

Illinois Shipwrecks:

S
Y

The Past

The Present

The Future



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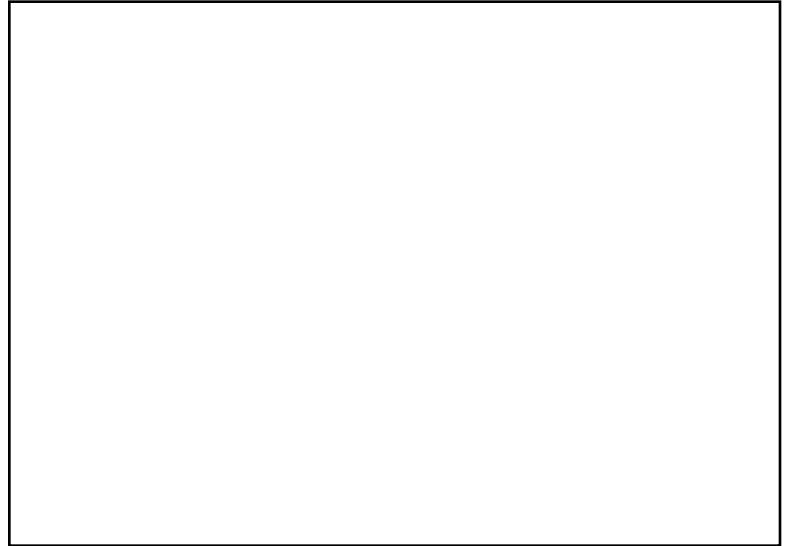
Introduction 1

Introduction

Whether or not we are aware of it, each and every one of us is losing something of great value. Every day historical and archaeological artifacts are being taken from us, and they can never be replaced. This report will address a growing concern in the state of Illinois and across the country. It involves artifacts not only on our land, but in our seas, lakes, and rivers as well. These valuable resources are being discovered and destroyed at an alarming rate. It is an issue that must be addressed before it is too late.

Lake Michigan bottomlands are home to many valuable resources ranging from primitive camp sites and ancient oak stumps to more recent U.S. fighter planes. A captured German submarine from WWI and General Motors prototype cars from the 1920s lie undiscovered on the muddy bottom. A vast and surprising variety of other objects, large and small, valuable and not so valuable, are also in the lakes; however, most public attention has been directed to the lakes' sunken vessels.

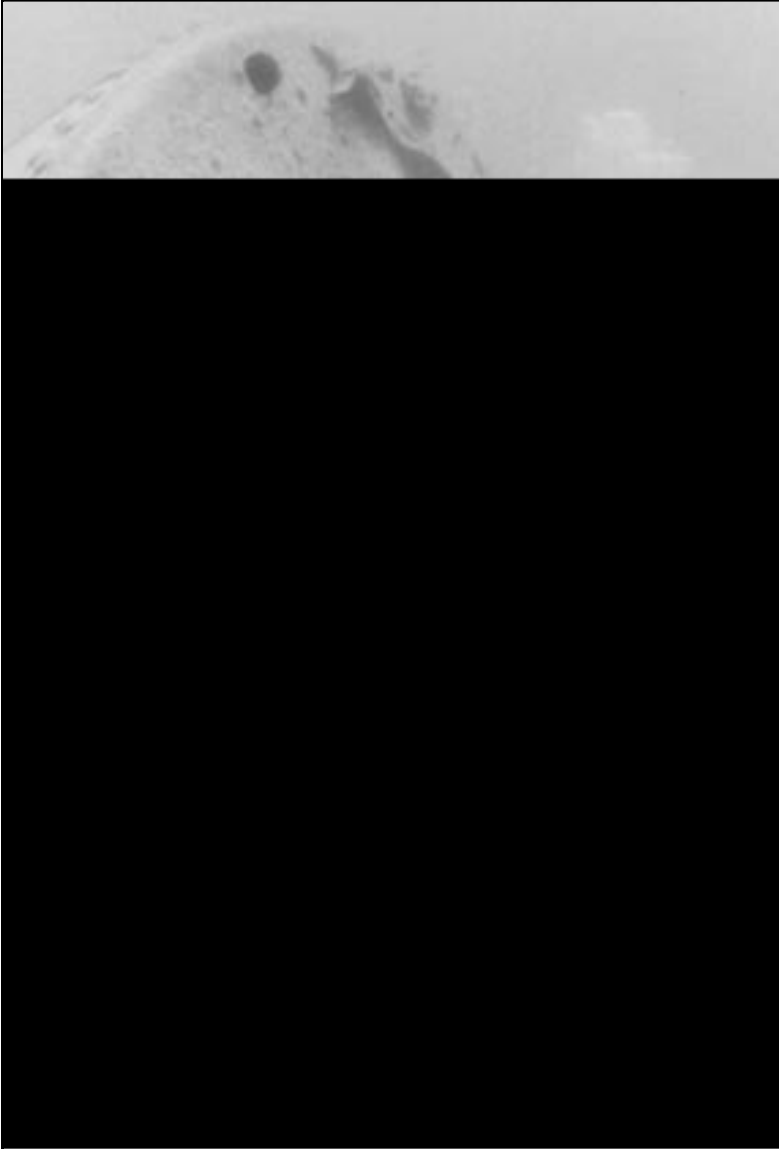
Estimates of the number of shipwrecks in the Great Lakes range from 6,000 to 10,000. Several hundred of these valuable resources lie in the Lake Michigan waters that are within the jurisdictional boundaries of the state of Illinois. The state also has a number of other waterways (rivers and canals) that, while not boasting such huge numbers, contain assorted ships and related resources. Objects thrown or lost from floating or sunken vessels, and wharves and piers, constitute the majority of these related resources.



A brief look at the history of Great Lakes shipping will help account for the large number of vessels on the lakes' bottoms. Lake Michigan, as well as the other Great Lakes, has served for hundreds of years as a major shipping medium for the movement of goods and people. Fur trading and copper mining provided the impetus to the initial large scale use of the lakes for transportation. Various bulk cargos (grain, iron ore, timber, etc.) were shipped from different points to the cities for processing. The ships that were performing this function can be likened to the trucks that haul materials along fairly predictable routes on a regular schedule. Today the lakes are still the site of an enormous amount of maritime activity.

End view of curving stern section on City of St. Joseph, which sank in Lake Superior east of Eagle Harbor, MI, 21 Sept. 1942

Sunken Ships



End view of well-preserved ship's boiler, on Tioga which ran aground in Lake Superior off Eagle River, MI, 26 Nov. 1919

With the tremendous shipping activity taking place on the Great Lakes on a daily basis, it was inevitable that ships would be lost. Ships went down from a variety of causes (structural malfunctions and collisions with other vessels and objects in or near the water), but poor weather conditions appear to have played a direct or indirect role in the majority of ship accidents.

Sudden storms with winds of 75 miles per hour and lasting for several days are not uncommon on the lakes. Many of the large cargo ships of the late nineteenth century were particularly vulnerable to the weather, and as a consequence never made it across the waters on their final voyages.

Several hundred of these vessels may lie on the bottom of Lake Michigan within Illinois jurisdictional boundaries. The state of Illinois has jurisdiction over 976,640 acres or 7 percent of the bottom of Lake Michigan, including 63 miles or 4 percent of the lake's shoreline. Many of the wrecks that have been located are remarkably well preserved, because the extremely cold fresh waters of the Great Lakes are relatively free of wood boring organisms commonly found in salt water. Divers have reported finding intact rope on nineteenth century shipwrecks. Undiscovered vessels lying in deeper and more remote waters of Lake Michigan may be even better preserved.

Obviously, these well preserved artifacts from the past are extremely valuable historical and archaeological resources. Those who imagine vessels carrying silver or gold will be disappointed. The holds of these cargo ships that plied the often treacherous waters of the Great Lakes certainly hold treasures, but they are treasures in the sense that they afford a wonderful glimpse into the region's maritime heritage.

Archaeologists can gather much information from sites which are complete and undisturbed. The position and location of the ship, the ship's cargo, the mechanics and structure of the vessel, and the personal artifacts of those who were aboard the ship

can provide detailed information about this period.

Unfortunately, while most people understand the value of protecting our natural resources, fewer understand that it is similarly important to protect our historical resources. These are fragile and non-renewable resources and if not properly managed can be forever lost.

On the average two or three new shipwrecks are discovered each year. More divers are using Lake Michigan each year, and as advances in cold water scuba gear allow divers to go deeper and stay down longer, more resources will be discovered. New equipment, the most notable being sonar, and techniques designed specifically for underwater searching have also led to increased wreck discoveries. Many estimate that there are thousands of ships lying yet undiscovered. Recreational divers have been responsible for the majority of recent discoveries of the valuable resources (Smiley and Holocek, 1982).

Unfortunately, many of these valuable resources have been irreparably damaged following their discoveries. Most shipwrecks are extremely fragile, and some have been damaged unintentionally by divers' misplaced kicks or grasps at the wrong moment. Some shipwrecks have received considerable damage from the anchors of other vessels. In an effort to get as close to the shipwrecks as possible anchors have often been dropped on these fragile remains.

This type of resource depletion is relatively minor and perhaps even forgivable in comparison to the damage that has been done purposely. Salvaging has been taking place in the Great Lakes for quite some time with reports of operations occurring before 1860. Large and small scale salvage operations pose a serious threat to these underwa-

Salvagers fall into two categories: those who salvage commercially with the aid of heavy equipment and elaborate and ingenious techniques, and those who salvage as a hobby or as an accessory activity to their primary activity of scuba diving. Both groups severely impact the shipwreck resource.

Salvage of both types is taking place in the Great Lakes today. The Coast Guard cutter *Mesquite* was intentionally scuttled in 1990 after it had been severely damaged. Within hours of its coming to rest on the bottom of Lake Superior recreational salvaging began. So many items were removed by divers that the shipwreck came to be referred to as the 'underwater mall' (Diving Times, 1991). The *Lady Elgin*, a side-wheeled steamer which sank off Chicago's north shore in 1860, is currently in danger of being salvaged by a commercial salvager. A federal court is in the process of determining if salvage efforts can be undertaken because

The current amount of salvaging by recreational divers is difficult to determine. There is mixed evidence to the claim that salvaging in the Great Lakes is decreasing. Chris Kohl, an authority on Great Lakes shipwreck diving and member of 'Save Ontario's Shipwrecks,' may have reflected the sentiments of many with his comment in *The Great Lakes Reporter* (1991, Jan.): "Divers in Michigan feel that any wreckthathat

the issue of the ownership of the vessel is unclear.

Recreational salvaging is not a recent phenomenon. When scuba gear became available to the public in the 1950s, Great Lakes divers adopted a 'finders keepers' rule (Vrana, 1989). Within the diving community there developed an unwritten code of ethics for recreational salvaging. The diver who first discovered a shipwreck laid informal claim to the site and its contents; word quickly spread that only the diver who was responsible for the discovery had the privilege of removing artifacts at each site.

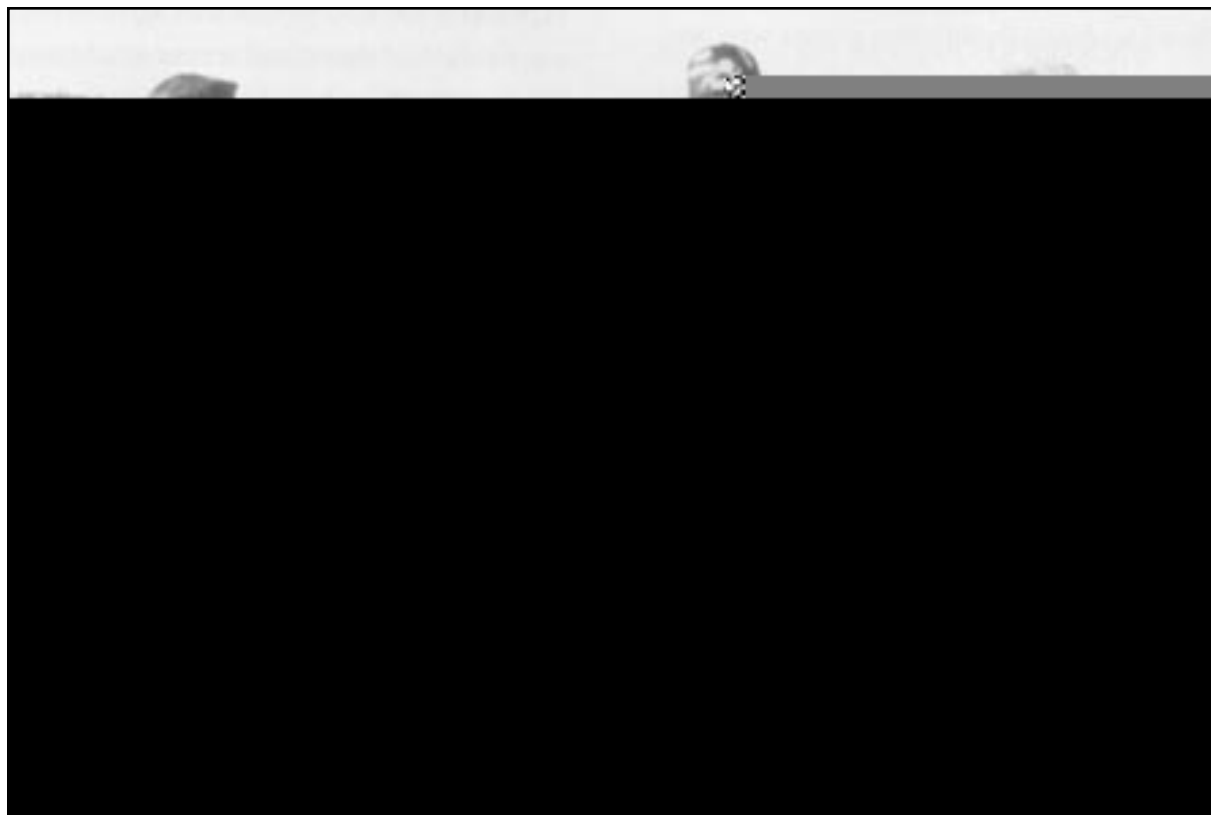
It appears that most of the early Great Lakes divers participated in the removal of artifacts from sunken vessels (Vrana, 1987a). Several years of this type of behavior have done untold damage to this cultural resource. So much has been found and removed from the lakes' bottoms that one archaeologist was moved to comment that there is more stuff in divers' basements than in museums.

Sport Diving

Guidelines for State and Appropriate Guidelines for State and Appropriate Federal

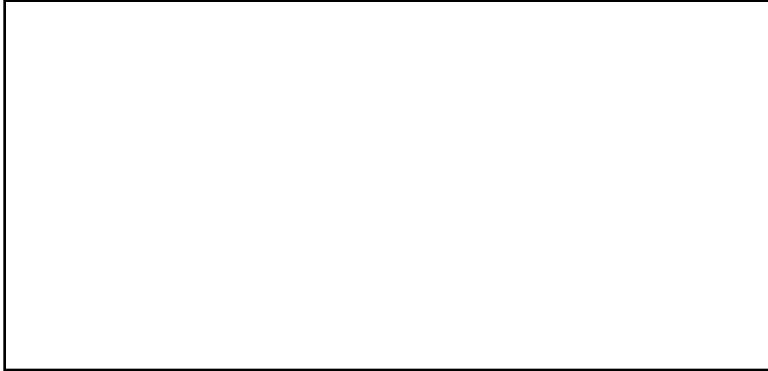
One of the fastest growing forms of recreation in the Great Lakes is scuba diving. The Professional Association of Diving Instructors (PADI) cited 2,249,000 active divers in the U.S. in 1983. By 1987 their reports indicated a 24 percent increase with the overall number of active divers in the United States at 2,982,000. If rates of increase are maintained, by 1992 there would be 3,895,000 active divers in the country (PADI, 1988).

PADI figures for Midwest divers (including the states of Michigan, Wisconsin, Illinois, Indiana and Ohio) show similar rates of increase with 305,864 divers in 1983, 402,570 divers in 1987 and a projected 506,350 divers in 1992. There seems to be a significant increase in scuba diving interest as evidenced by a Gallup poll conducted in 1980 which indicated that 5 percent of Americans (approximately 11 million people) would like to try scuba diving in the future.



Charterboat operator provides site information to divers.

Shipwrecks as a Multiple Use Resource



Dive shops represent spin-off business of diving interest.

An understanding of the value of shipwrecks begins with their consideration as the multiple use resource that they truly are. There are obviously different groups who are interested in the shipwrecks of Lake Michigan; each group has its own particular perspective. Archaeologists, anthropologists and historians are primarily interested in the resource for its potential to provide insight into previous Great Lakes shipping activities. Scientists in other fields view the shipwrecks as an underwater laboratory useful in their particular research.

Recreational divers see sunken vessels primarily as a resource for personal benefits. Fishermen and wildlife specialists are likely to view the sites' key function as providing important habitat. First and foremost in the minds of dive shop and charterboat operators are the benefits that shipwrecks provide for the diving business. The commercial salvage sector may think of the sunken watercraft as a key resource for, among other things, the provision of materials for the building of novelty furniture and collectors' items, or for the recovery of valuable cargo such as copper for resale.

Since these wonderfully diverse resources are, according to federal law, held in trust by the states for all citizens, shipwrecks cannot be interpreted as the sole domain of any single group. If not managed properly, a sense of competition rather than cooperation may develop concerning the shipwrecks. Groups may feel that their own interests in the resource will be neglected, and this disposition often leads to conflict among the different users. It should be noted that some of these fears are substantiated by previous experiences. However, experience has also proven that agreements can be reached that afford access to all users.

Compromises have been arranged which promote proper resource usage. The cause of resource preservation has been furthered in the process. The overall protection and preservation of these valuable resources must be a priority for those responsible for the allocation of the rights to shipwreck usage. The multiple use concept which recognizes the diversity of the resource and its ability to meet a variety of needs can provide the various segments expressing different interests with a workable solution.

There is, in addition to the shared benefits, a shared set of responsibilities which should not be overlooked. This process of addressing the interests of all parties may be laborious and time consuming. In writing about the state of Michigan's experience, Vrana and Halsey (1991) noted, "One fact is clear, it has taken more than a decade to forge legislation accepted by various shipwreck interest groups" (p. 11).

The Michigan Example

Michigan has been very active in managing its underwater resources for a number of years and may serve as a valuable model for

special interest groups and individual citizens have been vanguards in the shaping of Michigan's underwater preserve system. The Michigan Sea Grant Extension Program and the Michigan Underwater Salvage and Preserve Committee have contributed to the system in Michigan. Of particular importance is the Michigan Underwater Preserves Council, Inc., a non-profit organization designed to coordinate the development and promotion of all underwater preserves in Michigan.

For the most part Michigan seems to have had a positive experience with its series of preserves that protects and manages sunken vessels in the Great Lakes. A steady addition of shipwreck preserve areas over the past ten years suggests that the various

resource users are finding the current process of resource allocation not only acceptable but desirable.

The circumstances regarding shipwreck resources for the state of Michigan are not identical to those of Illinois. For a number of reasons (specific shipping patterns, climatic conditions, etc.) wrecked vessels lying within the jurisdictional boundaries of the state of Michigan tend to be in clusters, while shipwrecks in Illinois waters tend to be scattered. Groups of sunken vessels obviously lend themselves more readily to preserve designation. On the other hand, there are obviously many similarities, and serious consideration must be given to the Michigan example as Illinois considers its own Lake Michigan shipwrecks.

*Surface view
of Alger
Underwater
Preserve*



Economics

Economics is one of the key elements that demands attention when considering shipwrecks that lie within the Illinois jurisdictional boundaries of Lake Michigan. Diving is an \$800 million industry employing 300,000 people, 17,000 of which are active scuba instructors. Currently in the United States there are 2,500 dive shops (PADI, 1984). Figures indicate that diving is growing in its popularity with increases in annual diving certification ranging from 2 percent to 4 percent (Diving Equipment Manufacturers Association, 1987).

Divers and the associated scuba diving activities appear to have the potential for significant economic impact on local communities. Peterson, Sundstrom and Stewart (1987) provided a profile of the Great Lakes diver which yielded valuable insight into economic issues. The study found that Great Lakes divers spent an average of \$2,497.86 on diving equipment. This was significantly higher than the average of \$1,710.00 spent by the general diving population. This difference can possibly be attributed to the Great Lakes divers' need for additional cold water gear.

Participants in the study indicated that in 1986 they spent an average of \$1,287.30 for their Great Lakes diving trips; the average number of trips taken in 1986 was 5.26; and the average expenditure per diving trip to the Great Lakes was \$244.73. Furthermore, less than half (33.9 percent) of the money spent on these trips was spent for direct diving expenses such as scuba equipment and charterboats. The remaining two-thirds of the trip expenditures were for items or services indirectly related to diving such



as transportation, lodging and entertainment. In addition, respondents indicated that one half of all expenditures for each trip were made in the communities near the dive site.

Diving destination studies may also be helpful in obtaining a reliable picture of the economic impact of diving. A survey of subscribers to *Skin Diver Magazine* (1989) indicated that 11 percent of those who took a diving trip in 1989 made a trip to a Great Lakes location.

Another study (Peterson, Sundstrom and Stewart, 1987) indicated that 87.7 percent of respondents made the Great Lakes one of their diving locations. Ninety-four percent of the divers in that study were from the states of Michigan, Wisconsin,

Top of Tioga's

currently-established shipwreck preserves. Next in line for dive trip popularity was the southern part of Lake Michigan.

Specific diving site economic experiences merit attention. In the area near Munising, Michigan, approximately 1,600 divers visited the shipwrecks and spent about \$700,000 in 1980. In 1984, after the designation of the nearby Alger Underwater Preserve, an estimated 6,000 divers and diving-related tourists spent \$3.5 million in the area. A similar survey of 600 Alger Preserve divers indicated that 80 percent were from states other than Michigan and that 30 percent were from Illinois (Kinnunen, Peterson, Stewart and Swinehart, 1985).

Although John Pennicamp Coral Reef State Park in Florida is designed around resources that are somewhat different than those found in Lake Michigan, its economic experience is nonetheless interesting. Park statistics indicate that approximately

500,000 people visited the park between June 1987 and July 1988. If each person spent an average of \$20 while in the park, sales and receipts in excess of ten million dollars would have been realized (Smith, 1989).

This information and that from other states suggests that there may be economic benefits for local communities that have valuable off-shore resources. Obviously, it is in the best interest of the various coastal communities with potential shipwreck resources to manage these resources in such a way so as not to delete or damage them for future users.

Divers are apparently interested in diving the Great Lakes and its sunken vessels. In fact, the quality of shipwrecks is the second most important attribute in the selection of a Great Lakes diving location (Peterson, Sundstrum and Stewart, 1987). PADI stated in a concept report to the President's Commission on American Outdoors in 1984 that, "... increasingly, American scuba divers are finding it difficult to locate places to participate in their chosen activity." The problem may lie in the proper management of shipwrecks to ensure that future generations will have the opportunity to benefit from these precious underwater resources.

Management of Shipwreck Resources

The majority of the shipwrecks lying within Illinois jurisdiction boundaries belong to the citizens of Illinois. This fact is made clear by a number of public acts, among them the Abandoned Shipwreck Act of 1987, which gave title of three categories of abandoned shipwrecks to the United States government. The federal government in turn transferred title and the corresponding responsibility of most shipwrecks to the respective states on whose submerged lands the shipwrecks lie. These valuable resources are not the sole domain of any one or two special interest groups; rather, they are held in public trust by the state of Illinois for all of its citizens. As a consequence, the state has an obligation to manage shipwrecks for the benefit of all.

It is essential to recognize that people in Illinois may have different interests and are likely to receive different benefits from the same resource. Important questions need to be addressed:



mooring devices, plaques, signs and trail markers. Preserves in Florida have replaced missing or existing ships' cannons with stone replicas. There may be a tendency for preserves to evolve into parks.

In some cases states have followed a four-stage process in developing a plan for the wise use of their underwater cultural resources. Although there may be some differences in nomenclature and in some of the details, the process is similar in most states. The initial stage starts with the inventory of the resources.

The Underwater Archaeological Society of Chicago has compiled a listing of underwater resources within the Illinois state jurisdictional boundaries. The nature of the resource (remember that these are lost ships that are *believed* to be on the lakes' bottoms) prevents the compilation of a final, once-and-for-all list, but inventories must be initiated and expanded as new resources are inevitably discovered. More sophisticated electronic remote sensing equipment, better search techniques, and an increase in diver participation rates are factors contributing to an increase in shipwreck discovery rates in the Great Lakes.

Stage two of plan development involves assessment. Relatively few shipwrecks appear to have the characteristics which make them candidates for consideration of preserve status. Different state and local organizations use various criteria for assessment; some systems are rigid and allow for little 'intuition' while others are more flexible in the characteristics that are considered. The 1988 Florida State University Field School on Archaeology used a system with the following nine criteria to evaluate the preserve potential of 11 shipwrecks of the 1733 Spanish fleet located off the Florida Keys.

1. Visibility
2. Currents
3. Aquatic life
4. Coral structures
5. Ballast
6. Intrusive features (modern debris)
7. Location
8. Research potential
9. Overall park potential

Particularly pertinent for Great Lakes shipwrecks preserve potential are depth and support services. Many of the Great Lakes shipwrecks lie at depths of 200-400 ft., depths which are well beyond the safe diving limits of the majority of divers. In 1987 a survey answered predominantly by Great Lakes divers indicated that the maximum depth which divers preferred was 102.36 ft. (Peterson, Sundstrom and Stewart, 1987). It is worth noting that a study undertaken by Holocek and Lothrop (1987) nine years earlier indicated that the maximum preferred diving depth was 86.14 ft. Although not identical, the two sample populations were similar enough to allow for comparison.

Divers are apparently becoming increasingly capable and willing to dive greater depths each year. If, indeed, this is a genuine trend, there are several significant consequences. Shipwrecks that were at one time considered to be inappropriate as dive sites because of great depths may now be more acceptable. It could also be contended that with this increase in diving depths, those shipwrecks that were at one time considered safely hidden away, will be discovered and are, consequently, in need of protection.

On-shore support services are also to be considered in the process of underwater cultural resource evaluation. A Michigan

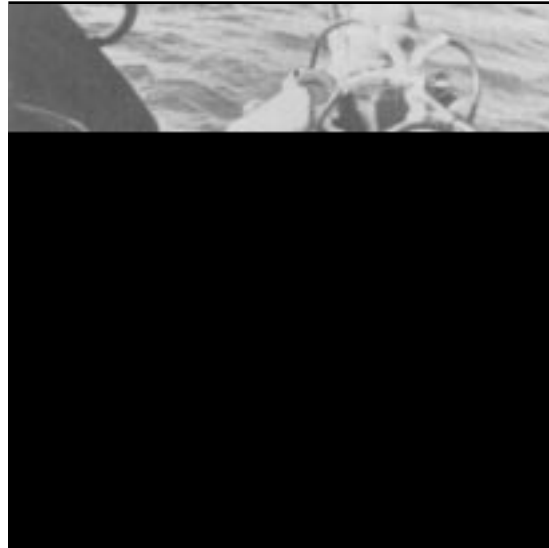
Sea Grant Extension survey in 1987 attempted to determine attributes considered important to Midwest divers in their selection of a diving location. Three of the top four attributes were related to on-shore facilities. The single most important attribute of a dive site was its proximity to dive shop services. Diver safety facilities and information about the diving site were attributes numbers three and four, respectively.

Stage three in the preserve process usually concerns citizen involvement and community development. The extensive local and private sector input in shipwreck preserves may be the result of their obviously vested interests in combination with the particular state's resources for additional projects.

Experiences in Florida and Michigan indicate that their preserve programs would have never come into existence without a great deal of local effort. Citizen participation and community involvement are likely to play an even larger role in the future of shipwreck resource preservation with the current trend of government downsizing.

The fourth and final stage of the strategic plan for the wise use of shipwrecks, utilized by several states, is marketing and promotion. Here again, the private sector and local community organizations have been in the forefront of the effort to attract tourists' and sports enthusiasts' dollars.

Within the two broad goals of sunken vessel protection and appropriate use there are several specific issues. Not only is the user affected by the resource, but the resource is in turn affected by the user. With this in mind, a number of tactics have been employed in an effort to reduce or eliminate visitor damage to the resource. Traditional law enforcement; management techniques, such as interpretation, registration and



New equipment permits divers to reach to increasingly greater depths.

charterboat licensing; and education have been used successfully to protect the resources (Smiley and Holocek, 1982). Although some minor damage may be expected on shipwrecks with preserve status, it would be much less disastrous than that currently taking place on vessels that are not within preserves.

Federal Legislation

In April of 1988 President Reagan signed the Abandoned Shipwreck Act of 1987 (Pub. L. 100-298; 43 U.S.C. 2101-2106) (See Appendix A). This instrumental law “established the title of states in certain abandoned shipwrecks and for other purposes.” In doing so, Congress found that the individual states have the responsibility to manage a broad range of living and non-living resources in state waters and on each state’s submerged lands; shipwrecks, if they met certain qualifications, were among the resources included.

Sunken vessels had to have been abandoned

Abandoned Shipwreck Act of 1987 Guidelines

In the process of developing the Abandoned Shipwreck Act of 1987 Guidelines, the National Park Service gathered information from the public sector (Secretary of Commerce, state historical preservation officers, parks and recreational agency personnel,

State Legislation

There appears to be considerable diversity from state to state in the amount and effectiveness of legislation regarding underwater cultural resources. Some states have extensive legislation, resulting in a great deal of regulation and policy. On the other hand, some states have very little legislation relating to shipwrecks, and often it is antiquated and ineffective.

Several states have either recently passed legislation or are in the process of preparing and/or adopting legislation to protect and more effectively use their underwater cultural resources. The timing of this recent surge in shipwreck legislation indicates that the Abandoned Shipwreck Act of 1987 has served to some extent as an incentive to states. Section 2 of the Act states, "The Congress finds that (a) States have the responsibility for management of a broad range of living and non-living resources in State waters and submerged lands; (b) and included in the range of resources are certain abandoned shipwrecks, which have been deserted and to which the owner has relinquished ownership with no retention."

The following examines the legislation of three states which have jurisdiction in at least one of the Great Lakes. The legislation regarding the underwater cultural resources of Michigan, Indiana and Wisconsin is compared to that which exists in Illinois. In addition, legislation from three coastal states that have an extensive history of sunken vessel management is provided (see Appendix B).

Legislation in Michigan

In many respects the state of Michigan is the leader among Great Lakes states for the preservation and protection of shipwreck resources in the Great Lakes. Public Act 452 was approved in 1988 and clarified and strengthened certain areas contained in Public Act 184 of 1980. The act describes itself as:

An act to protect and preserve, and to regulate the taking of, aboriginal records and antiquities within this state; to preserve abandoned property of historical or recreational value on the bottomlands of the Great Lakes and regulate the salvage of abandoned property of historical or recreational value; to designate and regulate Great Lakes bottomland preserves; to prescribe the powers and duties of certain state agencies; to create a fund; and to prescribe penalties and provide remedies.

One of the strengths of the act is the mandate for the creation of the Underwater Salvage and Preserve Committee. Nine members make up the committee, and each represents a different perspective for viewing the shipwreck resource. Of particular interest is the fact that two of the appointees are required to have experience in recreational scuba diving. The committee is advisory in nature and makes recommendations in several areas including salvage permit issuance, appropriate legislation, and program operation.

Section 4 a-1 states that, "a person shall not recover, alter, or destroy abandoned property which is on, under, or over the bottomlands of the Great Lakes, including those within a Great Lakes bottomlands

preserve, unless the person has a permit issued jointly by the secretary of state and the department pursuant to section 4-c.” In some limited situations such as those described in section 4-c, “persons may be issued licenses to recover abandoned property located on, in, or located in the immediate vicinity of and associated with a sunken aircraft or watercraft.”

Another strength of the act is the authority it grants to the state of Michigan to establish Great Lakes bottomlands preserves. These preserves are areas that include the bottomland of the Great Lakes, the water above the area, and the surface of the water. The preserves offer special protection of abandoned property of historical, recreational, educational, and scientific value. Several factors are given which must be considered in the process of granting preserve status to an area. The bottomlands preserves’ combined areas must not exceed 10 percent of the Great Lakes bottomland within the state of Michigan’s jurisdiction. This 10 percent is double that which was indicated in P.A. 184.

Finally, the act makes very clear that none of the wording contained therein is to be considered as restricting scuba diving in the Great Lakes waters of Michigan. Section 4-g states, “Section 4-a to 4-d shall not be considered to impose the following limitations: A limitation on the right of a person to engage in diving for recreational purposes in and upon the Great Lakes or the bottomlands of the Great Lakes.”

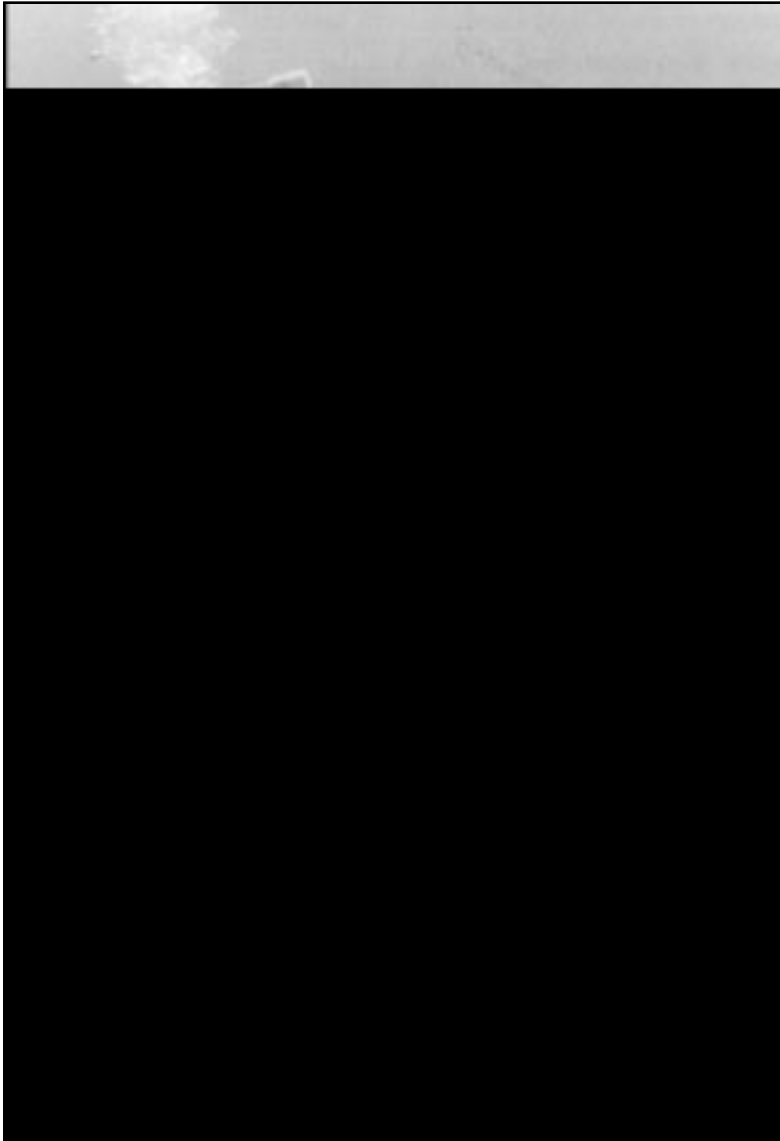
Legislation in Indiana

At this writing, Indiana is in the process of proposing legislation which would effect the preservation and protection of its underwater cultural resources. Proposed legislation 310 IAC 21 establishes provisions for navigable waterways, including rules concerning

two full-time staff persons to deal specifically with submerged cultural resources were requested.

In April 1992, the Governor of Wisconsin vetoed Assembly Bill 727. While the value of the creation of a submerged cultural resource program and board was recognized, the state's financial situation did not allow for increased expenditures. The co-authors of the bill intend to return to the legislature with a modified bill in the future.

Artifacts such as the cable visible on Tioga's deck winch, used to open hatches, are protected.



Legislation in Illinois

The legislation directly relating to shipwrecks within Illinois Great Lakes waters is contained in Chapter 127, section 133-c.00 through 133-d-6 of the Illinois State Code.

The Archaeological and Paleontological Resources Protection Act was last modified in 1990. The act is designed to protect and preserve, and to regulate the taking of aboriginal records and antiquities within the state of Illinois. There exists no legislation specifically for shipwrecks; shipwrecks are included among artifacts, historic and prehistoric human skeletal remains, mounds, earthworks, forts, village sites and mines under the general term of "archaeological resources." Although shipwrecks are included in the resources, the term is not defined.

The Illinois Historic Preservation Agency is responsible for the regulation, exploration and excavation of all archaeological resources located on public lands. Public lands are defined as any land owned by the state of Illinois or its agencies, a state university, or a unit of local government. No mention is made of Illinois' jurisdiction in Lake Michigan.

Section 133-c-3 deals with violations. This paragraph lists three broad areas in which violations may occur. It is unlawful for persons to disturb archaeological resources protected under the act; it is also unlawful for anyone to sell or exchange objects which were collected in violation of this act. Of particular importance is 133-c-3.3-a which states that it is unlawful for anyone to explore, excavate or collect any archaeological or paleontological resources protected by the act unless the person has first acquired a permit issued by the Illinois Historic Preservation Agency. Although

several of the terms used in the act are initially defined, the term “explore” is not.

The permit system is administered by the Illinois Historic Preservation Agency with consultation among the state’s various land managing agencies. Regulations governing the issuance of these permits are mandated by the act. In addition, these permits must be issued for specific locations and time frames.

A system of maintaining information

Conclusion

There is no question that the citizens of the state of Illinois are losing valuable and non-renewable underwater cultural resources in the form of shipwreck despoilation. While a discussion might be undertaken about the rate of loss of shipwreck resources, there is no denying that there are fewer historically valuable resources within Illinois jurisdictional waters now than there were 20 years ago, one year ago or even one month ago.

The cold, deep waters of the Great Lakes are helpful in preserving these underwater treasures of the past, but even the deepest and most remote shipwreck site is subject to some minor damage from the slow but relentless accumulation of silt on the lakes' bottoms. Those valuable cultural resources lying in shallow waters are affected by the movement of the waters, usually gentle, but on occasion turbulent because of the violent storms that are commonplace on the Great Lakes.

Zebra mussels pose a tremendous potential danger to these resources. Recent evidence indicates that these mussels can reduce intact shipwrecks to something resembling a coral reef in less than two years.

Much remains unknown about the effect of these mussels on the Great Lakes. Since they will attach themselves to virtually anything which has a hard surface, zebra mussels are particularly problematic for shipwrecks. Concern has been expressed that the sonar equipment which has recently proven so valuable in the discovery of many sunken vessels will be much less effective if the relics are covered with zebra mussels. Currently, this appears to be a threat only to

those shipwrecks lying in waters with depths of 30 feet or less (Childs, 1991). Far greater and much more tragic than any damage done by the natural elements is that caused by man.

In the years to come, it appears certain that humans will continue to impact Great Lakes shipwreck resources. The possibility is very real that this negative impact will increase. Technical advances in diving equipment and remote sensing equipment will lead to the discovery of more abandoned sunken vessels each year. Trends indicate that greater numbers of divers will be using the Great Lakes, and many will be bound to the shipwreck sites that lie within Illinois jurisdictional waters in Lake Michigan. This *could* mean disaster for the resource, *but it is by no means inevitable*.

The reverse—a decline in the rate of shipwreck resource depletion—could also be true. Five or ten years from now it may be found that the damage to Great Lakes shipwrecks has been reduced significantly. The future of Illinois shipwrecks does not depend upon chance discoveries and freak changes in conservation ethics: the future of Illinois shipwrecks rests squarely on the shoulders of those who hold an interest in these precious resources.

Since there are various groups who view sunken watercraft as a resource that has different values and uses, so there must also be various groups who will play a role in the preservation and protection of the shipwrecks. The task of managing shipwrecks should not be left entirely up to public officials; it must be the cooperative task of

government agencies, private charterboat operators, diving instructors, educators, diving clubs, individual divers and salvors.

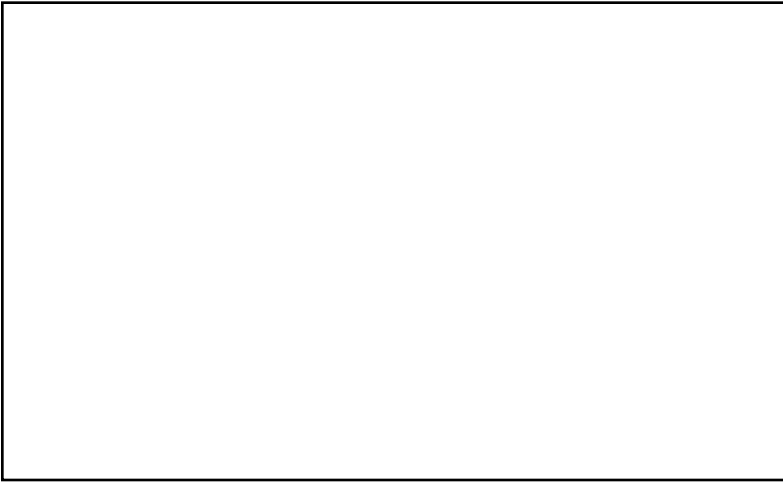
A future of cooperation and respect among the different shipwreck user groups is a future of shipwreck preservation, protection and appropriate usage; a future of competing interests, each of whom is unwilling to compromise and respect the other users, is a dismal future for shipwrecks.

A consensus must be achieved as to whether ten years from now people will dive and see broken, scattered shipwreck sites of limited value to anyone, or whether divers will go down with the purpose and expectation to see shipwreck sites that are maintained and retain their integrity. Leaders in the various fields associated with Great Lakes shipwrecks must decide that these are valuable historic, recreational and educational resources that must be preserved.

The volunteer is vital to the task of managing cultural resources. The essential need for volunteers has been evidenced in virtually all of the states that have effective shipwreck management programs. The Underwater Archaeological Society of Chicago has led the effort in Illinois to recognize, utilize and preserve these valuable artifacts of the past. The extensive efforts of this organization have resulted in the discovery, survey and recording of many sunken vessels in Illinois waters. It is likely that its commitment and that of other similar organizations will be indispensable in any successful management effort.

A successful management effort must begin with a plan that stresses appropriate multiple use *and* protection *and* preservation. The experiences of other states indicate that use and preservation do not have to be in direct conflict. Properly managed shipwrecks can provide a variety of benefits to a

multitude of different groups, not only for the next few years but for generations to come. A perspective must be developed that will draw on the experiences of other ship-



with its advantages and its disadvantages,
which meets the greatest needs while at the
same time preserving the resource must be
selected. While it will surely be impossible

Appendix A

Abandoned Shipwreck Act of 1987

102 STAT. 432

PUBLIC LAW 100-298—APR. 28, 1988

Public Law 100-298
100th Congress

An Act

Apr. 28, 1988
[S. 858]

To establish the title of States in certain abandoned shipwrecks, and for other purposes.

Abandoned
Shipwreck
Act of 1987

*Be it enacted by the Senate and House of Representatives of the
United States of America in Congress assembled,*

SECTION 1. SHORT TITLE

[REDACTED]

PUBLIC LAW 100-298—APR. 28, 1988

102 STAT. 433

SEC. 4. RIGHTS OF ACCESS.

Cultural
programs.
Historic

(a) ACCESS RIGHTS.—In order to—

Appendix B

Agencies when Developing Legislation and Regulations to Carry out their Responsibilities under the Abandoned Shipwreck Act of 1987:

1. Establishing State Shipwreck Management Programs

It is noted that many states have abandoned shipwrecks that are now the states' responsibility. This would include states that are landlocked but contain navigable rivers or lakes. Some states have programs currently in place; several others do not. Specific guidelines include:

States should involve interest groups in shipwreck program development and management activities. States should work jointly with a variety of private groups and individuals and other state and federal agencies not only to initiate programs but to maintain and monitor them as well.

States should establish a shipwreck advisory board. This advisory board would consist of various private citizens and public officials. The board's duties would consist of reviewing, evaluating, providing advice and making recommendations concerning shipwreck management to various state agencies.

States should assign responsibility for state-owned sunken vessels to the appropriate agencies. As it is unlikely that any single state agency would have complete jurisdiction over a shipwreck site, it is therefore advised that the responsibility be divided among various state agencies, each of which has pertinent expertise.

States should establish regulations, policies or procedures for the long-term management of state owned abandoned watercraft. These regulations should provide for appropriate use by a variety of resource users.

States should provide adequate staff, facilities and equipment. Eight categories of questions are listed in the guidelines to help determine appropriate levels in each area to meet the shipwreck management goals.

States should cooperate and consult with state and federal agencies. To effectively implement a statewide program of management, other organizations and agencies must be involved. Twelve different agencies are listed.

Establish a consultation procedure to comment on state and federal activities that may adversely affect state-owned shipwrecks. Agencies who are responsible for shipwreck management should be contacted when other state or federal agencies have plans which pose a threat to the resource.

Use the National Register of Historic Places criteria. Regulations in 36 Code of Federal Regulations (CFR) (part 60) should be utilized by the state to determine eligibility for inclusion on the list.

Use applicable standards and guidelines. A variety of guidelines are suggested:

- ◆ National Parks Service (NPS) Abandoned Shipwreck Act Guidelines
- ◆ Secretary of the Interior (SI) Guidelines for Archaeological and Historical Preservation

- ◆ National Parks Service (NPS) Guidelines for Recording Historic Ships
- ◆ SI Standards for Historic Vessel Preservation Projects

Prosecute persons who willfully violate the states' shipwreck management programs.

Interest groups should be educated regarding the shipwreck management laws. Appropriate fines should be determined, and procedures should be established to confiscate illegal artifacts and restore damaged resources and sites.

Provide legal recourse for persons affected by the state's shipwreck management program.

Persons should have the right to appeal a state's decision on various matters regarding the management of abandoned submerged vessels; this includes the state's evaluation of the historical significance of a shipwreck.

2. Establishing Federal Shipwreck Management Programs

Federal agency programs are not germane to this article.

3. Funding Shipwreck Programs and Projects

It is recognized and noted that sunken vessels management programs can be extremely expensive. Mention is also made, however, that revenues can be generated through properly designed and managed programs. Specific guidelines include:

Fund shipwreck management programs and projects from annual appropriations. Not only should these be funded from year to year, but multi-year budgets should be considered for those projects which will inevitably require several years for their completion.

Collaborate with other state and federal agencies to reduce costs. Not only would costs be reduced, but more thorough and extensive programs could be administered.

Fund projects from the Historical Preservation Fund (HPF). The Abandoned Shipwreck Act clearly states that HPF grants may be used for the study, interpretation, protection and preservation of sunken vessels. However, HPF grants are contingent upon appropriation by the U.S. Congress.

Fund projects using Coastal Zone Management Grants. Advice is offered regarding several specific projects and activities for which these funds are available.

Use other appropriate federal funding authorities. This is not applicable to the states' situations.

Encourage other state and federal agencies and nations to co-sponsor shipwreck activities. Many shipwrecks have historical connections to other states and countries; these can be instrumental in arranging joint projects.

Encourage volunteers to participate in sunken vessel projects. Examples of tasks which can be performed by either groups or individual volunteers are listed in the guidelines.

Encourage scientific and educational organizations to participate in shipwreck projects. Several ideas are given regarding institutions' interests in shipwreck projects.

Require commercial salvors to post performance bonds. In an effort to ensure competency by a commercial salvor contracting with the state for a salvage operation, a performance bond for the work being performed would be required.

4. Surveying and Identifying Shipwrecks

If, in fact, shipwrecks are multi-use resources owned by the citizens of the states on whose property they rest and are held in trust by that state, notice should be given to the public regarding the location and characteristics of historically significant shipwrecks. The first step in the process is to begin a systematic survey of submerged lands to locate and identify shipwrecks. Additional guidelines include:

Preparation of an archaeological assessment for the survey area. To narrow the search for abandoned sunken vessels much effort should be put into determining the potential of a submerged area to yield shipwrecks. Factors that might increase an area's potential are reports of watercraft losses, shipwreck sightings, navigational hazards and the area's proximity to other shipwrecks.

Rank of survey areas in order of importance. Those areas with a combination of high potential of shipwreck discoveries and greatest possibility of damage from uninformed divers, trawlers, etc. should be surveyed first; those areas with little evidence of containing shipwrecks and in less accessible areas should be surveyed later.

Coordination of archival research and field research efforts with other state and federal agencies. The authors of the guidelines recognize the importance of sharing research results with the appropriate state and federal agencies.

Utilization of scientific methods and techniques to conduct field research. With the availability of highly advanced technical equipment and specialized searching techniques, surveys can and should be performed thoroughly.

Recording of shipwreck locations. A standard coordinate system should be employed to register as precisely as possible the shipwreck location.

Ground-truthing of shipwrecks. Once shipwrecks are discovered they should be thoroughly inspected by either remotely operated devices or by divers. Care should be exercised to keep site disturbances to a minimum.

Provision for the treatment of human remains found in abandoned vessels. If possible, human remains should be left undisturbed: in situations in which there is a likelihood that remains will be disturbed, they should be removed and cared for properly.

Confirmation of the abandonment of shipwrecks. Since all vessels on submerged lands are not necessarily abandoned, this determination is extremely important.

Provision of adequate public notice of shipwreck sites. Several methods of informing the public of shipwreck locations are given. The guidelines note that even in cases in which exact shipwreck locations could be detrimental to the resource, general locations should be listed.

5. Documenting and Evaluating Shipwrecks

A thorough documentation and evaluation of the submerged vessel and its site are critical as it is helpful in the management of the resource and also aids in the interpretation and evaluation efforts. Additionally:

Photographic records should be made of each shipwreck.

Collection and evaluation of information about each shipwreck's history values and uses should be made.

Historically significant shipwrecks should be nominated to the National Register of Historic Places and/or state historical registers.

An inventory of all shipwrecks should be prepared. Information should include, among other things, vessel name and owner, wreck date and cause, location, vessel condition and type.

Documentation of shipwrecks should be maintained. It is recommended that more than one copy of documentation be kept in different places to help inform the public and to prevent loss of

access could lead to resource depletion and offer the following guidelines to aid the states.

Guarantee recreational exploration of publicly-owned shipwreck sites. If the shipwreck site is not adversely impacted by visitors, users should be permitted access to the resource without permits or licenses.

Establish lists of shipwrecks having recreational value. Various user groups can be helpful in compiling a list of underwater cultural resources which would include location, name, depth and a brief sketch of the vessel and its site.

Facilitate public access to shipwrecks. Various suggestions are made and include placement of buoys and anchor moorings, distribution of information and the establishment of on-shore services.

Consult with interest groups prior to imposing restrictions on access. Restrictions on shipwreck site access should be approached very carefully and seriously considered only after discussion with various public and private interest groups.

Regulate access at few, if any, shipwrecks. Five situations are offered which might lead to limitations of access. The guidelines recommend that each site be carefully considered on an individual basis.

Provide adequate public notice of restrictions. Suggestions are made as to the proper methods of notifying interested parties of restricted access to shipwrecks.

8. Interpreting Shipwreck Sites

The act recognizes the importance of interpretation and specifically mentions that HPF grants can be used for such purposes. Well designed and administered interpretive programs can be instruments in the development of a public appreciation and understanding of shipwrecks. The following guidelines are set forth.

Present information on the vessel's history and its different values and uses. A list of important areas of interpretation is offered to help states.

Disseminate information of shipwreck projects through publications, lectures, exhibits and professional papers. Several resources, covering a broad range of interest groups, are presented as ideas for informing both the public and private sectors.

Build models of vessels. In some situations, actual diving to the shipwreck site is impractical; in those cases models of the shipwrecks can be extremely valuable in the process of shipwreck interpretation.

Include interpretive materials in underwater preserves and parks. Trails around underwater cultural resource sites with markers to point out noteworthy features should be considered.

Encourage public and private interest groups to disseminate information on shipwreck activities. Museums and visitor centers are key locations at which to inform the public. The guidelines also suggest that those private interests who have legal artifacts be encouraged to make those artifacts available for public display.

Require permittees, licensees and contractors to disseminate information about recovery activities at historic shipwrecks. It is suggested that one of the requirements for the receipt of a permit be an agreement by the salvager to make recovered artifacts available to the public.

9. Establishing Volunteer Programs

The use of volunteers can be helpful in two main ways. First, recognizing the budgetary restrictions faced by a majority of the states, volunteers can perform a number of tasks for which the states have insufficient funds. Second, it is noted that volunteers can be helpful to the formation of partnerships between private groups and state agencies. Specific guidelines are:

Use volunteers in shipwreck projects. Divers and non-divers possess an array of skills useful to the state agencies that are interested in the management of their shipwrecks.

Maintain lists of volunteers. These lists should include not only names and addresses but also the volunteers' skills and interests.

Distribute information on shipwreck projects to interested parties. A number of suggestions are made to state agencies in order to disseminate information to potential volunteers.

Ensure that volunteers are properly trained and supervised. Qualified professionals should supervise volunteers once they are trained to make sure that the work is performed appropriately.

Cooperate with the private sector in designing and teaching special methods courses for sport divers. Courses must be the product of cooperative efforts between educational professionals in the field and officials from professional diving associations. Divers must be aware of and practice non-destructive archaeological methods.

Recognize private sector contributions to shipwreck discovery, research and preservation. Four methods of recognition are:

- ◆ Naming shipwrecks after the discoverer
- ◆ Issuing certificates or plaques to volunteers
- ◆ Naming volunteers in publications and at exhibits
- ◆ Giving artifacts to volunteers when appropriate

Specify the unit's purpose, significance, boundaries and any special conditions or restraints.

Develop a general management plan. This will help in determining the direction which each preserve or park will follow.

Develop a resource management plan. A number of resource-related issues would be addressed in this plan, and it would be revised periodically.

Appendix C

Legislation for Submerged Cultural Resources in California, Florida and South Carolina

California: Senate Bill 1453 was approved in 1989. It amended Section 6254.10 of the Government Code and added sections 6313 and 6314 to the Public Resources Code. In the effort to protect and preserve the underwater cultural resources of the state of California, the States Lands Commission is directed to administer the Shipwreck and Historic Maritime Resources Program (Sec. 6313 and 6314 of the Public Resources Code.)

The bill directs that, “The State Lands Commission, with the assistance of the State Office of Historical Preservation, shall identify, compile and maintain an inventory of shipwreck sites of archaeological or historical significance and shall make the listing available to the public.” Any vessel lying in state waters more than fifty years is considered to be historically significant.

A permit system, operated by the commission in cooperation with the State Office of Historical Preservation, shall be used for salvage operations and recreational recovery activities. Salvage permits are required for all salvage operations. Recreational recovery permits are issued for exploration and excavation with small hand tools; however, no recreational recovery permits are

The Historic Preservation Advisory Council is established to enhance public involvement and participation in the preservation and protection of the state's historical resources. The council advises the division on a number of matters regarding historical resources.

Research permits are available for exploration and salvage of archaeological sites. Chapter IA-32.03-1 states that, "Only reputable museums, universities, colleges or other historical, scientific or educational institutions or societies will be considered as valid research applicants."

Chapter IA-31 provides procedures for the conducting of exploration and salvage of historic shipwreck sites. IA-31.0035-2 mandates that any person desiring to conduct activities of operations to explore for, excavate or salvage archaeological materials from sovereignty submerged lands may do so only if authorized by the division by an exploration or salvage agreement.

South Carolina: To preserve and encourage the scientific and recreational values of shipwrecks, South Carolina adopted the Underwater Antiquities Act of 1991. The act specifies a permit system administered by the South Carolina Institute of Archaeology and Anthropology for the management of its underwater cultural resources.

Persons may use and enjoy shipwrecks if their use does not disturb historic property or the surrounding area. A hobby license is required for those persons desiring to undertake recreational small scale search and recovery of historic properties. Items recovered under a hobby license must be reported to the institute but can be retained by the finder if certain qualifications are met. Instructional licenses are required for groups without hobby permits who desire to collect artifacts. Similar conditions and limitations apply to instructional licensees as do to hobby licensees. Intensive survey permits are required by institutions who want to pursue large scale salvage operations. The institute may then secure a data recovery permit for further salvage efforts if the proposed salvage meets the criteria set forth. Exclusive licenses are the final category of permits and may be issued to commercial applicants. The salvager must abide by an extensive list of regulations which are listed in the act.

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