

# THE ROLE OF AVOCATIONAL ARCHAEOLOGY AND HISTORY IN MANAGING UNDERWATER CULTURAL RESOURCES: A MICHIGAN CASE STUDY

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**Abstract:** Increasingly, diminished monetary resources to pay for full-time or project-based professional archaeologists limits the scope and speed with which professional archaeology occurs, particularly for underwater resources such as shipwrecks. However, such resources are being found with increasing regularity; human activity on wrecks combines with natural forces to degrade the wrecks -- whether intentionally or unintentionally -- and reduce the amount of knowledge to be gained from them. More easily accessible due to technology developments, such resources are difficult to protect through access restrictions, enforcement and litigation. Thus, alternative strategies must be considered. Avocational programs, both in underwater archaeology and maritime history research, are being developed in Michigan and elsewhere as a way to help document, assess and monitor these wrecks and develop an ethic of stewardship.

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## Introduction

Increasingly, diminished monetary resources to pay for full-time or project-based professional archaeologists limits the scope and speed with which professional archaeology occurs, regardless of location. However, this is particularly true for underwater cultural resources that often are considered "out of sight, out of mind." Nevertheless, the value of and interest in such resources are extensive and growing, particularly with release of the recent movie *Titanic* and the blockbuster *Titanic* exhibition in Chicago, which have popularized intrigue with shipwrecks. Additionally, technology advances have increased diver and ROV (remotely operated vehicle) access to once-remote submerged resources, thus increasing potential for human impacts, many of them ultimately destructive to the vessels, artifacts, and the knowledge contained therein. Because such resources are "hidden" from sight, and often located in remote areas, they are difficult to protect through access restrictions, enforcement and litigation; therefore, alternative strategies must be considered. Building on depreciative behavior literature (including using communication and education as a resource management tool), exploration of selected avocational underwater archaeology programs, and a recent Michigan study of the shipwreck discovery process, specific recommendations for cooperative approaches are presented. In this proposed model, avocationalists (archaeologists, historians, interpreters) can work with professionals to protect submerged resources while simultaneously increasing their own awareness, understanding, appreciation and stewardship as well as sharing their experiences and knowledge with others.

## Win-Win as the Basis for Partnerships

Controversy swirls around the topic of shipwrecks, particularly when motives of salvors or "treasure hunters" and archaeologists are discussed together. This issue is so constant that it even forms the basis of an exhibit panel at the recently opened *Treasures of Texas* museum in Port Isabel, Texas that focuses on maritime history and shipwrecks. Those involved in the debate appear to represent "different sides;" yet the controversy, arising from strongly held values and reinforced by the passion of various stakeholders, is rooted in similarity: interest in and concern for protection and appropriate use of historic shipwrecks. However, what is deemed "appropriate" often is at the center of the debate. To this debate stakeholders on all "sides" bring their personal experience, academic or avocational perspectives and priorities, professional philosophies, personal values, policy and politics, economic arguments, and legal underpinnings -- all of which can create a tangle of issues that involve ownership (legal and perceived) of the resources, rights (individual and societal, private and public), attendant responsibilities (or lack thereof), short and long term impacts, and natural versus human impacts.

The issues are debated within an external context of constantly changing factors. Technology advances increase access to once-remote submerged resources, thereby increasing potential for destructive human impacts. New laws and new interpretations of old laws have implications for ownership, values and uses of these resources. Target dates for designating resources as "historic" or eligible for the national historic register constantly change as the calendar does. Environmental processes (e.g., currents, ice, storms, chemical and electrolytic processes, native and invasive biological impacts) and human activities (e.g., dredging and pipeline-laying, land and water-based activities resulting in water pollution, fishing, anchor-dropping, vessel-caused wave action, recreational activities, and shoreline stabilization projects) continually impact the resources. Political priorities change, and with them so do budget allocations. Public opinion, constantly in flux and often influenced by news and entertainment media, also impacts the debates.

In Michigan, as in much of the United States, suspicion and distrust are directed at "the government" by some people. Concurrently, government employees charged with protecting, preserving or managing underwater cultural resources often are frustrated by citizens who disregard or fail to respect and understand the government's role and responsibilities as "caretakers of public goods." Often they feel disempowered to meet legal and mission-based mandates due to limited staff and financial resources. Thus, managers feel hamstrung and private citizens feel that their rights are impinged upon by government restrictions.

Battles -- attitudinal, verbal, behavioral, and legal -- have seemed to define many of the past relationships and activities related to underwater cultural resource use, study and protection. The challenge is great; the issues are complex. Within this controversial context, there is need to tear down the battlements, to look for common ground, and

to develop solutions rooted in win-win approaches. Avocational efforts can provide one approach to win-win and can contribute extensively to the documentation and historical understanding of shipwrecks and other submerged cultural resources. However, to assure win-win, avocational efforts must be conducted through cooperation of multiple stakeholders, including recreational/avocational divers and historians, designated resource managers, professionals (e.g., archaeologists, recreation and resource managers), and associated government organizations (e.g., law enforcement, educational entities, legal and policy development units). Thus, partnership development, collaboration, and/or co-management are necessary. Win-win partnerships, to be successful over the long term, must engage in approaches that objectively assess specific resources and resource sites, assess alternative uses and management approaches, and empower stakeholders to contribute as well as receive benefits.

### **The Michigan Context for Avocational Underwater Archaeology**

Public Act 184 (revised in 1988 by Public Act 452) first designated Michigan bottomland preserves. Ten underwater preserves have been designated, with final approval currently pending for one additional preserve. However, no state funds, though authorized, have ever been appropriated for their management; rather, any management, operational, and interpretive or educational efforts are the responsibility of local volunteer preserve committees. Preserve committee membership and activities are uneven across the preserve system, and have been uneven over time as interest, time and individuals shift.

One state preserve (Thunder Bay) currently is under consideration for additional designation as a National Marine Sanctuary, which would focus on protection of a significant collection of historic shipwrecks rather than a single vessel (e.g., *Monitor*) or the natural aquatic resources, as are other national marine sanctuaries managed by NOAA (National Oceanic and Atmospheric Administration). Various management models, including a state/federal partnership, have been considered; a final decision by the governor is pending. Such a partnership could provide stability and some federal funding for preserve/sanctuary management and serve as a model for others. In the meantime, all preserves continue to rely on volunteer efforts.

Avocational underwater archaeology programs were first developed in Michigan in 1989, with the first program training about 60 students. An additional course, proposed for 1990, was canceled because too few people were registered. Potential reasons -- market saturation and lack of projects on which graduates could work -- are discussed in more detail later. Some graduates of the first program still are actively involved in shipwreck documentation and historical research. No additional training was offered in Michigan until October 1999. Nevertheless, avocational and recreational shipwreck discovery activities continue. No laws, official policy, or permit requirements specifically restrict search and discovery activities, though permits are required for activities that physically alter sites or the

wrecks themselves (e.g., dredging, excavation, artifact removal, attachment of signs or monitoring pins).

### **Data and Information Sources for Avocational Program**

This paper incorporates information from depreciative behavior literature (with a focus on reducing human-caused damage to resources), results from a shipwreck discoverer research and outreach project, input from a group of recently trained (Nautical Archaeology Society [NAS] Level I) avocational archaeologists, and discussions with Canadians involved in avocational underwater archaeology and maritime resource protection through non-governmental organizations (NGOs). Most of the work has been conducted in Michigan; however, because Ontario shares the Great Lakes basin with the United States, Canadian perspectives and approaches are included.

**Newly discovered shipwreck assessment and monitoring project.** In 1998 the Center for Maritime and Underwater Resource Management (CMURM) at Michigan State University (MSU) received a grant from the Michigan Coastal Management Program to develop recommendations for assessment and monitoring of newly discovered shipwrecks in Michigan waters. It is believed that between 1,100 and 1,400 such shipwrecks lie on or embedded in Michigan bottomlands. Michigan legally has the responsibility to protect and preserve, for the public interest, the abandoned historic shipwrecks it owns. It quickly became apparent that studying assessment and monitoring activities, and stakeholder attitudes about such activity, could not be done without also considering the shipwreck search and discovery process. To gather input from as many stakeholders as possible, a six-component process was developed, to include: (1) a review of relevant federal and state/provincial law, policy, and practice associated with Great Lakes shipwrecks; (2) a mail survey of Great Lakes shipwreck discoverers; (3) two modified nominal group workshops with shipwreck discoverers; (4) a workshop on shipwreck assessment and monitoring involving stakeholder group representatives; (5) a telephone survey of Great Lakes shipwreck resource managers (U.S. and Ontario); and (6) two current shipwreck discovery case studies.

**Round table discussion with avocational underwater archaeology trainees.** In early October of 1999, 26 people participated in an underwater archaeology and maritime historical research training program. The program, developed in response to results of the shipwreck assessment and monitoring project, offered two training tracks: (1) the Nautical Archaeology Society's (NAS) Level I underwater archaeology program; and (2) conducting maritime historical research, structured around development of nominations for the National Register of Historic Places. While all participants were introduced to concepts in both tracks, each participant chose to focus on one of the two tracks during parts of the two-and-a-half-day program. The two-track approach was used (1) to broaden knowledge in all participants about the varied topics and processes involved in understanding, researching, and managing shipwrecks, and (2) to encourage interaction and partnership development among people having varied

interests in maritime history, shipwrecks, and other maritime cultural resources. During the final day of the workshop, all participants engaged in a guided discussion about shipwreck documentation and management, their interest in and ability to participate in future shipwreck documentation projects, factors that would facilitate their participation, and their ideas about overall access to and management of shipwrecks.

**Characteristics of Canadian avocational programs and organizations.** As part of a 1998 Canadian Studies Faculty Enrichment Grant, sponsored by the Canadian Embassy to encourage U.S./Canadian relations and partnership development, a series of guided interviews was conducted with provincial ministry personnel, resource management agency employees, and several members of the avocational groups Save Ontario Shipwrecks (SOS) and Preserve Our Wrecks (POW). Discussions involved the roles, structure, activities, contributions and challenges of avocational underwater archaeology, maritime history, and maritime preservation organizations working either independently or in partnership with governmental organizations.

#### **Theoretical Perspectives Applied to Reducing Depreciative Behavior**

Concerns of resource managers, historians and archaeologists with regard to underwater cultural resources include physical damage to the resources and loss of information from those sites due to irresponsible human actions. A body of theory has developed to help explain reasons that people engage in depreciative behaviors, including those that negatively impact natural and cultural resources. By understanding the motives, precursor variables, and intervening and other contextual variables that contribute to depreciative behaviors, managers can develop relevant strategies to discourage such behaviors and, thus, minimize the damage. While numerous theories have been applied to resource management situations and have relevance for underwater cultural resource management, they can not all be discussed here. Key concepts only are presented; a more complete summary is available in Vander Stoep and Roggenbuck (1996) and Anderson, Lime and Wang (1998).

**Motives.** People engage in behaviors for many reasons. Motives for behaviors that potentially result in damage include intentionally destructive behaviors (malicious vandalism or behaviors engaged in to achieve some other goal, such as to acquire an attractive or valuable souvenir -- a block, a bell, a brass porthole frame); status-confirming behaviors, or peer pressure ("I was the first to dive wreck X, and here's the nameplate, or bell, or capstan cover to prove it!"); and careless, unskilled, uninformed or unavoidable actions that result in unintentional or inadvertent damage (such as when a diver breaks off a piece of wreck while grabbing it to control buoyancy or get a closer look into a hatch) (Gramann and Vander Stoep, 1987; Roggenbuck, 1992). The management strategy selected should address the reason for the damage-causing behavior rather than being applied uniformly to all people in all settings. Education and skill development would be more appropriate than legal threats and imposed sanctions in minimizing diver damage to shipwrecks in most cases,

yet legal actions are necessary in others. The role of avocational underwater archaeology will be discussed further as regards its role in protecting resources and developing a stewardship ethic.

**Precursor variables.** As with any human behavior, a variety of precursor variables affect behavioral intentions and, ultimately, actual behaviors or actions. Among these are cognitive structures such as beliefs (including beliefs about impacts of specific behaviors on personal, social, physical and economic outcomes), values (e.g., economic, historical, and recreational values of shipwrecks), and attitudes that interact to influence activation of personal norms in given situations (Heberlein, 1972; Schwartz, 1977; Ajzen and Fishbein, 1980; Ajzen, 1985). So also do a person's beliefs about what others (peers, family, society) think about what their behaviors should be in various circumstances (Ajzen and Fishbein 1980; Ajzen 1985). Peer pressure, especially of significant or salient "others" (such as dive buddies or dive heroes) falls within this realm. Locus of control (an individual's belief about personal ability to impact or control outcomes) and a related phenomenon, called "ascription of responsibility" by Heberlein (1972) and Schwartz (1977) (placement of responsibility--self, others, external environmental factors--for specific outcomes or for personal behaviors), also have implications for the effectiveness of avocational underwater archaeology programs, particularly in protecting shipwrecks through development of stewardship values and behaviors. Finally, a person's knowledge about given objects, processes and situations, including about the impacts of specific behaviors on others or resources (labeled "awareness of consequences" by Heberlein [1972] and Schwartz [1977]), affects their behavioral decisions. Other social scientists indicate that a person's level of moral development strongly affects their behavioral choices (Kohlberg et al., 1983; Dustin et al., 1989).

**Contextual variables.** A variety of contextual or environmental factors present in any given situation can alter intended behaviors (e.g., excitement about being at a new dive site leading to careless dive behavior; equipment or physiological problems leading to use of a shipwreck structure for personal support that simultaneously results in damage to the vessel). Inappropriate behavior also can occur if a person believes there is a low degree of behavioral choice (e.g., the equipment failure scenario); they can shift blame (e.g., "my more experienced dive buddy said it was OK to take pieces of pottery from the wreck" or "winter storms will cause more damage than my fin kicks or moving the telegraph handle") (Heberlein, 1972; Schwartz, 1977); or visual clues, called releaser clues (Samdahl and Christensen, 1985), indicate that certain behaviors are engaged in by others and, therefore, must be acceptable (e.g., a row of plates and brass hardware lined up by previous divers on a deck railing for easy viewing and aesthetic photos).

#### **Discussion: Developing Win-Win Approaches Based on Study Results and Theory**

In developing successful win-win partnerships to engage and empower people while simultaneously protecting the

resources, both barriers and facilitating factors to avocational involvement must be considered. When asked to identify barriers to discovery, documentation and monitoring activities, experienced shipwreck discoverers as well as newly trained avocational underwater archaeology divers and maritime history researchers describe personal factors (distance, limited time and money), environmental and logistical factors (unpredictable lake and weather conditions, freighter traffic, lack of nearby support services and facilities), government restrictions and "bureaucratic attitudes," and difficulty maintaining secrecy about their activities. Government staff indicate the challenges of and their frustrations with uncoordinated discovery of so many shipwrecks (often by avocationalists) without plans, financial resources, or human resources to conduct post-discovery research, to monitor and manage the sites, or to conserve any artifacts that might be recovered. This, they believe, is irresponsible. Development and regular use of a cadre of skilled and dedicated avocational documenters, archaeologists, and historians could help fill the existing "gap" by involving them in post-discovery documentation, assessment, and monitoring. It is hoped that their active involvement would simultaneously increase their understanding of multiple values of shipwrecks, expand awareness of the vast amount of "hidden" information held within sites, and help develop in them a sense of responsibility and stewardship about the shipwrecks' long-term care. Involvement of non-divers in historical research, development of interpretive and educational materials, and other activities could expand contributions to both cumulative knowledge and stewardship of the resources.

Discoverers and other avocationalists indicate that their activities are or could be facilitated by easier access to a variety of historical resources and helpful individuals (e.g., fishermen, archives, technical assistants), access to appropriate technology, minimal legal restrictions, simple and rapid permit process for site alteration as needed for documentation and archaeology, and the ability to earn money for shipwreck-based products (e.g., books, videos, CDs). Additionally, they indicate that incentives (such as tax deductions for money spent during discovery, documentation and other research activities; reduced or no-cost dockage for boats at public marinas near shipwreck sites; loan of high tech equipment; provision of trained underwater archaeologists with whom to work; access to a list of trained avocational divers; choice about project crew members; and voluntary as opposed to imposed or forced collaboration) would go a long way in facilitating their voluntary involvement as project partners with government entities. Newly trained avocational divers indicate a willingness to participate in partnership documentation and historical research projects. They recommend many of the same incentives and indications of need for government trust and support of their efforts, but prefer that someone more experienced (and with adequate time to dedicate) take the leadership and responsibility of organizing, planning and coordinating shipwreck documentation activities.

Collectively, research results indicate that current models for avocational underwater programs focus primarily on diver techniques. While this approach does increase divers' skills and knowledge, and results in their contributions of

time and research results, the approach is exclusive. Many non-divers also have a strong interest in shipwrecks and maritime history, and can contribute extensively to shipwreck projects. Many participants in studies referenced in this paper strongly recommend that avocational partnership programs expand beyond involving only divers, professional archaeologists, and government resource managers. They suggest that partnerships include underwater preserve committees, universities, museums, local historical societies, educators, school and youth groups, tourism and economic NGOs, and anyone else interested in maritime history, especially in coastal towns. Such a model takes more effort to plan, coordinate and implement, but is more inclusive and ultimately results in expanded benefits, both in the number of people involved and in their long-term contribution to research, monitoring and education related to maritime history and shipwreck management.

Additional recommendations emerging from the collective research can be categorized into (1) personal training and involvement factors, (2) partner involvement, (3) application of individuals' skills to specific projects, and (4) development of a coordinating organization.

**Personal training and involvement factors.** Some people indicate an interest in optional formal acknowledgment of their participation in or completion of training courses. Examples include Continuing Education Units (CEUs), university credits, certifications recognized nationally or internationally (e.g., NAS certification), or specialty dive certifications connected with existing dive training associations (e.g., PADI, SSI, NAUI). Such "proofs of training" could be required for approval to work on project teams, though many discoverers want to reserve the right to hand-select their project teams.

**Partner involvement.** Involvement of local stakeholders in partnerships for both training and subsequent project work is critical. Local dive shops might (1) provide divers for workshops and documentation projects, (2) provide a certification card (connected with existing certification programs) for those wanting it, (3) enhance and encourage cultural resource stewardship through inclusion of such topics in all their training programs and charter trips, (4) receive a portion of course fee profits for co-sponsoring training programs, (5) promote training courses in their newsletters, and (6) actively develop relationships with local historical associations. Similar lists of potential contributions could be developed for other stakeholder groups, such as the local historical societies. Local historical societies could focus on conducting historical research and developing nominations of sites or shipwrecks for the National Historic Register. Preserve committees could offer their site(s) as training and project sites and specify priorities for their preserves, then organize and coordinate the avocational efforts.

**Application of individuals' skills to specific projects.** One of the factors deemed most detrimental to long-term interest and involvement of trained avocationalists is the availability of easily accessible, specific shipwreck projects in which they can be involved. While participating in a

training course does enable divers to better appreciate and enjoy their recreational dives as a result of increased knowledge about what they're looking at, most want to be involved and have ways to apply, practice, and improve their skills. Without these opportunities many may become discouraged. Therefore, training programs should be conducted in areas that have some kind of existing local organizational interest, such as a maritime museum, underwater preserve, or active dive club. Also critical to success is development of a centralized data/information collection and storage site. Initially, while projects are in progress, a local museum or preserve committee could coordinate the efforts and provide the space and equipment. Ultimately, a statewide (or province-wide, or other locally relevant structure) database, most of which is accessible to the public, should be developed and maintained.

**Development of coordinating organization.** Active avocational control or cooperative control of their activities is important. Most agree that some type of coordinating entity or organization is needed so that efforts can be coordinated and people have a central place to go for information and to find project partners. Save Ontario Shipwrecks (SOS) often is viewed as an example of a successful NGO. However, as with any organization -- especially those operated exclusively or primarily by volunteers -- there are characteristics that both contribute to their success and can create challenges to long-term success (also evident in Michigan's underwater preserve committees). Positive characteristics of volunteer organizations perceived by members include: (1) sincere interest in the mission of the organization; (2) perception of organization leaders as peers who thus have perceived credibility; (3) self-governance and autonomy in developing and implementing projects; (4) the potential and flexibility to partner with other organizations to achieve goals; (5) ability to fund-raise without constraints of a government organization; and (6) production of significant contributions to resource knowledge, resource protection, and community education. Potential threats to long-term viability of such organizations include: (1) disagreement among leaders or members about the organization's mission and priority activities; (2) changing needs and priorities over time; (3) burn-out of the most active leaders and members; (4) power-grabbing or power-hoarding by individuals if the organizational structure does not ensure multiple stakeholder or regional representation and does not provide for regular change in the leadership; (5) challenges to fiscal accountability if no system of checks and balances is built into the system; (6) uneven activity across time (and members) as members have varying personal and work demands placed on their time, energy and resources.

If NGOs are structured to minimize threats to long term survival, they can provide experiential benefits to members and simultaneously contribute to project work and knowledge creation. Maintaining regular and effective communication among members; periodic review of mission, activities and outcomes; and having established criteria and processes for dissolution also are important to long-term success. However, regardless of the passion, skills and contributions of NGOs, many believe that some

type of partnering or contribution via government is important to development and long-term viability of win-win partnerships. Recommendations for government (broadly to include the academic and professional archaeology community) organization involvement include: provision of continuity and/or stability, preferably through a dedicated position, such as marine archaeologist; availability of technical assistance; development and maintenance of a publicly accessible central database, information clearinghouse, and archives; provision of recurring seed money; provision of facilitating legislation and policy; and contribution of incentives, such as tax deductions and low-cost docking fees, for volunteer work contributed on approved projects. Such an approach would increase the number of people and resources available to conduct the work (benefit to resource managers), provide some financial and technical assistance to avocationalists, and protect and selectively make available underwater resources for use in recreation, education and tourism.

### **Education, Training and Involvement as Part of Win-Win**

Repeatedly, on surveys and in discussions and interviews, education is identified as a crucial factor in developing knowledge and appreciation of underwater and other maritime cultural resources, in developing an ethic of stewardship toward the resources, and in reducing depreciative behavior resulting in damage to and theft of the resources. Educational target audiences include recreational divers, charter operators, local communities -- residents, business people and local officials, youth, and non-diver tourists. Educational messages include the stories of people, events and historical context associated with ships and their wreck events; diving skills; technical skills associated with documentation and archaeology, shipwreck construction; and values of information contained in intact wreck sites. Training and involvement of avocationalists -- to assist with maritime historical research, shipwreck documentation, assessment and monitoring, writing of nominations for the national register, development of educational and interpretive materials -- link strongly with these educational concepts and outcomes.

Clearly avocational involvement itself, as well as use of resulting information and work, contributes to win-win in preserving, sharing and using maritime heritage resources. Under fiscal and human resource constraints, the work simply cannot be done entirely through traditional academic and governmental channels. Even if funding and staff were sufficient to conduct all the work, benefits that accrue through public interest and involvement would be lost. Other professions already are recognizing and reacting to this philosophical shift. In the museum world -- whose professionals traditionally were collectors, researchers and curators of objects and artifacts -- philosophies and approaches are shifting to using public and community involvement to identify, research, develop meaning, and share their heritage and their past. Thus, museums are used as tools for community development. Community stakeholders participate collaboratively with museum professionals in creating the meaning in the stories of their lives, and in developing exhibits and other ways to share those stories.

Increasingly, perhaps in efforts to temper some of the depersonalization created by over-saturation of technology in daily lives, people are seeking unique and authentic experiences. Involvement in avocational programs not only addresses this personal need. Avocationalists provide the labor and love to assist with archaeology and knowledge generation; they benefit from working with experienced professionals; they develop a sense of pride, ownership and stewardship for the resources; and they share their passion with others. There will always be those few with self-centered or destructive motives, but their behaviors should never discount the interest and contributions of the vast majority of people who, if provided the education, training, and opportunities to work with professionals, can contribute significantly to creating win-win for society, for the resources, and for themselves.

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