation of some of the United States' most significant underwater sites. In providing for the future while protecting the past, the Navy's submerged resources management program can benefit federal and state agencies, the scientific community, and the public.

WITHIN THE LAST FEW YEARS, the Navy has been involved in some legal disputes that have set important precedents for maritime preservation and archeology. The case of the bell from the CSS *Alabama* [has] reinforced the government's title to former Confederate property being sold on the open market.

Setting a Legal Course

Within the last few years, the Navy has been involved in some legal disputes that have set important precedents for maritime preservation and archeology. The case of the bell from the CSS *Alabama*, more accurately known as *Steinmetz vs. U.S.* (1992), reinforced the government's title to former Confederate property being sold on the open market. In this case, the United States claimed ownership of the artifact asserted by Richard Steinmetz to be CSS *Alabama*'s bell by right of succession to the Confederate government's military property. Steinmetz bought the bell in England from a dealer who told him the bell was recovered in 1936 from the *Alabama* wreck off Cherbourg, France.

There are many Confederate shipwrecks in U.S. waters, and the Steinmetz case will be useful in asserting government title to the artifacts from these sites. It happens that actual custody of the Confederate property found in the United States reposes in the General Services Administration. The Navy has consulted with the GSA and has offered to act as intermediary for protection of former Confederate naval properties.

Another case that recently garnered national recognition involved a Grumman F6F Hellcat salvaged by Rhode Island's Quonset Air Museum without Navy authorization or knowledge. We immediately protested, demanding the return of the aircraft to the Navy on the grounds it is government property in Navy custody. Museum officials first offered to cooperate and then changed their minds, going to court and suing the aircraft as an act of salvage. The Navy rejected the salvage argument and filed a counter-claim for damages due to injuries to the aircraft in the act of recovery.

This case has, at last, been settled out of court, with the museum allowed to retain the aircraft—providing it proceeds with appropriate conservation measures—under a loan agreement from the Navy. The Navy's ownership of it was upheld in the face of a challenge that threatened to undermine the Navy's ability to protect and preserve its historic properties. This agreement is one we can live with, and it also provides a model for future loans to responsible organizations wishing to recover and preserve naval aircraft for public display.

In the most recent case involving a Confederate shipwreck, author Clive Cussler claimed, in May 1995, to have discovered the remains of the submarine *H.L. Hunley* in shallow waters off the coast of Charleston, South Carolina. Within weeks of the announcement, U.S. representatives of the state of South Carolina had claimed the remains as state property and initiated legislation to order the General Services Administration, which by federal law had custody, to transfer title to the state. Although this effort had no result, there followed several months of discus-

NATIONAL ARCHIVES

sions among GSA, the Navy, and South Carolina officials. Meanwhile, the Navy requested that the GSA transfer custody to the Naval Historical Center for purposes of overseeing the protection and preservation of the wreck. Ultimately, a programmatic agreement was signed by the Navy, the South Carolina Hunley Commission, the Advisory Council on Historic Preservation, and the GSA, in which it was agreed that the title remained with the federal government, but South Carolina was granted possession in perpetuity. It was also agreed that the Navy would oversee the project with the assistance of a federal interagency committee.

WE DO BELIEVE that with the cooperation of other federal, state, and local agencies, and by reaching out in a positive way to the diving public, it may be possible to save what remains of this nation's historic underwater legacy for future generations.

A Lifeline for Maritime History

Learning the forgotten craft of building a boat, mapping the bottom of a river that could hide a 200-year-

al funds to be matched with contributions from non-profit sources. An advisory committee will review applications and make recommendations to the Secretary of the Interior, who will select the recipients. Applications will be available soon.

Grants for educational projects will be administered by the National Trust for Historic Preservation. Preservation grants will be handled through state historic preservation offices. SHPOs applying for grants must apply directly to the National Maritime Initiative.

For more information, contact Hallie Brooker, National Park Service, National Maritime Initiative, P.O. Box 37127, Washington, D.C. 20013, (202) 343-8170, fax 343-1244, e-mail hallie_brooker@nps.gov. Or, visit the Initiative's web site at http://www.cr.nps.gov/history/maritime/1st_tier.htm.



old warship, recording the oral traditions of immigrant fishermen—all are efforts to preserve American maritime history and culture. To make sure such work continues, the Park Service announces its National Maritime Heritage Grants program.

Beginning in early 1997, more than \$715,000 will be awarded to projects that facilitate research and learning. The grants intend to support a spectrum of maritime heritage projects that include

history, archeology, curation, ethnography, traditional maritime skills, or the acquisition of historic places.

Administered by the NPS Maritime Heritage Initiative, the program requires feder-

Above: The historic excursion steamer Columbia in Detroit, ca. 1910. She and her running mate, Ste. Claire, made the run from Detroit to Bob-Lo Island for 81 years. Today, they are both National Historic Landmarks, the only such excursion steamers that survive intact. **Right:** The Columbia boards passengers at Detroit's Bates Street Dock, ca. 1902.

Further, the Navy, the Hunley Commission, and the National Park Service collaborated in a month-long survey of the site in May 1996, during which the identity of the submarine as the Hunley was verified and the site was thoroughly examined. The data retrieved during the survey will be essential in planning for the possible recovery and conservation of the submarine.

Our accomplishments are the rewards of an effort that has developed gradually over the last five years. We know, however, that we alone cannot protect and preserve our submerged historic warships and aircraft. But we do believe that with the coop-

eration of other federal, state, and local agencies, and by reaching out in a positive way to the diving public, it may be possible to save what remains of this nation's historic underwater legacy for future generations.

William Dudley is Director, Naval Historical Center, 901 M St., SE, Washington, DC 20374, (202) 433-2210, fax 433-3593. This article first appeared in Underwater Archaeology Proceedings from the Society for Historical Archaeology Conference, 1995. Reprinted by permission.



LEFT, RIGHT: STEAMER COLUMBIA FOUNDATION

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A HOLIDAY ON THE RIVER.

With a sea captain's savvy, treasure salvors ply the murky channels in domestic and international law, following a centuries-old tradition of commercial salvage. At risk: the ability of the public to protect its interest in submerged cultural resources. What is needed, the authors say, is a system that promises comprehensive protection of these irreplaceable resources, while satisfying the interests of archeologists, salvors, and the public.

BELOW: THE TITANIC

CLOSING THE



in Domestic and International Law

ACHIEVING Compre- hensive PROTECTION of Submerged CULTURAL RESOURCES

CAROLINE M. ZANDER
AND OLE VARMER

Comprehensive legal protection of submerged cultural resources,¹ in both the national and international arenas, is essential. If this is not accomplished, the public interest in these non-renewable resources will continue to be threatened by unregulated salvage. The necessity for such wide-ranging legal protection has emerged because of the limitations of the legal preservation tools currently

in existence, the application of admiralty/maritime law to most submerged cultural resources, and the continuing advancements made in deep water technology. Currently, there is neither an international treaty nor domestic legislation that provides comprehensive protection, not just for historic shipwrecks and their cargo, but also for the many archeological sites and artifacts submerged with time or lost to the sea.

In both the domestic and international arenas, three main factors determine which, if any, laws can be used to protect these resources: their location, the ownership disposition of or control over the submerged lands in/on which they are located, and the ownership disposition of the resources themselves. These factors significantly restrict our ability to protect submerged cultural resources under the law, and thus many legal gaps exist. In the international arena, the law provides even less protection than it does in the domestic arena. As a result of these legal gaps, submerged cultural resources lying in both national and international waters are vulnerable to unregulated salvage.

One reason for these legal gaps is that, while there appears to be wholesale support for preserving submerged cultural resources, there is a major debate regarding their disposition. The two main interest groups, archeologists and treasure salvors, have taken polar positions on this issue.² Archeologists have argued that salvage law legitimizes activities that would be considered looting on public lands; salvors have asserted that they are entitled to ownership of and/or salvage rights to submerged cultural resources under admiralty/maritime law. The bottom line is that no one is winning this longstanding battle and, while the debate continues, information about our heritage continues to be lost or destroyed forever.

The Domestic Arena

With underwater technological advances (i.e., the development of scuba gear, metal detectors, remote sensing devices, and deep water submersibles), professional and amateur salvors have become increasingly more able to search for, locate, and recover submerged cultural resources. To protect their discoveries, salvors have turned to admiralty/maritime law and filed admiralty claims in federal courts. Specifically, they have argued that, under the law of finds ("finders-keepers law"), they should be granted title to abandoned historic shipwrecks and their cargo, as title vests in the person who first reduces these artifacts to his or her possession with the intention of becoming the owner thereof. Alternatively, they have asserted that they should be given salvage awards for rescuing these resources from "marine peril" and returning them back to the stream of commerce (the law of salvage). Both of these strategies have proven to be very successful for the salvors.³

Federal and state governments have historically countered the

salvors' arguments with their own claims of ownership. The federal government's main defense has been that it has ownership rights to these vessels in waters under its control.⁴

Both the federal government's and the salvors' positions came before the federal court system in the landmark case, *Treasure Salvors v. The Unidentified Wrecked and Abandoned Sailing Vessel*, 569 F.2d 330 (5th Cir. 1978), which centered on the ownership of a 17th century Spanish galleon believed to be the *Nuestra Señora de Atocha* ("the *Atocha*"), located beyond state waters on the outer continental shelf of the United States. The United States argued that it was entitled to ownership of the vessel pursuant to several statutes, including the Outer Continental Shelf Lands Act, 43 U.S.C. § 1331, et seq. ("OCSLA"), and the Antiquities Act, 16 U.S.C. § 431, et seq. Specifically, the United States argued that OCSLA demonstrated a "congressional intent to extend the jurisdiction and control of the United States to the outer continental shelf."⁵ The United States continued by arguing that the Antiquities Act, which protects artifacts located on lands owned or controlled by the United States, supported its claim of ownership because the *Atocha* rested on submerged lands under the "control" of the United States.⁶ The Fifth Circuit, however, rejected this argument and ruled in favor of *Treasure Salvors*, a company owned by Melvin Fisher, who is probably the most famous of all treasure salvors.

In its decision, the Fifth Circuit stated that OCSLA only extended federal control over the outer continental shelf for purposes of exploration and exploitation of its natural resources. Therefore, the United States did not, for purposes of the Antiquities Act, have "control" over the submerged lands upon which the *Atocha* rested. The court further explained that the international treaty underlying OCSLA excludes abandoned historic shipwrecks from its scope. Thus, by enacting OCSLA, the United States had not exercised its sovereign prerogative to claim ownership of the *Atocha*. The court also pointed out that, while the United States had the authority to exercise its sovereign prerogative to claim ownership of abandoned historic shipwrecks such as the *Atocha*, it did not do so under the statutes cited by the United States.⁷

In the domestic arena, the fallout from the *Treasure Salvors* case has been significant. Most importantly, as discussed later, it appears to give strong support to the argument that admiralty and maritime law controls in all cases except when there is a specific preservation law or permitting regime that can be used to protect submerged cultural resources.

THE ABANDONED SHIPWRECK ACT

State governments have also asserted ownership claims to submerged cultural resources pursuant to the Submerged Lands Act

and state preservation laws. This has resulted in inconsistent and often confusing judicial outcomes. To address these problems and strengthen the protection of certain historic shipwrecks and their cargo, Congress passed the Abandoned Shipwreck Act of 1987 ("ASA"), which became effective on April 28, 1988.⁸

REGULATING SALVORS

In addition to asserting ownership of submerged cultural resources, the federal government has used another approach that has proven successful in each of the three times it has been presented to a federal court. This approach is regulatory in

“If the Abandoned Shipwreck Act cannot protect THESE SUBMERGED CULTURAL RESOURCES AND THEY CANNOT BE PROTECTED UNDER DOMESTIC HISTORIC PRESERVATION LAWS, THEY ARE MOST LIKELY VULNERABLE TO UNREGULATED SALVAGE.”

In passing the ASA, Congress exercised the nation's sovereign prerogative over abandoned wrecks and their cargo within the waters of states and territories. Congress did so by first asserting federal title to these wrecks and then transferring that title to the states and territories in or on whose submerged lands the wrecks are located.⁹ This transfer of title allows states and territories to manage these submerged cultural resources as part of their duty to manage living and non-living resources in state waters and submerged lands.¹⁰

The passage of the ASA was an important congressional step that sought to offer some protection of certain submerged cultural resources. The ASA, however, has significant limitations. First, it applies only to abandoned wrecks within three nautical miles of the shores of American states and territories.¹¹ Second, it does not offer any protection to wrecks that are *not* abandoned. Third, abandonment has become increasingly more difficult to prove¹² [see article, "A Question of Abandonment," on page 64].

Two recent challenges illustrate the limited protection afforded by the ASA: *Deep Sea Research, Inc. v. The Brother Jonathan*, 883 F. Supp. 1343 (N.D. Cal. 1995), *aff'd*, 89 F.3d 680 (9th Cir. 1996) and *Columbus-America Discovery Group v. Atlantic Mut. Ins.*, 974 F.2d 450 (4th Cir. 1992), *cert. denied* __, U.S. __, 113 S. Ct. 1625 (1993). In both cases, the courts determined that the wrecks at issue were not abandoned. The court in *Deep Sea Research, Inc.*, held that "a wreck is not abandoned unless either 1) title is affirmatively renounced or 2) abandonment can be inferred from the lapse of time or the failure to pursue salvage efforts on the part of the owners."¹³

The *Columbus-America* matter concerned a wreck located outside of state waters. While not involving the ASA, this case is significant in that the Fourth Circuit articulated a strict test to determine abandonment. It held that a finding of abandonment could occur only if an express renunciation of ownership had been made.¹⁴

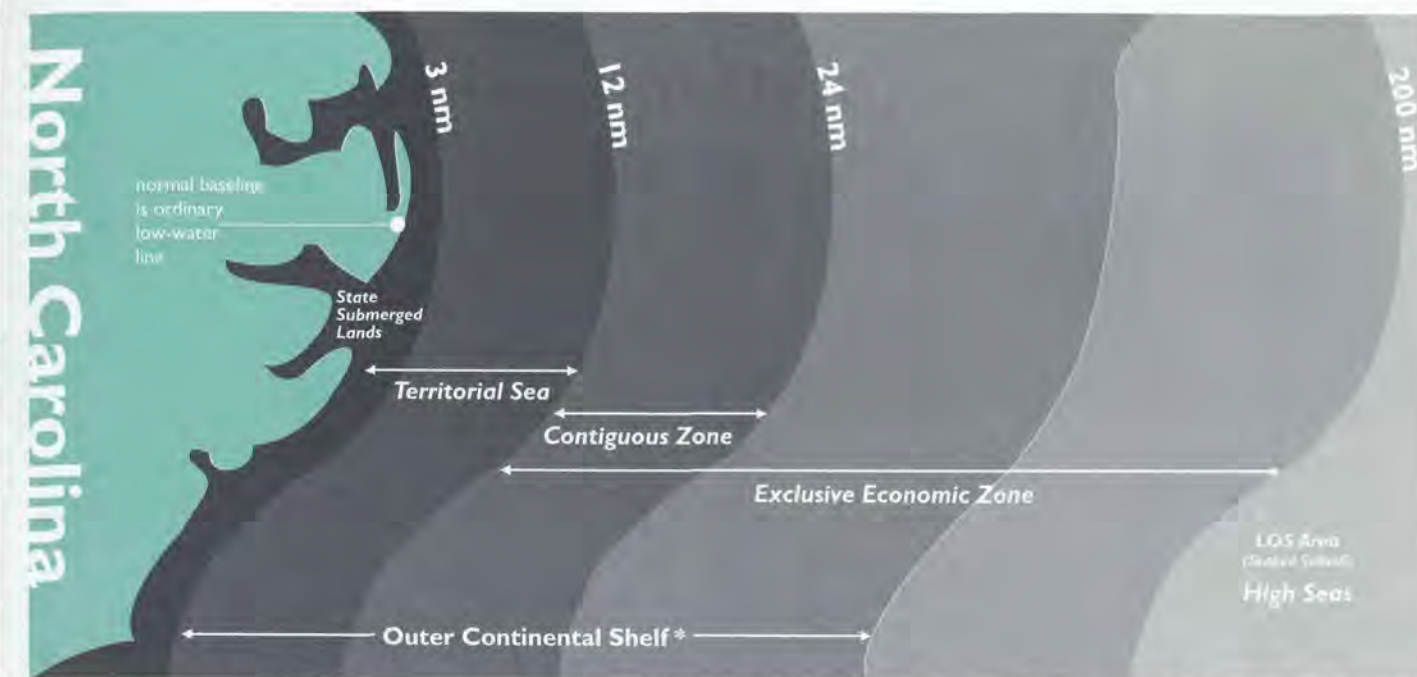
The effect of these decisions is that, for purposes of the ASA, the threshold requirement that a shipwreck be abandoned may be very difficult to prove. Thus the only congressional tool specifically designed to protect historic wrecks has become less effective. If the Abandoned Shipwreck Act cannot protect these submerged cultural resources and they cannot be protected under domestic historic preservation laws, they are most likely vulnerable to unregulated salvage.

nature and allows for the issuance of permits for research and recovery of certain submerged cultural resources pursuant to statutory and regulatory authority. If issued, these permits regulate salvage activities in a manner consistent with the standards and requirements of the federal archeology program. Additionally, this statutory and regulatory authority provides for the imposition of penalties and for other actions to be taken in the event salvage activities are conducted in violation of a permit or without a permit.

The National Marine Sanctuary Act, 16 U.S.C. §§ 1431, et seq. ("NMSA"), is one of the statutes that has been successfully used to regulate salvage operations.¹⁵ Under the NMSA, Congress provided that the Secretary of Commerce shall have the authority to designate and manage "certain areas of the marine environment possess[ing] conservation, recreational, ecological, historical, research, education, or aesthetic qualities which give them special national significance."¹⁶ In fact, the very first sanctuary, designated in 1975, was established to protect the Civil-War-era shipwreck, the *USS Monitor*.¹⁷

The success of the United States' regulatory approach in a marine sanctuary is illustrated in *Craft v. National Park Service*, 34 F.3d 918 (9th Cir. 1994). In *Craft*, the enforcement provisions of the Channel Islands National Marine Sanctuary were successfully applied. Specifically, an administrative law judge assessed civil penalties against several members of a dive club for removing and damaging submerged historic and cultural resources totaling over \$100,000 from the sanctuary. Both the District Court and the Ninth Circuit upheld the imposition of these penalties. The particular significance of this case is that a federal court of appeals upheld agency regulations prohibiting salvage activities within the boundaries of a national marine sanctuary.¹⁸

The NMSA is also being used as a preservation tool in the pending consolidated matters of *United States v. Melvin A. Fisher*, Case No. 92-10027 CIVIL-DAVIS (S.D. Fla., filed April 21, 1992) and *Motivation, Inc. v. The Unidentified, Wrecked and Abandoned Vessel*, Case No. 95-10051 CIVIL-DAVIS (S.D. Fla., filed August 3, 1995). These cases concern the salvage activities of Melvin Fisher, his son, and others that occurred within the Florida Keys National Marine Sanctuary. In this pending litigation, the United States is taking the position that Fisher and the others failed to obtain a permit that would have properly regulated his salvage activities and, as a result of that failure, sanctuary



***Under the Law of the Sea, the Continental Shelf comprises the shelf that extends beyond the Territorial Sea.**

resources were damaged. Accordingly, the United States is asserting that Fisher and the others violated provisions of the NMSA and the Antiquities Act (discussed later).

As part of the *Motivation, Inc.*, matter, Fisher, as Motivation's president, is asserting that under traditional rules of admiralty/maritime law, his company had a "right" to conduct their salvage activities. Specifically, Fisher's company seeks title to an alleged wreck and its cargo under the law of finds or, alternatively, a salvage award under the law of salvage. The U.S. District Court for the Southern District of Florida has not yet determined which position will prevail; a May 1997 trial of these consolidated matters is currently scheduled.

Another helpful attribute of the NMSA is its ability to protect submerged cultural resources located in waters out to the 200-nautical-mile exclusive economic zone (the "EEZ") of the United States. Specifically, the NMSA expressly provides that it is applicable throughout the 12-nautical-mile territorial sea. However, because the act also states that its application must be "consistent with international law . . .," it is unclear whether the NMSA can actually be enforceable against foreign flag vessels beyond the contiguous zone (the marine zone extending from 12 out to 24 nautical miles from shore).¹⁹ This is because customary international law only provides for the enforcement of a nation's domestic laws against foreign flag vessels out to the contiguous zone, not out to the EEZ. The relevant provisions of international law, however, do not speak to protection of submerged cultural resources against foreign flag vessels out to the EEZ; they state only that submerged cultural resources may be protected against foreign flag vessels out to the contiguous zone.

While the NMSA has proven that it can be successfully applied to protect submerged cultural resources, it is unclear how successful and/or practical it will be as a future tool to provide comprehensive protection of submerged cultural resources located in waters extending from our shores out to the EEZ. First, it requires

the creation of a national marine sanctuary by Congress, which involves a lengthy process. Further, once created, the NMSA only protects those submerged cultural resources located within that sanctuary's boundaries. Second, while the act has the furthest reach of any domestic legislation protecting submerged cultural resources, it is not clear how far beyond the U.S. contiguous zone the NMSA can be applied to protect these resources against unregulated salvage by foreign flag vessels.

THE LIMITS OF DOMESTIC HISTORIC PRESERVATION LAW

Two historic preservation statutes that have been traditionally applied to the terrestrial environment have been successfully applied in the marine environment: the Antiquities Act of 1906, 16 U.S.C. § 431, et seq., and the Archaeological Resources Protection Act, 16 U.S.C. § 470aa, et seq. The Antiquities Act has two main components: (1) a criminal enforcement component, which provides for the prosecution of persons who appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity on lands owned or controlled by the United States; and (2) a component that authorizes, through the issuance of a permit, the examination of ruins, the excavation of archeological sites, and the gathering of objects of antiquity on lands owned or controlled by the United States.²⁰

As discussed earlier, the Antiquities Act was first applied to the marine environment in *Treasure Salvors v. The Unidentified Wrecked and Abandoned Sailing Vessel*, 569 F.2d 330 (5th Cir. 1978), resulting in a win for the salvors. As set forth in the previous discussion of the *Treasure Salvors* case, the United States used the Antiquities Act to try to prove ownership of the *Atocha*. It did not argue that salvage should have been regulated pursuant to an Antiquities Act permit. Therefore, while the Fifth Circuit

CONTINUED ON PAGE 66

A Question of Abandonment



The Ninth Circuit Court of Appeals in San Francisco, in its recent decision in *Deep Sea Research, Inc. v. Brother Jonathan*,¹ has effectively set back by 20 years the efforts of states to protect and preserve historic shipwrecks. When the Abandoned Shipwreck Act² was passed in 1988 it was hoped that it would end the costly litigation between individuals and states over ownership and control of historic wrecks. The ASA provides that the federal government claim ownership of historic shipwrecks and then transfer it to the states. The government's right to claim ownership is predicated on the concept that the shipwrecks are abandoned because they have remained at the bottom of the sea for long periods of time. The act also provides that the traditional legal forum for shipwreck claims, the federal admiralty courts, will no longer have jurisdiction over historic shipwrecks. Congress correctly recognized that historic shipwrecks are out of the "stream of commerce" and their value is in their historic significance and not in their recovery for economic gain. Admiralty courts, whose purpose is to bring legal uniformity to disputes that grow out of waterborne commercial activities, were not a proper forum for the protection and management of historic shipwrecks.

What the supporters of the ASA failed to consider, however, was the extreme reluctance of the federal judiciary to surrender any of its traditional admiralty jurisdiction. Prompted by attorneys for treasure salvors, a number of recent court decisions in historic shipwreck cases have convoluted the purposes of the act. Those decisions have also redefined the legal principles of abandonment and sovereign immunity, limiting their use as legal tools for the protection of historic shipwrecks.

Although the *Columbus America*³ case did not involve the ASA because the wreck lies beyond the territorial sea, litigating the ownership of the vessel and cargo spawned a very restrictive definition of abandonment. Referred to as the "express abandonment" theory, it requires that abandonment be proven by "an affirmative act or statement of the owner." In contrast, the definition used by most maritime legal scholars is that abandonment is to be inferred from all circumstantial evidence including the passage of time. The latter definition, which was assumed by the authors of the ASA, is necessary to its effectiveness as a preservation statute.

Because the act applies only if a shipwreck has been abandoned, no matter how historically significant it may be, the question of

In 1865, the *Brother Jonathan* sank off the coast of California, joining a long line of vessels that shared a similar fate. Today, however, the ship is at the center of a hotly contested legal case concerning the essence of the Abandoned Shipwreck Act: the question of abandonment.

by Peter Pelkofer

whether the wreck is abandoned or not has become the threshold question in determining title. That question has also become the Achilles heel of state claims to historic shipwrecks. Sadly missing from the ASA's provisions is a presumption of abandonment, which would shift the burden of proof from the state to any other claimant. Carrying forward that burden is made all the more difficult by the "express abandonment" theory. Ironically, unless a state's ownership is challenged by a salvor, there is no way for the state to confirm title without commencing its own legal action.

In the absence of a challenge, most states have sought to secure title by asserting ownership through historic preservation

statutes. This asserted title, however, remains subject to a challenge by anyone who believes they can demonstrate a legal interest. Recently salvors have purchased interests in vessels by seeking out a still-existent insurer of the wreck and offering a percentage of the value recovered in their salvage operations. Having purchased that interest, they attempt to confirm title by a suit in a federal admiralty court. States resist by asserting their statutory title and relying on their sovereign immunity under the 11th Amendment to the U.S. Constitution. The 11th Amendment provides, with limited exceptions, that a state cannot be sued in a federal court without its permission. When a state claims its 11th Amendment immunity, a salvor is effectively prevented from adjudicating his own claim against the state's claim of title in a federal court. Although the federal court can proceed without the state's involvement, its judgment has no legal effect on the state, which can re-litigate all issues in a state court. This defensive posture has been successful in a number of cases including one in this federal circuit, *Marx v. Government of Guam*.⁴

The court in the *Marx* case, relying on an opinion of the U.S. Supreme Court, determined that a state (or a territory such as Guam) could sustain its right to claim a historic shipwreck by proving a "colorable claim." It defined a colorable claim as proof that the shipwreck was within the state's territorial waters and that the state had an "interest" in the vessel, such as an assertion of title contained in a state statute. Once a state proves these limited factual allegations, a federal court would be prohibited from considering the actual merits of the state's claim because to do so without the state's concurrence would constitute a violation of the state's sovereign immunity under the 11th Amendment.

Supported by the *Marx* decision and its own statute, California intervened in *Deep Sea's* suit against the *Brother Jonathan*, confident that the court would grant its motion to dismiss. That confidence soon dissolved when at the initial hearing it became obvious that the judge did not accept the *Marx* court's concept of a colorable claim and was intent upon conducting a full hearing on the question of abandonment. It was clear that the judge considered the state's motion an unacceptable attempt to limit his jurisdiction. After two lengthy hearings the matter was submitted for decision.

Five months later, the judge issued his decision in a 46-page memorandum and order. He found that the state had the burden of proving by a preponderance of the evidence that the *Brother Jonathan* was abandoned. Since California had not met that burden, he found that the ship was not abandoned, that the state had no interest and could not claim its 11th Amendment sovereign immunity. He also ruled the California statute that asserted state ownership of abandoned historic shipwrecks was preempted by the ASA and void. He determined that the wreck was not embedded (although a video offered by *Deep Sea* showed it buried almost to its deck in the seabed) and further that it was not historic since the state had never nominated it for National Register status.⁵ He used the restrictive *Columbus America* definition of abandonment and the requirements of eligibility under the ASA to defeat the state's title and circumvent the state's sovereign immunity.

Since the decision was in direct conflict with the decision in the *Marx* case, as well as a number of decisions from other appellate circuits, it was with some confidence that the state appealed the decision. While the appeal was pending, a stay of activities by *Deep Sea* was sought both from the district court judge and from the Court of Appeals. The district judge rejected the stay in another lengthy memorandum and opinion and the Court of Appeals consolidated the motion for stay with the decision on appeal.

On July 17, after another five months, the Court of Appeals rendered its decision. It upheld the district judge in all respects with some interesting additions. It found that the judge had not applied the restrictive "express abandonment" theory, although he cited the *Columbus America* case and specifically used it in support of his decision. The court also offered an interpretation of the Abandoned Shipwreck Act, stating on page 8687:

The ASA does not vest title to wrecks that satisfy its requirements directly in the state. Rather, it provides that the federal government may assert title to such wrecks. See 43 U.S.C. Section 2105(a). Only after the federal government takes title to the abandoned shipwreck may title then be transferred to the state.

This statement is made in direct contradiction to the clearly self-executing language of the statute, which provides:

The United States asserts title to any abandoned shipwreck . . . [43 U.S.C. § 2105(a)]

The title of the United States to any abandoned shipwreck asserted under subsection (a) of the section is transferred to the State in or on whose submerged lands the shipwrecks is located. [43 U.S.C. § 2105(c)]

California has filed a request for rehearing in the Ninth Circuit Court of Appeals, which is pending. If our request for rehearing is denied it is the state's intent to petition the U.S. Supreme Court for a determination.

Peter Pelkofer is a senior counsel with the California State Lands Commission. A 1963 graduate of the University of Wisconsin Law School, he specializes in maritime law and its application to shipwrecks. Currently he is litigating Deep Sea Research, Inc. v. The Brother Jonathan, a case discussed in this article concerning the ownership and salvage rights to an historic shipwreck sunk off Crescent City, California, in 1865. For more information, he can be reached at the California State Lands Commission, 100 Howe Ave., Suite 100-South, Sacramento, CA 95825-8202, (916) 574-1850, fax (916) 575-1855, email pelkoff@slc.ca.gov.

Notes

- 89 F. 3d 680 (9th Cir.1996).
- PL. 100-197; 43 U.S.C. 2101-2106.
- 974 F. 2d at 472 (4th Cir. 1992).
- 866 F. 2d 294 (9th Cir. 1989).
- The *Brother Jonathan* has since been determined eligible for the National Register.

in *Treasure Salvors* ruled that the Antiquities Act could not be used in conjunction with OCSLA to establish ownership of submerged cultural resources, it did not speak to the application and reach of the Antiquities Act's permitting component.

The Antiquities Act was applied to the marine environment in only one other case and that case did involve the act's permitting provision. In *Lathrop v. The Unidentified, Wrecked & Abandoned Vessel*, 817 F. Supp. 953 (M.D. Fla. 1993), the United States successfully argued that Randy Lathrop, who was salvaging an alleged 18th century Spanish galleon without a permit in the Cape Canaveral National Seashore, needed both an Antiquities Act permit and a Rivers and Harbors Act dredge and fill permit. Lathrop took the position that admiralty law exempted him from

ings in both the *Treasure Salvors* and *Lathrop* cases, it appears that its reach may be limited to regulating salvage only in marine protected areas in which the United States has the authority to protect submerged cultural resources.²² If the term "control" indeed is interpreted this way, then most submerged cultural resources will be vulnerable to unregulated salvage.

The Archaeological Resources Protection Act, 16 U.S.C. §§ 470aa, et seq. ("ARPA") is another historic preservation statute that has been successfully applied to the marine environment. ARPA was specifically designed to prevent looting and destruction of archeological resources. Like the Antiquities Act, ARPA has both an enforcement and a permitting component. The enforcement provision provides for the imposition of both crimi-

While salvage can be successfully regulated IN LIMITED CIRCUMSTANCES, MANY GAPS IN THE LAW EXIST THAT LEAVE MOST SUBMERGED CULTURAL RESOURCES VULNERABLE TO UNREGULATED SALVAGE ACTIVITIES.

complying with any act of Congress such as the Antiquities Act or the Rivers and Harbors Act. The United States countered by arguing that several congressional enactments, including both of these acts, were enforceable against Lathrop as the substantive law of admiralty can be modified and/or supplemented.

In essence, the position of the United States in *Lathrop* was that regulation as to the manner of salvage does not interfere with the underlying principles of admiralty/maritime law. The court agreed: "[c]ongressional enactments restricting the manner in which a potential salvor excavates property located on federally owned or managed lands does not offend these sound constitutional limitations [admiralty and maritime law jurisdiction]." ²¹ This is analogous to the government's treatment of car ownership; a person has the right to own a car, but the government maintains the right to regulate how that vehicle is to be operated.

It is clear that, where the United States has ownership or control of the submerged lands in or on which submerged cultural resources are located, the Antiquities Act permitting provision can effectively be used to regulate salvage. Confusion remains, however, over what is meant by the term "control." This confusion derives from the *Treasure Salvors* case where the Fifth Circuit denied that the Antiquities Act was a basis for claiming ownership to the *Atocha*. However, it remains unclear whether the Fifth Circuit also meant that the United States must have "control" over the submerged lands for the specific purpose of protecting submerged cultural resources in order for the act's permitting provision to apply. The interpretation of the term "control" was not an issue raised in the *Lathrop* case. Even if it had been, the United States would still have prevailed because the National Park Service has exclusive management authority or control over submerged cultural resources and other resources located within the Cape Canaveral National Seashore.

Clearly, the permitting component of the Antiquities Act can be a very effective regulatory tool. However, after reviewing hold-

ing and civil penalties against violators of the act. ARPA's permitting component allows for the recovery of certain artifacts consistent with the standards and requirements of the federal archeology program. It is the criminal enforcement provision of ARPA that was successfully used in *United States v. Hampton*, CRIM. DOC. Nos. P169925, P169927, and P169928 (United States District Court for the Southern District of Florida, July 18, 1986). In the *Hampton* case, a salvor was prosecuted for salvaging submerged cultural resources in Florida's Key Biscayne National Park. The case resulted in a plea bargain.

While ARPA appears to be a promising protection tool, it too is very limited in its application to the marine environment. Pursuant to the express language of the act itself, ARPA can only be applied to such areas as national parks and wildlife refuges. Additionally, ARPA specifically states that it does not apply to activities occurring on the outer continental shelf. Thus, ARPA's limited reach in the marine environment leaves many submerged cultural resources open to unregulated salvage.

There are other, more traditional environmental laws such as the National Environmental Policy Act, 42 U.S.C. §§ 4321-347 ("NEPA"), and the National Historic Preservation Act, 16 U.S.C. §§ 470e, et seq. ("NHPA"), which also offer some protection against unregulated salvage.²³ While these are not result-oriented statutes, they do require federal agencies to give consideration to the impacts of their activities on cultural resources. Accordingly, submerged cultural resources can be protected under these statutes, but only to the extent that the relevant federal agency involved must consider the activity's impacts on submerged cultural resources. So long as those impacts are considered, the agency has met its obligations under the law and need go no further. Therefore, these statutes may not offer comprehensive protection of submerged cultural resources.

It is clear that, after reviewing the effectiveness and reach of the major domestic historic preservation laws as applied to submerged cultural resources, more legislative protection is needed.

While salvage can be successfully regulated in limited circumstances, many gaps in the law exist that leave most submerged cultural resources vulnerable to unregulated salvage activities. It is the view of the authors that the most successful approach for achieving comprehensive protection of submerged cultural resources is a regulatory one. A multiple-use permitting process, as described later, would ensure both the protection of submerged cultural resources and provide for salvage activities to be conducted in a manner consistent with the standards and requirements of the federal archeology program. Such an approach would protect the public interest in these important resources. Additionally, it would consider the interests of both archeologists and salvors, thus putting an end to the stalemate between the two groups and, more importantly, preventing the sacrifice of submerged cultural resources in the process.

The International Front

Legal protection of submerged cultural resources under international law is even more limited than it is under national law. As a result, a tremendous number of historic wrecks remain open to salvage without any regulation whatsoever. One example of this is the *Titanic*. If a treaty regulating salvage had been in place, last summer's destructive attempt to raise part of the *Titanic*'s hull might never have happened.

There are two sources of international law: customary international practice and international agreements. The former has been defined as the custom or conduct of nations that has been generally accepted by the international community. The generally accepted practice of nations is, therefore, evidence of customary international law. Agreements such as treaties and conventions are the other primary source of international law, albeit this source is a formal and express one.

While there are a few international conventions that are applicable to submerged cultural resources,²⁴ no treaty offering comprehensive protection of submerged cultural resources exists. The need for such a treaty is apparent. In the meantime, salvors will continue to use admiralty and maritime law to the extent that coastal nations allow it under their domestic law.

THE LAW OF THE SEA

The Law of the Sea Convention (the "LOS"),²⁵ which became effective in 1994,²⁶ is the comprehensive international treaty for coastal state regulation of all uses and areas of the sea, including the air space above and the seabed below (coastal nations are referred to as "states" for purposes of this discussion).²⁷ It provides the legal framework for determining the authority, rights, and responsibilities regarding activities in the marine environment.

Certain provisions of the LOS may be relevant to the protection and management of submerged cultural resources. These include: 1) the jurisdiction and authority of nations in different marine areas; 2) the limits on coastal state jurisdiction; 3) the rights of passage and access; and 4) the obligations and duties of coastal states to protect and preserve submerged cultural resources and other resources in the marine environment.

The LOS does not in and of itself protect, preserve, or dispose

of submerged cultural resources; it does, however, impose a duty on coastal states to do so. The LOS provides the authority for coastal states to apply their domestic preservation laws in certain areas, namely each coastal state's territorial sea (extending from shore out to 12 nautical miles) and contiguous zone (extending from 12 out to 24 nautical miles from shore) as well as the "Area," or the seabed in the international commons (located outside of both the outer continental shelf and the 200-nautical-mile EEZ of each coastal state).

The LOS also sets forth how and where domestic preservation laws can apply to foreign citizens and foreign flag vessels. Additionally, it provides for the application and development of international treaties on submerged cultural resources.

Article 149 (addressing the Area) and Article 303 (addressing the sea) incorporate some coastal state duties and responsibilities for protecting submerged cultural resources. The scope of these duties, however, is not clear. In addition, there appears to be a gap in the LOS in that it fails to address the duties and responsibilities of coastal states pertaining to the protection of submerged cultural resources in a situation where the resources are located on a coastal state's outer continental shelf, which goes beyond the contiguous zone and continues to the outer portion of the EEZ.

Article 149 expressly imposes a duty on coastal states to preserve or dispose of submerged cultural resources, and sets forth preferential rights to consider in carrying that duty out. The article's language, however, does not specify the standards of that duty nor does it explain how that duty is to be executed. Further, it does not define the terms contained in the language of Article 149 such as "preferential rights of the State or country of origin," "State of cultural origin" or "State of historical and archaeological origin." The article also fails to delineate any ranking among those preferential rights cited in the provision.

In short, Article 149 attempts to address the global interest in protecting submerged cultural resources, but in so doing, it perhaps raises more questions than it answers. For this article to be effectively implemented, the ambiguities need to be clarified.

Article 303 of the LOS provides for protection of submerged cultural resources, however, the reach and definition of this protection is unclear. Specifically, Article 303(1) imposes a duty on states to protect archeological objects "found at sea" and does not define which of the various LOS marine zones are included in the term "seas" (i.e., the territorial sea, contiguous zone, the EEZ, and/or the high seas). Therefore, the duty imposed on states to protect submerged cultural resources is not clear. Some guidance can be inferred from Article 303(2)'s express reference to a state's ability to control trafficking of submerged cultural resources located within the contiguous zone. As a result, most experts agree that the duty to protect submerged cultural resources extends beyond the territorial sea and, at a minimum, includes the contiguous zone.

The largest problem with Article 303(1) and (2), however, is that it fails to set forth a definition of what is meant by protection. It simply states that states have a duty to protect, leaving it to the states themselves to determine what that duty is and how to implement it. Thus, the states are saddled with an undefined responsibility, along with a duty to ensure that they do not affect

the rights of identifiable owners, the law of salvage, or other rules of admiralty.²⁸ That is a rather tall order for the states to fill, especially when the LOS offers no guidance. For example, while a state's domestic implementation of the article could be enforced against domestic flag vessels out to the outer extremes of the EEZ, such enforcement would be limited against foreign flag vessels only out to the territorial sea and the contiguous zone.

Article 303(3) expressly states that there is no intent for the rights of owners or admiralty law, including the law of salvage, to be affected. Thus, if a state allows unregulated salvage under admiralty law, there is no violation of the LOS. It is equally true, however, that a state could enact laws that prohibit the unauthorized removal and recovery of submerged cultural resources in both the territorial sea and contiguous zone. Accordingly, the lack

Recommendation for Comprehensive Protection of Submerged Cultural Resources

Based on the relative success the United States has enjoyed using a regulatory approach to protect submerged cultural resources, the authors propose that such an approach be extended¹ to protect these resources in all waters, both domestic and international.²⁹ A multiple-use permitting system would address the interests of many, including salvors, divers, historians, and archeologists, while ensuring that the information derived from submerged cultural resources would be available to the public.

The proposed system would provide a framework for a case-by-case determination as to which submerged cultural resources

should be preserved in place for present and future generations and which submerged cultural resources should be recovered. In either case, however, such a determination would be based on the public interest. If recovery best serves the public interest, a second case-by-case determination would be made as to what role salvors should play. A key element of the system is that, in all cases, the research and recovery of submerged cultural resources would be consistent with approved archeological standards and requirements such as those set forth under the federal archeology program and/or the international standards as specified in the International Council on Monuments and Sites (ICOMOS Charter for the Protection and Management of the Underwater Cultural Heritage)

A multiple-use permitting system such as the one proposed here offers perhaps the greatest hope of achieving comprehensive protection of submerged cultural resources in all waters. If things remain unchanged, unregulated salvage will continue to jeopardize the public's ability to protect its interest in submerged cultural resources. It is clear that, given the complexity of this area of the law and the failure of the existing legal tools to provide anything more than limited protection, a creative solution for accomplishing comprehensive protection must be found.

The authors offer this broad outline of a regulatory system as a first step toward achieving a balance between the needs of both archeologists and salvors while ensuring that the public interest is best served. The next step, which is already underway, is to flesh out the details of the system, including the development of criteria to be used to govern the issuance of permits.

Conclusion

Submerged cultural resources are vulnerable, both nationally and internationally, to unregulated salvage. Protecting these resources in a piecemeal fashion has not and simply will not work. What is needed are domestic and international initiatives that complement each

other. Domestic legislation must be enacted or amended to comprehensively protect submerged cultural resources in the waters of the territorial sea and contiguous zone. This is not only essential, but is also consistent with current international law. At the international level, a treaty is needed to, at a minimum, protect submerged cultural resources outside nations' contiguous zones out to and including the LOS Area. Perhaps a multiple-use permitting system such as that proposed here will serve not only the interests of archeologists and salvors, but the interests of all people in their shared cultural heritage as well.

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The views expressed here are those of the authors and do not necessarily reflect the opinion or endorsement of the U.S. Department of Justice or the National Oceanic and Atmospheric Administration.

NOTES

1. The term "submerged cultural resources" refers but is not limited to: historic shipwrecks and their cargo, archeological and cultural resources whether resting upon or embedded in submerged lands and regardless of the ownership disposition of the artifact.

2. The terms "treasure salvors" and "salvors" as used throughout this article refer to both professional and amateur salvors who attempt and/or actually remove submerged cultural resources for purposes of monetary gain and/or private possession. Additionally, the term "salvage" as used in this article, refers to the removal or attempted removal of submerged cultural resources.

3. Such salvage awards for services rendered often amount to the value of the entire vessel and its cargo. See *Treasure Salvors v. The Unidentified Wrecked and Abandoned Sailing Vessel*, 569 F.2d 330, 336-37 (5th Cir. 1978). See also *Columbus-America Discovery Group, Inc. v. Atlantic Mut. Ins. Co.*, 974 F.2d 450 (4th Cir. 1992), cert. denied, ___ U.S. ___, 113 S. Ct. 1625 (1993), where the court awarded a salvage award amounting to 90 percent of the recovery.

4. See, e.g., id. at 337.

5. *Treasure Salvors*, 569 F.2d at 338.

6. Id.

7. It is questionable whether the outcome of *Treasure Salvors* would have been the same if the matter were heard today. The reason for this is that Presidential Proclamation 5928 (Dec. 27, 1988) extended the United States' territorial sea out to 12 miles from shore consistent with international law. Accordingly, it is arguable that the United States has now exercised its sovereign prerogative over submerged cultural resources out to 12 miles offshore. Thus, although never before attempted in federal court, the United States could take the position that it now has "control"

over the submerged lands for purposes of applying the Antiquities Act.

8. The Abandoned Shipwreck Act of 1987, P.L. No. 100-298, 43 U.S.C. §§ 2101-106 (1988).

9. Id. The ASA, however, does not apply to abandoned shipwrecks located in or on federal public lands and abandoned shipwrecks located in or on Indian lands. 43 U.S.C. §§ 2101, 2105.

10. Id.

11. In the Gulf of Mexico, the ASA applies to abandoned shipwrecks located in waters that are up to nine nautical miles from shore.

12. See, e.g., *Deep Sea Research, Inc. v. The Brother Jonathan*, 89 F.3d 680 (9th Cir. 1996).

13. *Deep Sea Research, Inc.*, 89 F.3d at 688.

14. See *Columbus-America Discovery Group*, 974 F.2d at 472 (Widener, J., dissenting).

15. The NMSA is Title III of the Marine Protection, Research and Sanctuaries Act of 1972, 16 U.S.C. §§ 1431, et seq.

16. 16 U.S.C. §1431(a)(2) [emphasis added].

17. The USS *Monitor* was lost when it sank off the coast of North Carolina on December 31, 1862. When it was found in 1973, there was excitement about the discovery and concern about its potential destruction due to looting or salvage. In order to protect and preserve the USS *Monitor*, two avenues were pursued: 1) designating it as a National Historic Landmark under the National Historic Preservation Act, 16 U.S.C. § 470a and the regulations promulgated thereunder; and 2) designating it as a National Marine Sanctuary. As a result, the USS *Monitor* became the first national marine sanctuary.

18. Also worth noting is that the District Court rejected the divers' argument that they were entitled to conduct their activities because they had a preexisting admiralty/maritime right of access, which, under the NMSA, would allow them to remove submerged cultural resources. Although this argument was not raised on appeal, the Ninth Circuit did acknowledge the district court's rejection of it.

19. The NMSA can be applied to "those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction, including the exclusive economic zone consistent with international law . . ." 16 U.S.C. §1432(3).

20. It should be noted that the Antiquities Act was under a constitutional attack in two cases. In *United States v. Diaz*, 499 F.2d 113 (9th Cir. 1974), the Ninth Circuit held that the Antiquities Act was unconstitutionally vague and therefore a violation of due process. Specifically, the court found that the definitions of "ruin," "monument," or "object" could also include objects made recently and, as a result, provided insufficient notice to the public of the applicability of the act's penalty provisions.

In *United States v. Smyer*, 596 F.2d 939 (10th Cir. 1979), the Tenth Circuit upheld the constitutionality of the Antiquities Act. The court distinguished the Smyer case from the Diaz case: the Diaz case involved face masks made in 1969 or 1970 as opposed to the objects appropriated in the Smyer case, which involved

“The authors offer this broad outline OF A REGULATORY SYSTEM AS A FIRST STEP TOWARD ACHIEVING A BALANCE BETWEEN THE NEEDS OF BOTH ARCHEOLOGISTS AND SALVORS WHILE ENSURING THAT THE PUBLIC INTEREST IS BEST SERVED.”

of clarity in the LOS may result in many inconsistencies concerning the protection of these resources among the coastal states.

Experts on the LOS agree that in reading Articles 149 and 303 together, there appears to be a gap in the protection afforded to submerged cultural resources. Unaddressed are a state's duties and responsibilities outside its contiguous zone out to the outer portions of its EEZ. UNESCO has been considering a draft convention to address this gap and to establish recovery standards. The draft UNESCO Convention would prohibit private recovery of submerged cultural resources and, as a result, has been opposed by the U.S. Department of State and its counterpart in the United Kingdom. Both of these agencies have suggested that, rather than use the existing draft, UNESCO should consider using the draft European Union Convention as a model for addressing the protection of submerged cultural resources because it does authorize private recovery of these non-renewable resources. The draft UNESCO Convention, however, remains in draft form and is not expected to be finalized in the near future.

After reviewing the limited protection of submerged cultural resources offered by the LOS, it is evident that, at a minimum, a treaty concerning submerged cultural resources is needed to clarify the duties, responsibilities, and standards for protecting these resources in waters outside the contiguous zone out to and including the LOS Area. To maximize the support of nations, the authors suggest that such a treaty be drafted that protects submerged cultural resources through a multiple-use permitting system that relies on flag state jurisdiction. Each nation, including the United States, would then pass new or apply existing domestic laws to implement the treaty and manage these important resources within its jurisdiction. Such a system would allow for a case-by-case determination of whether certain submerged cultural resources should remain in place or be recovered. If recovery is deemed appropriate, it would have to be consistent with approved archeological standards and requirements, as discussed below.

artifacts that were 800 to 900 years old and were taken from ancient sites for commercial purposes. *Id.* The court found that, as it applied to the case before it, the act suffered "no constitutional infirmity" and must be considered "in the light of the conduct with which the defendant is charged." *Id.*

21. *Lathrop*, 817 F. Supp. at 962 [emphasis in original].

22. It should be noted that, in the pending consolidated cases of *United States v. Fisher and Motivation, Inc.*, the United States is also taking the position that the salvors' activities were conducted in violation of the Antiquities Act. Specifically, the United States is asserting that the salvors did not first obtain an Antiquities Act permit prior to commencing their salvage activities.

23. Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, can also provide protection of submerged cultural resources. The Army Corps of Engineers is responsible for regulating dredge and fill activities through a permitting system. Salvage activities often involve dredging and filling of the seabed. Therefore, if salvors dredge or fill, regulation of their salvage activities can be accomplished and have a protective effect on submerged cultural resources. A case in which the application of the Rivers and Harbors Act permitting process successfully regulated salvage activities is the *Lathrop* case. There, the court found that regulation of Randy Lathrop's salvage activities were proper and did not interfere with admiralty and maritime law.

24. See United Nations Convention on the Law of the Sea, the World Heritage Convention, and the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.

25. While the Law of the Sea has yet to be ratified by the U.S. Senate, it has been signed by the Executive Branch and has generally been described as a codification of the customary international law of the sea. Thus, even if not ratified, much of the LOS would be considered to be reflective of customary international law.

26. The United Nations Convention on the Law of the Sea was entered into at Montego Bay in 1982 and became effective on November 16, 1994.

27. The term "state" or "State" for purposes of the Law of the Sea Treaty refers to sovereign nations and should not be interpreted to mean a state or states within the United States.

28. See LOS Article 303(3).

29. The authors acknowledge that submerged sovereign vessels should be exempt from any proposed system. Such vessels should remain the property of the particular sovereign under whose flag those vessels sailed, regardless of where they currently rest.

Deep Dilemma

by Tim Janaitis and Jeff Burns

ur company, Meridian Sciences, primarily supports U.S. Navy ocean programs. Occasionally we get involved in private ventures, but we were not prepared for the praise or the scorn that accompanied the discovery of the I-52 on May 2, 1995. We are neither archeologists nor treasure hunters, but this project kindled the passions of scientist and salvor alike.

For five decades the I-52 rested on the ocean bottom. In early 1995, we were hired to help find the submarine, now within the range of modern deep sea search equipment. Our client, Paul Tidwell of Virginia, had previously conducted shipwreck projects. Tidwell's quest was to find the I-52, promote the history of this famous ship, and if at all possible recover significant artifacts including the 146 gold bars originally destined to buy war material and technology. Meridian served as the technological facilitator with no financial interest in the venture.

The story of the I-52 begins in the closing days of WWII, when the Axis nations were surrounded. Faced with a tightening naval blockade, the Nazis and their

Japanese allies built a series of cargo carrying submarines such as the I-52. The vessel was 357 feet long, weighed roughly 2,500 tons, and was manned by nearly a hundred sailors. In April of 1944, the I-52 left Kure Naval Yard for the west coast of France with a cargo of tin, medicine, rubber, and gold. The sub planned to meet a U-boat in mid-Atlantic to refuel and exchange supplies. Unaware that the Allies were decoding the Axis communications, the I-52 made her way to the rendezvous. On the other side of the world, the Allies, hoping to catch both submarines on the surface, dispatched a naval task force led by the aircraft carrier USS Bogue. On June 23, 1944, searching at night and in poor weather, Avenger torpedo bombers from the Bogue engaged and sank the I-52, which had completed transferring supplies and personnel from the U-530 earlier that evening.

The uproar began with the discovery of the I-52 some 50 years later. Questions of ownership, motive, ethics, science, plundering, and desecration of war graves were voiced publicly and privately. Some positions

were staked out devoid of facts or any interest in ascertaining the facts. Others were based on people's experience with other organizations that recover artifacts solely for financial gain.

For Meridian, the rhetoric was a revelation and a cause for concern. We have no financial interest in the recovery and sale of artifacts. We are technologists with a strong interest in expanding our reputation as an ocean exploration firm. Our capabilities are based on technologies that are proven, available, and affordable. Mindful that ethics are open to interpretation, Meridian Sciences is committed to embracing an ethical approach to exploring the oceans of the world.

The experience surrounding the discovery of the I-52 presents a significant dilemma. On the one hand, Meridian has the opportunity and the capability to find artifacts in very deep water. On the other hand, the very act of pursuing shipwreck projects puts us at the center of an ethical debate within the archeological community. The former has the noble lure of contributing to mankind's understanding of his past while the latter may land us in hot water should the strict tenets of the archeological process be violated.

For us a course out of this dilemma is clear. Technologists like us develop and apply sensors and techniques. The challenge that we face is to develop new technologies that will result in higher standards for shipwreck exploration. Non-invasive sensor application, data fusion, and data visualization hold much promise. If these technologies are successfully applied to underwater archeological sites, the pre-disturbance survey will become truly pre-disturbance.

We are hopeful that the archeological community will commit to the possibility of jointly developing new and accepted techniques for deep water site exploration. Meridian is committed to forging cooperative relationships with the archeological, oceanographic, scientific, and entertainment communities in the hopes that together we can not only solve this dilemma, but pay for it too.

For more information please contact Meridian Sciences at 10015 Old Columbia Road, Suite A-200, Columbia, MD 21046, (410) 381-2270, fax (410) 381-2167.

The discovery of the Japanese WWII submarine I-52 in over three miles of water on the Atlantic floor illustrates the state of the art for deep-sea search equipment. The question remains as to how this technology will be used in the exploration of this and future submerged archeological sites. Two staff members of Meridian Sciences, a contractor that helped to find this historic vessel, offer their thoughts.



BY TONI CARRELL

The struggle between archeology and treasure hunting will ultimately be determined by which side is better at adaptation, says the author. In her opinion, it all comes down to . . .

Mutate, Migrate, Adapt,

OR



DIE

If treasure hunting and underwater archeology are two species competing for the same resource to survive, then archeology is losing, badly. The resource is, of course, shipwrecks. The exact figures are unknowable, but it is safe to say that for every underwater site attended to by archeologists, hundreds of others are

consumed as a result of environmental modification,

weekend curio-seeking, and professional treasure

hunting. Natural selection dictates that any endangered

**Illustrations by
Randall Mays**

species has a limited

number of options:

mutate, migrate, adapt, or die. Both treasure hunting

and archeology are trying to retain their essence

while actively exploring the first three strategies

and seeking to avoid the fourth. The essence of



treasure hunting is to find and salvage as much as possible as fast as possible. In the face of increasing regulation, depletion of the resource, and a more critical public, treasure hunting is mutating by changing its appearance, approach, and pitch. It is migrating to new habitats beyond the borders of the United States, and adapting by moving into deeper water.

The essence of archeology is to conserve and study as much as possible for as long as possible. The same pressures that affect treasure hunting, however, are at work. Graduates discover that the prime niches are filled, necessitating migration to other countries. Adaptation is producing active outreach, education, and forums for public awareness. Unfortunately, these efforts are not increasing archeology's share of the resource, but mutation may offer some promise. If so, does this mean that the basic premise of archeology needs examination? Is it still in the public's interest to insist on preserving and interpreting the past through the careful study of material culture? There is considerable evidence to suggest that the public wants bread and circus, not science. Because the public pays for both treasure hunting and archeology, it is reasonable to assume that the one that delivers the most product will ultimately triumph. But how much mutation can archeology afford before it loses its *raison d'être*?

This is the question that the Advisory Council on Underwater Archaeology considers routinely. Elected by members of the Society for Historical Archaeology, the ACUA is composed of 12 men and women with special interest and experience in the subject. The council is international in scope, representing state and federal agencies, avocational societies, conservators, universities, museums, and non-profit publicly funded research organizations.

Increasingly, the ACUA finds itself having to explain the difference between real underwater archeology and treasure hunting. To the layman, the expensive-looking, high-tech trappings and black-box printouts flashed by treasure salvors are indistinguishable from archeology. It is easy to convince the uninitiated that if

you salvage gold bars from 1,000 feet with a multimillion-dollar robot, it must be scientific. However, the basic difference between salvor and archeologist is not the techniques they use, or the commercial value of what they find, but attitude.

WITH THE PASSAGE of the Abandoned Shipwreck Act in 1988, many archeologists heaved a sigh of relief, thinking that it would afford a degree of protection for those shipwreck sites that were still undiscovered. Some archeologists went so far as to suggest that the act might serve as a model that other countries might one day seek to emulate. Now, eight years later, it is apparent that the act's stimulus did not reduce the amount of the resource available to treasure hunters, or increase the amount available to archeology. Instead it caused a dramatic mutation: a new breed of shipwreck predator, the "commercial shipwreck salvor," successor to the familiar, simple treasure hunter.

Although it succeeded in removing historically significant shipwreck sites from the purview of admiralty salvage law, the act did not slow down the rate of predation. It actually provided the legal means by which commercial treasure salvors, citing themselves as a legitimate "user group," have been able to affect federal management plan development to consider shipwreck salvage permits. The goal of the new breed is identical to that of the old, but the approach uses an adaptation borrowed from nature: protective mimicry. Dressed in business suits instead of cutoffs and Hawaiian prints, toting briefcases instead of sacks of doubloons, the new breeds talk of the "sustainable recovery" of "commercially viable shipwrecks" using "cutting-edge technology" that will result in "tourism enhancement" and "edutainment products."

In the last 18 months, the ACUA has offered guidance on a number of projects across the globe—all of which exhibit a disturbing pattern. Recognizing the exploitative proposals is becoming increas-



In the face of increasing regulation,

DEPLETION OF THE RESOURCE, AND A MORE CRITICAL PUBLIC, TREASURE HUNTING IS MUTATING BY CHANGING ITS APPEARANCE, APPROACH, AND PITCH. IT IS MIGRATING TO NEW HABITATS BEYOND THE BORDERS OF THE UNITED STATES, AND

adapting by moving into deeper water.

ingly difficult. In Mauritius, a proposal to excavate "the richest shipwreck in the world" turned out, when examined by the council at the behest of the island's government, to be little more than a snipe hunt. In another instance, "professional underwater archeologists" directing several projects in Uruguayan waters lacked the most basic education in archeology when compared to professional standards provided by the ACUA. Both governments are now looking into legislation to preserve shipwrecks as well as guidelines to evaluate proposals and personnel. In a third case, a concerned citizen of Anguilla with a strong interest in preservation was surprised to learn from the ACUA that there are alternatives to commercial treasure salvage. As a result of several discussions, a university-based archeological team is now gearing up to survey Anguillian waters as a first step toward site preservation.

But for every success there are many, many losses, the greatest of which appear regularly between the pages of widely read and respected publications.

IT IS CLEAR WHO IS WINNING the competition for shipwrecks now, but who will win in the end? Is archeology merely a withered branch of treasure hunting, or its evolutionary successor? Certainly there were treasure hunters long before there were archeologists. But that could just as easily be a progression from a generalized ancestor to a specialized descendant, the product of natural selection. One observation strongly suggests which branch will prevail in the end: the growing tendency of commercial treasure salvage to imitate archeology. Would a species seek to mimic its competition if its adaptive strategies were superior? In the fullness of time, we will know which evolutionary path was correct—but of course by then it will be too late.

For more information, contact Toni Carrell, Ships of Discovery, 1900 North Chaparral St., Corpus Christi, TX 78401, (512) 883-2863, fax (512) 884-7392.

NAGPRA NEWS

Implementing the Native American Graves Protection and Repatriation Act

Dealing with the Culturally Unidentifiable

COMMITTEE REVISITS
UNRESOLVED ISSUE

Meeting November 1-3 in Myrtle Beach, South Carolina, the NAGPRA review committee members returned to one of the most contentious issues surrounding the statute: what to do with culturally unidentifiable human remains that are now in the possession of museums and federal agencies. Reflecting upon the disparate interests at stake, the committee was unable to identify a consensus.

Discussions concerned two draft recommendations published for public comment in the August 20 *Federal Register*. Fifty comments had been submitted in response.

One draft recommendation dealt with how the phrase "shared group identity"

should be interpreted in the regulations. The other focused on repatriation to Indian groups that are not federally recognized. Neither recommendation satisfied all parties, and review committee members expressed frustration at the inability to reach an agreement. The issues will be revisited at the next meeting in March.

Two repatriation disputes were also heard. A wampum belt currently in the possession of Chicago's Field Museum of Natural History was the subject of one. The Oneida Tribe of Indians of Wisconsin, the Oneida Nation of New York, and the museum all gave opinions on the matter. The committee decided that a formal finding was not necessary and recommended that the two Oneida groups arrange discussions on the disposition of the belt. All parties agreed to that course of action. If the tribes or museum want the review committee to get involved again in the future, it is prepared to do so.



REVIEW COMMITTEE APPOINTMENT: Secretary of the Interior Bruce Babbitt has announced the appointment of Lawrence H. Hart (above) to the NAGPRA review committee. Hart succeeds Cheyenne elder William Tallbull, who died last March. Hart, who has been active with NAGPRA, was nominated by the Cheyenne and Arapaho tribes of Oklahoma and the Forest County Potawatomi. He is one of 44 Cheyenne peace chiefs.

The committee, established in 1992, reviews activities required by the act. It is composed of seven members who each serve five-year terms. Members are nominated by tribes, Native Hawaiian organizations, museums, and scientific organizations.

At the center of the other dispute was a carved wooden figurine in the possession of the Museum of Natural History at Roger Williams Park in Providence, Rhode Island. Museum officials and representatives from Hui Malama I Na Kupuna 'O Hawai'i Nei

and the Office of Hawaiian Affairs spoke regarding the disposition of the figurine. The committee members discussed the figurine and its cultural and historical context in detail, questioning the museum and Native Hawaiian representatives.



Milwaukee Museum, Buffalo Bill Center to Repatriate

Two notices of intent to repatriate have appeared in the Federal Register since the last issue of *Common Ground*, bringing the total number of notices published to 38. The Milwaukee Public Museum will repatriate a Parrot Clan mask, considered to be an object of cultural patrimony, to the Hopi Tribe. The mask, made of wood, hide, cotton, and basketry, is the communal property of the village of Orayvi. Samuel Barrett, at one time the museum's curator of anthropology, collected the mask at Orayvi, on Arizona's Third Mesa (above), in the summer of 1911.

A Medicine Pipe Thunder Bundle in the possession of the Buffalo Bill Historical Center in Cody, Wyoming, will

also be repatriated. The bundle meets the definition of a sacred object under NAGPRA. The center purchased it from a Montana dealer in 1968.

Ethnohistorical documentation gathered from Lone Wolf—together with evidence submitted by the Blackfeet Nation—indicates that the history of the bundle can be traced to the 1870s, when Eagle Plume was its traditional holder. It went through a succession of known bundle-holders until the 1960s, when one of the descendants sold it to the dealer. During consultation with authorized representatives of the Blackfeet Nation, it was determined that the bundle is necessary for the practice of the Blackfeet religion.

The issues in this case are whether the figurine is a "sacred object" as defined by the statute and, if so, whether the museum has the "right of possession." The committee discussed a recommendation in this case. Once a formal, written finding is completed, it will

be published in the *Federal Register*.

Archeologists, anthropologists, museum professionals, and tribal representatives from throughout the South-east also spoke on how the law is being implemented in the region. The meeting had been scheduled to coincide

with the annual gathering of the United South and Eastern Tribes.

The review committee requests reports from federal agencies regarding their compliance with NAGPRA, a subject to be discussed at the next meeting, March 25-27 in Norman, Oklahoma.

Tribes Recognized by Federal Government

BIA EXPANDS LIST

The Bureau of Indian Affairs has officially recognized four new tribes. They are the Jena Band of Choctaw Indians, Huron Potawatomi, Inc., the Samish Indian tribe, and the Delaware Tribe of Indians. Any museum or federal agency that has possession of or control over human remains or cultural items believed to be culturally affiliated with these tribes should contact:

JENA BAND OF CHOCTAW INDIANS

Jerry D. Jackson
P.O. Box 14
Jena, LA 71342
(318) 992-2717

HURON POTAWATOMI, INC.

Shirley English, Chairperson
221 1/2 Mile Rd.
Fulton, MI 49052
(616) 729-5151, fax 729-5920

SAMISH INDIAN TRIBE

Margaret Green, Interim Chairperson
P.O. Box 217
1618 D Ave.

Anacortes, WA 98221
(360) 293-6404

DELAWARE TRIBE OF INDIANS

Chief Curtis Zuniga
108 S. Seneca
Bartlesville, OK 74003
(918) 336-5272, fax 336-5513

NAGPRA Grants FY96

1. Unangan Repatriation Council. Qawalangin Tribe of Unalaska, with 10 villages from the Aleutian Island Region of Alaska. Contact Juliana Martin: (907) 581-2920.

2. St. Lawrence Island Repatriation Project. Native Village of Gambell, with the Native Village of Savoonga. Contact Edith Tungiyen: (907) 985-5346.

3. Coordination for Bering Straits Villages and Corporations—the Next Step: Communities as Trustees. Bering Straits Foundation. Contact Vernon Olson: (907) 443-5252.

4. Summary and Inventory Assessment and Documentation. Chickaloon Village. Contact Jennifer Harrison: (907) 333-0337.

5. Repatriation of Murrelet Hat. Chilkoot Indian Association. Contact Harriet Brouillette Hart: (907) 766-2323.

6. Summary and Inventory Assessment and Documentation. Hoonah Indian Association. Contact Johanna Dybdahl: (907) 945-3545.

7. Preparation of a Tlingit Clan Crest Register and NAGPRA Object Database. Central Council of Tlingit and Haida Indian Tribes of Alaska. Contact Cheryl Eldemar: (907) 586-1432.

8. Inter-Tribal Claim Resolution and Museum-Tribal Sacred Object Consultations. Burke Memorial Museum, University of Washington, with members of the Washington state tribal community. Contact James Nason: (206) 543-9680.

9. Makah and Nuu-cha-nulth NAGPRA Documentation Project. Makah Indian Tribe, with Nuu-cha-nulth Tribal Council. Contact Janine Bowechop: (360) 645-2711.

10. Summary and Inventory Assessment and Documentation. Confederated Tribes of the Chehalis Reservation. Contact Leland Nedeau: (360) 273-5911.

11. Mendocino County Collaboration. Sherwood Valley Rancheria, with Guidiville Indian Rancheria, Pinoleville Indian Rancheria, Laytonville Rancheria, Coyote Valley Band of Pomo Indians, Hopland Band of Pomo Indians, Round Valley Reservation, and Redwood Valley Little River Band of Pomo Indians. Contact Pauline Girvin: (707) 459-9690.

12. Consultation with the Sierra Me-Wuk. Phoebe Hearst Museum of Anthropology, University of California at Berkeley, with Tuolumne Band of Me-Wuk Indians, Jackson Band of Miwuk Indians, American Indian Council of Mariposa County, Calaveras Band of Mi-Wuk Indians, and Sierra Native American Council. Contact Edward Luby: (510) 643-7884.

13. Consultation with Hopi and Navajo Tribes. San Diego Museum of Man, with Hopi Tribe and Navajo Nation. Contact Ken Hedges: (619) 239-2001.

14. Summary and Inventory Assessment and Documentation. Hopi Tribe. Contact Leigh Jenkins: (520) 734-2244.

15. NAGPRA Photographic Documentation. Centennial Museum, University of Texas at El Paso, with Carlsbad Museum and Art Center, Museum of Texas Tech University, and University Museum

at New Mexico State University. Contact Scott Cutler: (915) 747-5565.

16. Summary and Inventory Assessment and Documentation. Mescalero Apache Tribe. Contact Ellyn Bigrope: (505) 671-4494 x254.

17. Continuing the Dialogue—Fostering Regional Consultation. Maxwell Museum of Anthropology, University of New Mexico. Contact Brenda Dorr: (505) 277-0195.

18. Continuing Consultation Regarding Pecos Pueblo, New Mexico. Peabody Museum of Archaeology and Ethnology, Harvard University, with Jemez Pueblo, Cochiti Pueblo, and Robert S. Peabody Museum of Archaeology. Contact Barbara Isaac: (617) 495-2254.

19. Continuing Consultation Regarding Pecos Pueblo, New Mexico. Robert S. Peabody Museum of Archaeology, with Jemez Pueblo, Cochiti Pueblo, Peabody Museum of Archaeology and Ethnology, and Maxwell Museum of Anthropology. Contact James Bradley: (508) 749-4490.

20. Continuing Collaboration—Engaging and Incorporating the Native Voice. Museum of New Mexico Foundation, with Acoma Pueblo, Jemez Pueblo, Navajo Nation, Pueblo de San Ildefonso, Taos Pueblo, Isleta Pueblo, and Pueblo of Zuni. Contact Patricia Niefeld: (505) 827-6344 x559.

21. Consultation with Pueblo of Zuni. Denver Art Museum, with Colorado Historical Society and Pueblo of Zuni. Contact Nancy Blomberg: (303) 640-7572.

22. Kootenai Documentation Project. Confederated Salish and Kootenai Tribes, with Kootenai Tribe of Idaho and Ktunaxa/Kinbasket Tribe. Contact Naida Lefthand: (406) 849-5541.

23. Consultation with 15 Great Plains Tribes. South Dakota State Archeological Research Center, with Crow Creek Sioux Tribe, Devils Lake Sioux Tribe, Flandreau Santee Sioux Tribe, Fort Peck Assiniboine and Sioux Tribes, Lower Brule Sioux Tribe, Lower Sioux Indian Community, Northern Cheyenne Tribe, Oglala Lakota Nation, Omaha Tribe of Nebraska, Rosebud Sioux Tribe, Shakopee Mdewakanton Sioux Community, Sisseton-Wahpeton Sioux Tribe, Standing Rock Sioux Tribe, Three Affiliated Tribes of the Fort Berthold Reservation, and Upper Sioux Community. Contact James Haug: (605) 394-1936.

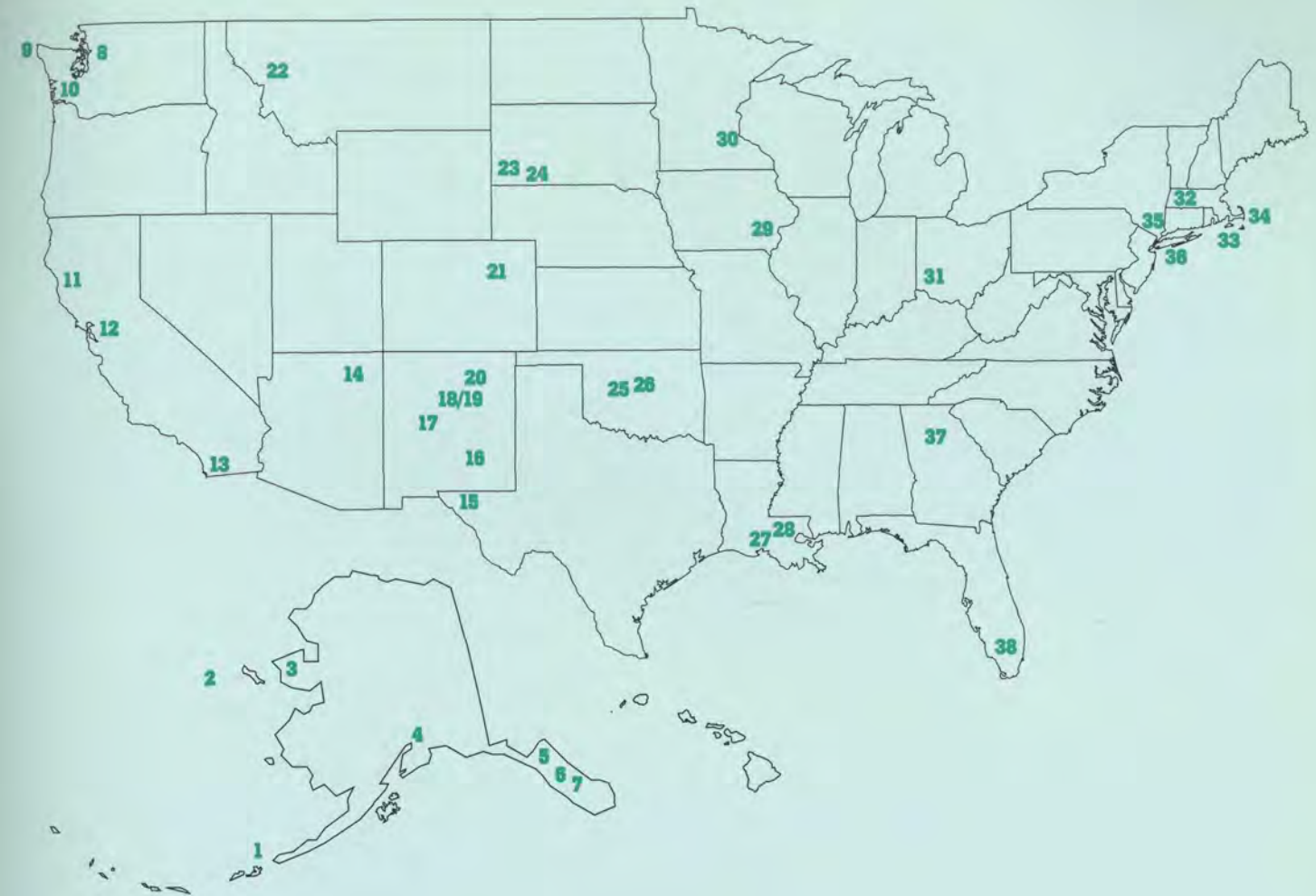
24. Summary and Inventory Assessment and Documentation. Oglala Sioux Tribe. Contact Julia Lakota: (605) 455-2321.

25. Summary and Inventory Assessment and Documentation. Cheyenne-Arapaho Tribes of Oklahoma. Contact Margaret Anquoe: (405) 262-0345.

26. Summary and Inventory Assessment and Documentation. Iowa Tribe of Oklahoma. Contact Marianne Long: (405) 547-2402.

27. Creating Mutual Understandings—Consultations with Museums. Chitimacha Tribe of Louisiana. Contact Melanie Marcotte: (318) 923-4395.

28. Consultation with Six Southeastern Tribes. Museum of Natural Science, Louisiana State University, with Chickasaw Nation, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Jena Band of



Choctaw Indians, Mississippi Band of Choctaw Indians, and Tunica-Biloxi Tribe of Louisiana. Contact Rebecca Saunders: (504) 388-6562.

29. Oneota Consultation. Iowa State Archeologist, University of Iowa, with State Historical Society of Iowa, Iowa Tribe of Kansas, Iowa Tribe of Oklahoma, and Otoe-Missouria Tribe. Contact William Green: (319) 335-2389.

30. Consultation and Inventory. Minnesota Indian Affairs Council. Contact Joseph Day: (612) 643-3032.

31. NAGPRA Photographic Documentation. Dayton Museum of Natural History. Contact J. Heilman: (513) 275-7431 x15.

32. Seneca Consultation. Springfield Science Museum, with Seneca Nation, Tonawanda Band of Seneca Indians, and Seneca-Cayuga Tribe of Oklahoma. Contact John Pretola: (413) 263-6800 x320.

33. Creating Partnerships. The Children's Museum, Boston, with Fruitlands Museum, Haffenreffer Museum, Robert Abbe Museum, Robert S. Peabody Museum of Archaeology, Aroostock Band of Micmac Indians, Mashpee Wampanoag Tribe, Wampanoag Tribe of Gay Head (Aquinnah), Passamaquoddy Tribe, Penobscot Nation, Tomaquog Indian Memorial Museum, and United Native American Cultural Center. Contact Joan Lester: (617) 426-6500 x261.

34. Wampanoag Collaboration. Wampanoag Tribe of Gay Head

(Aquinnah), with Mashpee Wampanoag Tribe and Assonet Band, Wampanoag Nation. Contact Tribal Administrator: (508) 645-9265.

35. Consultation with Southwestern Tribes. American Museum of Natural History, with Brooklyn Museum, Montclair Art Museum, Acoma Pueblo, Navajo Nation, and the Southern Paiute Consortium. Contact Martha Graham: (212) 769-5846.

36. Consultation with Southwestern Tribes. Brooklyn Museum, with Acoma Pueblo, Colorado River Indian Tribes, Hopi Tribe, Navajo Nation, Ute Indian Tribe of the Uintah and Ouray Agency, the Western Apache Group, and Pueblo of Zuni. Contact Elizabeth Reynolds: (718) 638-5000.

37. Continuing Consultation Regarding the Etowah Site, Georgia. Georgia Department of Natural Resources, with Georgia State Museum of Science and Industry, Michael C. Carlos Museum, Robert S. Peabody Museum of Archaeology, Alabama-Quassarte Creeks, Kialegee Creeks, Muscogee (Creek) Nation of Oklahoma, Poarch Band of Creek Indians, Thlopthlocco Creeks, Cherokee Nation of Oklahoma, Eastern Band of Cherokee Indians, and United Keetoowah Band of Cherokee Indians. Contact Billy Townsend: (404) 656-2770.

38. Seminole and Miccosukee Collaboration. Seminole Nation of Oklahoma, with Seminole Tribe of Florida and Miccosukee Tribe of Florida. Contact Ted Underwood: (405) 382-8617.

Repatriation Inventories Submitted

The following are a few of the completed inventories submitted to the NPS archeology and ethnography program since the last issue of *Common Ground*. To date, 101 notices have been published in the *Federal Register*.

Fort Union Trading Post National Historic Site, Williston, ND. The remains of seven individuals and 2,293 associated funerary objects, recovered from Fort Union (right, in the 1800s) between 1969 and 1986. The remains of one person were removed by a vandal, but later recovered by the FBI and returned to the Park Service. The objects found with the remains include glass beads, buttons, iron projectile points, copper bracelets, earrings, lead balls, and various tools. These objects date the burials to between 1867 and 1880.

Anthropometric data indicate a relationship between the remains and Siouan-speaking populations of the northern plains, including the Assiniboine and Hidatsa. Letters from military officers living in the area in 1868 state that members of both tribes took up permanent residence at Fort Union after it was abandoned as a trading post a year earlier. Historical documents refer to Assiniboine women and children killed in Sioux raids during this time. A nearby Hidatsa settlement also suffered periodic attacks.

The Park Service determined that these items are culturally affiliated with the Assiniboine and Sioux tribes of the Fort Peck Indian Reservation, the Gros Ventre and Assiniboine tribes of Montana, and the Three Affiliated Tribes of the Fort Berthold Reservation.

Little Bighorn Battlefield National Monument, Crow Agency, MT. The remains of one individual recovered in the 1890s by a surveyor in the vicinity of the battlefield. The surveyor's family returned the remains, consisting of a skull and two femora, to the park in February 1996.

Analysis suggests they are affiliated with Woodland groups that occupied the western reaches of the Dakotas from about 90 to 600 AD. The remains also appear to be affiliated with late prehistoric groups such as the Blackfeet, Crow, and Hidatsa, who inhabited the area as well. Physical anthropological evidence suggests they are most likely affiliated with the Crow or Hidatsa. Oral evidence from all tribes attending consultation meetings, the Blackfeet included, supports this conclusion.

Chickasaw National Recreation Area, Sulphur, OK. The remains of two individuals given to Chickasaw NRA in 1942 and 1958. The former were donated by an amateur

archeologist who found them near the banks of the Big Sandy River. The latter were found by a local rancher about 10 miles south of the park boundary.

Archeological examination of the remains dates the occupation of the sites to ca. 800-1500 AD. Anthropological evidence indicates that Caddoan language-family groups were in the area before European contact. The Caddo and Pawnee were documented as being in the area by the 1500s and the Wichita confederacy by the beginning of the 1700s. It has been determined

that the remains are culturally affiliated with the Caddo, Pawnee, and Wichita Affiliated Tribes.

Tonto National Forest, Phoenix, AZ. The remains of 1,376 individuals and 5,326 associated funerary objects, recovered from the forest between the mid-1920s and 1990. Most of the items were recovered during legally authorized excavations. Others, however, were confiscated from pothunters or collected from vandalized sites.

These individuals and funerary objects (including pottery,

bracelets, beads, and pendants) represent Native American occupation of Tonto between 150 and 1900 AD. The cultures identified are Hohokam, Salado, Mogollon, and Yavapai. The individuals and funerary objects have been determined to be culturally affiliated with the Ak-Chin Indian Community, the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, and the Tohono O'odham Nation. Two individuals are also culturally affiliated with the Hopi Tribe and the Pueblo of Zuni.



FORT UNION NATIONAL HISTORIC SITE

Taking Stock of a Legacy

LOCATION OF INVENTORY	CONTENTS	CULTURALLY AFFILIATED WITH
Olympic National Park Port Angeles, WA	1 human remain	Makah Indian Tribe of Washington
Bureau of Land Management Anchorage, AK	92 human remains, 2,191 funerary objects 294 human remains, 556 associated funerary objects 1 human remain 3 human remains 2 human remains	Native Village of Savoonga Native Village of Unalakleet Native Village of Hooper Bay Native Village of Shaktoolik
Michigan State University Museum East Lansing, MI	145 human remains, 65,160 associated funerary objects	Saginaw Chippewa Tribe of Michigan
Bent's Old Fort National Historic Site La Junta, CO	2 human remains	Cheyenne-Arapaho, Comanche, Kiowa, Southern Ute, and Ute Mountain Tribes
University of Kansas Museum of Anthropology Lawrence, KS	3 human remains	Hui Malama I Na Kupuna O Hawaii Nei, Office of Hawaiian Affairs, Hawaii Island Burial Council
Gila Cliff Dwellings National Monument Silver City, NM	46 human remains, 15 associated funerary objects	Hopi Tribe, Pueblo of Acoma, Pueblo of Laguna, Zuni Tribe
Bandelier National Monument Los Alamos, NM	37 human remains and 10 associated funerary objects	Pueblos of Acoma, Cochiti, Isleta, Jemez, Laguna, Nambe, Picuris, Pojoaque, San Felipe, San Ildefonso, San Juan, Sandia, Santa Clara, Santo Domingo, Taos, Tesuque, Zia, Zuni, Hopi, Ysleta del Sur Pueblo (TX)
Fruitlands Museum Harvard, MA	1 human remain	Rosebud Sioux
Reading Public Museum Reading, PA	2 human remains	Hui Malama I Na Kupuna O Hawaii Nei
California Academy of Sciences San Francisco, CA	1 human remain	Off. of Hawaiian Affairs, Hui Malama I Na Kupuna O Hawaii Nei, Maui/Lanai Island Burial Council
Los Angeles County Museum of Natural History Los Angeles, CA	17 human remains	Hui Malama I Na Kupuna O Hawaii Nei, Office of Hawaiian Affairs
Bureau of Land Management Reno, NV	1 human remain	Duck Valley Shoshone-Paiute Tribal Council, Ely Shoshone Tribe, Goshute Tribal Council, Battle Mountain, Elko, and South Fork Bands of the Te-Moak Tribe of Western Shoshone, the Yomba Shoshone Tribe, and the Timbisha Shoshone Tribe
Fowler Museum of Cultural History Los Angeles, CA	7 human remains	Hui Malama I Na Kupuna O Hawaii Nei, Office of Hawaiian Affairs, the Oahu Burial Committee and the Kauai/Nihau Island Burial Council
University of Arkansas Museum Fayetteville, AR	2 human remains	Hui Malama I Na Kupuna O Hawaii Nei
California State University Fullerton, CA	16 human remains	Off. of Hawaiian Affairs, Hui Malama I Na Kupuna O Hawaii Nei, Maui/Lanai Island Burial Council
Channel Islands National Park Ventura, CA	6 human remains	Santa Ynez Band of Mission Indians
UPenn Museum of Archaeology and Anthropology Philadelphia, PA	62 human remains	Hui Malama I Na Kupuna O Hawaii Nei, Office of Hawaiian Affairs, Hawaii Island Burial Council

common Ground

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Pictured: Christening at the Moore Shipbuilding Yard, Oakland, 1919 (San Francisco Maritime National Historical Park).

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