

**Bottomland Surveys of
East Moran Bay
and
Mackinac Island Harbor**

Final Report

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This is a project of:

Michigan Underwater Preserve Council, Inc.
11 S. State St.
St. Ignace, MI 49781

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Executive Summary

East Moran Bay and Mackinac Island Harbor have been the focus of Native American and European activities for centuries. These sites, because of their location at the Straits of Mackinac, were important in the early exploration and settling of the region by Europeans. Native Americans were known to have used these sites for farming, hunting, fishing, and gathering.

The length and nature of human activity associated with the bay and harbor made it likely that many small but significant artifacts would be found on the bottomlands. Also, planned development activities could potentially threaten such artifacts. To understand the scope and nature of the artifacts involved, a project was designed and implemented by the Michigan Underwater Preserve Council and funded by the Coastal Zone Management Program, which is administered by the Michigan Department of Natural Resources.

The project involved a side scan sonar survey of the bay and harbor. Important targets were identified and volunteer sport divers trained in basic underwater archaeological techniques investigated.

The project resulted in mosaic side scan images of the bay and harbor as well as detailed information about important portions of both. During this project many small artifacts were located but none were removed from the bottomland. Also, a small, unknown shipwreck was discovered in Mackinac Island Harbor.

Another component of this project was the development of a shore-access dive site for sport divers visiting the Straits of Mackinac Area Underwater Preserve. Development of this site involved an extensive survey by volunteer sport divers and erection of an interpretive sign.

Recommendations for further investigations and management of these two sites were developed.

List of Recommendations

The complete list of recommendations and an explanation is found later in this report. Recommendations are listed here to provide information about the results of the project.

- The East Moran Bay and Mackinac Island Harbor bottomlands host a wealth of artifacts that could provide valuable information about cultural development of the region.
- East Moran Bay and Mackinac Island Harbor should be the focus of an intensive underwater archaeological survey to discover and preserve important artifacts.
- The history of the St. Ignace area should be researched and published.
- East Moran Bay and Mackinac Island Harbor should be considered historic sites.
- Sport divers visiting East Moran Bay and Mackinac Island Harbor should be educated about the prohibitions of removing or damaging artifacts.
- The East Moran Bay shore access site should be considered as a receptacle for large artifacts to enhance sport diving.
- Sport divers should be encouraged to avoid high-traffic areas of East Moran Bay and Mackinac Island Harbor.

Bottomland Surveys of East Moran Bay and Mackinac Island Harbor

Background

East Moran Bay and Mackinac Island Harbor are the sites of much prehistoric and historic human activity. They are the focal points for much of the exploration and colonialization of the Midwest. The focus and nature of this activity made it probable that the bottomlands of these areas contain important artifacts.

Both areas are popular tourist destinations and extensive development in the area is either underway or planned for the near future. Thus, an understanding of the number and type of submerged cultural resources in these areas was vital in order to protect them from degradation and/or destruction.

Two main initiatives were undertaken in order to learn more about these submerged cultural resources. One involved side scan sonar to survey the bottom and locate "targets." Because of the nature of this technology, only relatively large, "solid" objects can be located.

The other initiative used data obtained from the side scan sonar survey and teams of trained volunteer sport divers to investigate suspected "high yield" areas.

Historical Information

It is difficult to appreciate the potential significance of artifacts discovered on the East Moran Bay and Mackinac Island Harbor bottomlands without an understanding of the history of the region. One of the best overviews of the history and archaeology of the region is provided by John R. Halsey, Ph.D., state archaeologist with the Bureau of History, Michigan Department of State. The following article about the history of the region is taken from the publication, *Diving Into St. Ignace Past: An Underwater Investigation of East Moran Bay*.

History of the St. Ignace Area By John Halsey

East Moran Bay fronts one of the most historic settlements in Michigan. St. Ignace was settled in 1671 as a mission site by Father Jacques Marquette. It is the second-oldest Euro-American settlement in the state.

But Marquette's mission does not define the earliest human settlement of the St. Ignace area. The first occupation could have occurred as early as 10,000 years ago when glaciers lay only a short distance north. Lakes Michigan and Huron dropped several hundred feet below their current levels. The Straits of Mackinac were reduced to a broad river connecting two shrunken lakes in the Michigan and Huron basins.

As the glacial ice retreated north, the land rebounded and closed lower drainage outlets and the lakes rose to higher levels than known today. These higher levels created the distinctive terraces visible on Mackinac Island across the bay. Many lake levels represented by submerged beaches were of sufficient duration to allow the formation of deep soils and the growth of mature forests before they were flooded.

The earliest known prehistoric upland sites in the Straits of Mackinac area are contemporary with the final stages of the stabilization of lake levels four to six thousand years ago. Archaeologists refer to this period as the *Late Archaic*. There is more evidence, however, of occupation from the *Middle Woodland* period, about 0 A.D. There is also evidence of large fishing villages from the *Late Woodland* period from A.D. 750 until European contact.

The Straits area was the most important crossroads in the Great Lakes area in the late 1600s. St. Ignace is reported to have had a population of more than 6,000--far more than today (approximately 2,500).

The last half of the 1600s is represented by a remarkable collection of important sites: Native American and European villages, burial sites, French forts and missions. Several of these sites are located not on the north shore of the Straits where the bridge comes ashore, but "around the corner"--on the shores of East Moran Bay.

The most important site is the village site of the Tionontate Huron, a refugee group that fled

their homeland in southwestern Ontario in A.D. 1650 when they were attacked by the Iroquois. This village was also the site of Father Marquette's mission, although five seasons of excavations around the present museum have not discovered the mission structure itself.

Near the village were fields of corn, beans and squash, planted by the Tionontate and local Ottawa groups. Fishing in the bay and hunting in the surrounding forests supplemented agricultural endeavors.

The norther side of the Straits was largely abandoned for most of the 1700s and much of the Native American population resettled at Fort Pontchartrain in Detroit.

French occupation of the area in the 1800s created a settlement patter of long, narrow lots called "ribbon farms." This style of land division assured all settlers access to the waterfront as well as enough land for farming, pasture and wood supplies. This style is also seen in Detroit, Monroe and a few other areas of colonial French settlement in Michigan.

In the middle to late 1800s, St. Ignace grew and developed a diverse economy. Insurance maps of the time show a waterfront with saw mills, docks, warehouses, ice houses, hotels and saloons. Between 1880 and 1890, St. Ignace became the logical norther link in the rail/ferry network joining the upper and lower peninsulas.

There was also a tourist industry for those wanting to enjoy the hay fever-free climate and scenic Mackinac Island, which was a national park from 1875 to 1895. Tourist ferry docks were at several locations, as they are today. The building of the Martel Iron Furnace south of the main village established St. Ignace as a local ironworking center and, later, the village became a flourishing logging and lumber center.

The lumbering industry prospered until about 1900 and then declined. The fishing industry could not pick up the economic slack caused by the loss of lumbering jobs and the community looked at its tourism potential.

Auto ferry service began in St. Ignace in 1923, but the Straits, an artery of transportation, became an obstacle. Many people who lived in Michigan in the 1940s and 1950s, especially deer hunters from the Lower Peninsula, sat in long lines waiting for ferries to cross. There had been a dream of a bridge across the four miles of water since at least the 1880s. Traffic congestion on both sides led to a serious demand for a bridge in the 1930s. Favorable -legislation and strong political leadership made the bridge a reality. Construction began in 1954 and the bridge was completed in 1957. The land east of the survey area was used as an equipment and material storage area during bridge construction.

The opening of "Mighty Mac," with the development of the interstate highway system, has made Upper Peninsula access easy. The opening also initiated the latest phase in the 300-year history of St. Ignace.

The bridge has allowed a regular flow of visitors into the northland on a year-round basis and fueled the enormous growth of tourist facilities in the north and south portions of St. Ignace. Redevelopment of the downtown and waterfront areas and fleets of ferries to Mackinac Island are part of the new era.

Snowmobiling and ice fishing attract tourists in the winter. In summer, the Father Marquette Museum and National Memorial and the Marquette Mission Park and Museum of Ojibwa Culture interpret the early history of the area.

Now, a new breed of visitors has arrived. They seek more than the history presented in museums. They come to experience the shipwrecks and other physical remains of the maritime past. They are sport divers.

There are few other sources of historical information about the St. Ignace area. In 1957, however, the Kiwanis Club of St. Ignace published a brief history entitled *Before the Bridge*. That volume details the lumbering era, various forts and missions that were important in development of the region. For the purposes of this report the most relevant accounts are those relating directly to maritime heritage. The following accounts are taken from *Before the Bridge*.

Transportation Over the Years

First Route to These Shores

The migration of early days, and the manner of living as well, were largely determined by the facilities and limitations of travel. The first people here, the Indians, relied on canoes and water routes for the most part. Movement across land was along the rivers or inland lakes, or on narrow trails by foot, snowshoe or dog sled.

The traders, explorers and missionaries, mainly French, who began to appear here before the middle of the 17th century, travelled the Indian routes and used their means of conveyance. Coming up the St. Lawrence River, they took the long Ottawa River to the Mattawa stream which they followed, then cross Lake Nipissing, went down the French River to Georgian Bay and arrived at the shores of upper Lake Huron.

This route of about one thousand miles was used for many years for the fur traffic, as the most direct from Montreal. It also by-passed the hostile Iroquois Indians, who controlled the lake region to the south. On this journey, there were troublesome rapids and about a dozen portages, the longest being about six miles between Lake Nipissing and the Ottawa River, known as the Mattawa Portage.

Canoes

Canoes served for transporting furs and supplies for more than one hundred years. As made by the Chippewa Indians--the natives of the Upper Peninsula--there was no superior canoe craft. Skillfully, they took birch bark strippings a quarter of an inch thick, ingeniously shaped and sewed with roots of the tamarack tree (or the inside bark of the basswood tree, after it was properly treated), called "wat-taps" (Ottawas used fibres of spruce), making them watertight by pouring hot pine pitch over the seams. The bark thus sewed together was stretched over thin ribs and cross-bars of cedar. Between the ribs and the bark, thin pieces of cedar were placed to help strengthen the canoe. The finished product was easy to maneuver, and, of course, was handled expertly by an Indian with his paddle. The large sizes were thirty to forty feet long, called bateaux (pl. of bateau), and could convey four tons of furs, while the largest of these boats was light enough to be carried by four men across portages. The cargoes also had to be carried on the back of the boatmen. Fleets of these canoe caravans plied back and forth from Montreal, traveling as far as forty miles in one day. The French introduced oars and the use of sails to aid moving their heavy cargoes of furs and supplies.

It seems incredible that a light birch bark craft, seemingly entirely inadequate, served as the early transportation of a gigantic empire built by the fur industry extending over thousands of square miles. The work of the boatmen, the French voyageurs, with help from the Indians, was a marvelous part of the operation of this vast enterprise. Working from dawn to sunset, without protection from the elements, having to load and unload heavy cargoes each night and carry the precious furs and supplies across portages, called for a rugged man almost beyond understanding. Merely to endure the hardships of their life would and their travels would be sufficient, without the almost superhuman strength required to perform their tasks.

Wooden Boats

The canoe, of course, was designed primarily to skirt the shore, and follow the rivers, and was used on the deep waters only under the most favorable conditions. It can hardly be conceived that early explorers and missionaries like Nicollet or Marquette went through the Straits or followed the navigation routes with this frail craft. Because of the need of a more stable means of travel with the development of lake traffic, wooden boats, some with a sail or tow, gradually came into use. By 1800, about the time that fur trading reached its peak as an organized and centralized industry, wooden boats were common. Most of them were a small type, but it was in these boats that a large number of the first permanent settlers--the great-great-grandparents of some of today's residents--came to the shores of East and West Moran bays.

Gradually, the stronger and larger boats replaced the light, birch bark canoes as wooden craft, for use in fishing as well as for the fur trade, the wind supplied power, with oars

supplementary. Few of the larger wooden ships came until after 1800, partly because the through lake traffic had not developed. Sailing vessels began to appear after that date, replacing in part the old established method of transporting furs, and an occasional supply vessel found its way up here from Buffalo.

Mackinaw Boats

Early wooden boats of a flat bottom type used in this area became known as the *Mackinaw boats*. The Cheniers, who settled here about 1830, began a boat-building business improving on the older Mackinaw models. Chenier was the designer and developed what is regarded as the true Mackinaw boats. The Chenier boats had two masts with sails, were round bottomed with a centerboard and pointed at both ends. (The centerboard was a development about 1812, a dagger board being used prior thereto.) They were constructed to handle nets and large catches of fish in deep and rough waters when weather conditions were not too severe.

The Cheniers met with considerable success and later supplied the Government with their product for use by lighthouse keepers. About 1845, they had become well established on the beach at what would be the vicinity of 1170 North State Street, in St. Ignace. ***

The Mackinaw boats were built until 1915. *** After that, younger members of the family made smaller boats for about 20 years.

Sailing Vessels

After 1800, the sailing vessel, both large and small, was the chief means of water travel for many years, until the steamboat gradually came into the navigation picture. The first to reach these waters was Walk-in-the-Water, built in Buffalo, coming here in 1819. While it was a significant forerunner of future development, it was some time later before steamboats came into general use.

Steamboats

In 1820, there were only four steamers on all the Great Lakes, and only ten were built in the next ten years. Production increased rapidly, however, between 1830 and 1850. In 1830, there were only occasional clearances from Lake Erie ports and Detroit to Mackinac, but the tempo increased rapidly after that date. The fare from Mackinac to Buffalo in 1840 was cabin, \$16; steerage, \$8. Horses were shipped at \$10 each. Traffic increased noticeably after 1846 when land was opened up for settlers.

Originally, wood was used for fuel. A principal fueling place was St. Helena Island on the Lake Michigan side of the Straits. About 1850, this island became a thriving village and port for the shipment of fish and for receiving supplies -- a haven for sailing vessels as well as supply boats propelled in whole or part by steam. Early residents, including those from Gros Cap, hauled wood on the ice in the wintertime to be used when navigation opened.

Steamboats--Railroad

Steam propelled ships were developed rapidly, so that by the Civil War Time large sized boats were operating on the Lakes. Coal became generally used as time went on. Docks were built in St. Ignace to accommodate the heavy freight traffic. Lake steamers began to find their way here, and in the 1870s, fast passenger service became available. These travel facilities, plus the building of roads and settling of the country to the south of us, spelled a new migration. While the lake boats brought in most of the early arrivals, development and migration were speeded up when a railroad connection between St. Ignace and the Lower Peninsula was established in 1881. This was an important development for those interested in the lumber and mineral resources of the Northland.

Here a lumber boom began, and it meant that St. Ignace was to be changed from a wagon trail village to an organized and regulated community.

The author(s) of *Before the Bridge* cover the French era of the region in great detail. Perhaps the most intriguing maritime aspect of French activity is the arrival of the famed *Griffon*, the first sailing vessel on the Great Lakes. Built by the French explorer LaSalle, the vessel visited St. Ignace in 1679 where LaSalle celebrated mass. Father Hennepin offered this account:

As we came out from the service, we gazed with pleasure at the *Griffon*, our large, well-equipped vessel lying at anchor in the cove. A hundred to a hundred and twenty bark canoes were going to, or coming from the fisheries where the Indians take whitefish, without which they could not subsist. They catch them in nets, sometimes in fifteen or twenty fathoms of water.

The Huron Village, which is surrounded by a stockade twenty feet high, is situated near a long point across from the Island of Michilimackinac.

The 45-ton, 60-foot *Griffon* continued its journey to Green Bay. In November, the vessel left to return with a load of fur. The *Griffon* was reportedly lost in Lake Michigan. Many speculate that it could have been a victim of the notoriously rough water of the Straits of Mackinac. Whatever its fate, it seems likely that the ship would have stopped again at St. Ignace on its return voyage.

An overview of the archaeology of East Moran Bay, written by Dr. Halsey, is included in this report as Appendix 4.

Side Scan Sonar Survey

Background

Remote sensing technology has advanced rapidly in recent years. Originally, the U.S. Defense Department sought accurate and low-cost ways to detect enemy submarines and developed sonar as a means of echo-location. Research and development led to side scan sonar which uses many receivers to draw a wider view of the bottom.

Side scan sonar has become widely available in the last decade. This is due in part to the number of units manufactured, a slow down in oil and gas exploration on the continental shelf which used units extensively, reduction in the cost of units, and the desire among sport divers and others to locate shipwrecks in the Great Lakes. Side scan sonar units tow a "fish"--a torpedo-like device--behind a slow-moving vessel. The fish is hard wired to a printing device that graphs the results.

The product is much like a black-and-white photograph of the bottom to one who knows how to read the results. Researchers look for tall shadows to indicate structures that rise off the bottom. By using various calibrations, researchers can often determine the lengths and widths of these underwater structures.

State Archaeologist John Halsey, Ph.D., became familiar with side scan sonar technology at a Canadian conference. During a project at the Manitou Passage Underwater Preserve, Dr. Halsey had the opportunity to compare side scan sonar with other remote sensing technologies. As a result, Dr. Halsey expressed a preference for side scan sonar for survey work of the type involved in this project.

Sea Search, Inc., of Muskegon, Michigan, was contracted to perform side scan sonar surveys of East Moran Bay and Mackinac Island Harbor. These surveys were conducted on May 5, 1992. The operator, Craig Scott, used a Klein Side Scan Sonar unit towing a 500 mhz fish.

The device was calibrated to make a 150-foot sweep on each side of the fish as it moved through the water. The operator made a 150-foot overlap during the surveys so each portion of the survey area was covered twice. This offered two perspectives of underwater targets and helped identify some targets before volunteer divers were dispatched.

Results

The results of the survey were pieced together to create a mosaic of the bottomland. Mr. Scott and Steve Harrington, of Maritime Research Associates, Inc., reviewed the output extensively and identified key areas for further investigation. Those areas include:

Lat/Lon Coordinates	Investigated?	Results
45° 52.52'/84° 43.10'	Yes	Known wreck in pieces in East Moran Bay
45° 52.47'/84° 43.23'	Yes	Slab wood and other debris from lumbering era in East Moran Bay
45° 51.22'/84° 42.05'	Yes	Anchor from lumber boom in East Moran Bay
45° 52.45'/84° 43.46'	No	Believed to be buoy weight in East Moran Bay
45° 52.32'/84° 42.80'	Yes	Wood debris in East Moran Bay
45° 52.39'/84° 43.30'	No	Unknown-East Moran Bay
45° 50.84'/84° 36.67'	Yes	Shipwreck in Mackinac Island Harbor (new)
45° 51.00'/84° 36.50'	No	Believed to be buoy weight in Mackinac Island Harbor
45° 36.45'/84° 50.84'	No	Unknown target in Mackinac Island Harbor
45° 50.89'/84° 36.40'	Yes	Known wreck upside down near breakwall in Mackinac Island Harbor

In addition to these targets, the side scan survey revealed the location of many "pockets" of slab wood believed to be left from the lumbering days of St. Ignace when at least one saw mill was in operation on East Moran Bay. Submerged pilings and "prop wash" areas, where the propellers of large vessels such as ferries have disturbed the bottom, were also identified.

The side scan survey data was shared with local residents soon after it was obtained. The presentation was part of a public presentation made to local residents about submerged cultural resources in the Straits of Mackinac Underwater Preserve. In addition, the data was shared with officials from the Mackinac Island State Park Commission.

Perhaps the most significant discovery is that of a new shipwreck in Mackinac Island Harbor (see Figure 1). Diving conditions made it difficult to investigate this target until late in the season when the ferry service was reduced. A team of volunteer divers comprised of Jim Montcalm and Lee Ortman inspected the wreckage and described the shipwreck as follows:

- The vessel appears to be relatively small, perhaps about 50 feet.
- The stern portion is broken up and scattered.
- About 15 feet of the bow section is intact and upside down on the bottom.
- An anchor with a shank about 5 feet long is still attached to the bow through a ring secured at the bow stem.
- The vessel lies in 34 feet of water in a ferry lane.
- No small artifacts were found in a single, cursory examination of the wreckage.

The condition of the vessel, particularly the fact that the stern is broken and scattered, suggests that this vessel may have been the victim of a collision or other accident. The fact that the anchor is still present indicates that this site has not been much visited by sport divers.

Generally, this area has good visibility (20 feet) but on the day of the investigation dive by the volunteer team, visibility was limited to approximately 10 feet. This means that much more could be learned from this site with more extensive investigation. A problem, however, is the location of the wreckage in a ferry route. Local divers believe that cooperation from a single ferry service could remove potential hazards to divers if additional investigations are conducted.

During investigative dives by volunteer divers, a variety of small artifacts were found in both East Moran Bay and Mackinac Island Harbor. Small artifacts were found on virtually every dive and included tools, wooden barrels, a parasol, slab wood, hardware, bottles, ceramicware, and similar items. Because of the variety and number of small artifacts found in both locations, it seems reasonable to expect that both the bay and harbor are significant reservoirs of important artifacts. Although no prehistoric artifacts were discovered, their presence seems likely.

It should be noted that although the side scan sonar unit used in this project was calibrated to detect the smallest items possible, many of the significant artifacts discovered during investigative dives were not detected by the unit. All items discovered by volunteer divers were either left *in situ* or replaced to their original location after underwater inspection. No artifacts were destroyed or raised from the bottomland during this project. Volunteer divers were trained in underwater archaeological techniques before participating.

In addition to shipwrecks in Mackinac Island Harbor, the side scan sonar survey yielded other information. Specifically, the location of slabwood (see Figure 2), prop washes (see Figure 3), and large pieces of known shipwreck debris (see Figure 4). Using NOAA charts and the data collected during this project, areas where significant amounts of artifacts are located can be plotted. This information will be extremely useful for planning purposes where bottomland activities are involved.

The side scan sonar mosaics were used to plot the general locations of key bottomland features. Maps of East Moran Bay (see Figure 5) and Mackinac Island Harbor (see Figure 6) are included in this report.

The original side scan sonar output will be offered to state agencies. If they do not want the output, then it will be filed with local government officials. The side scan sonar output will also be copied photographically and distributed to key individuals and agencies responsible for planning and development activities.



Figure 1. Newly discovered
shipwreck in Mackinac Island
Harbor.

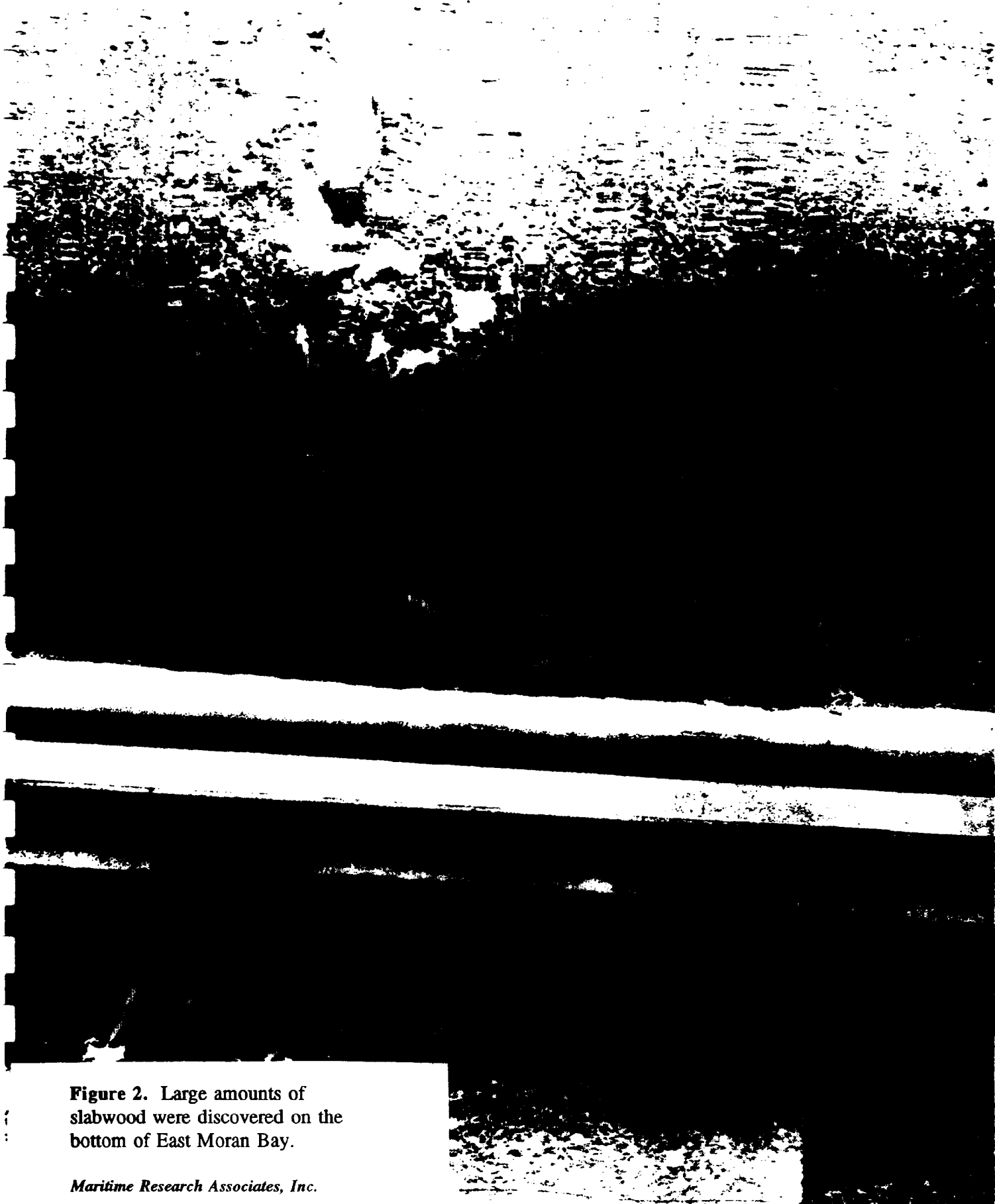


Figure 2. Large amounts of slabwood were discovered on the bottom of East Moran Bay.

Maritime Research Associates, Inc.



Figure 3. Areas where propellers from large vessels "washed" the bottom were evident.

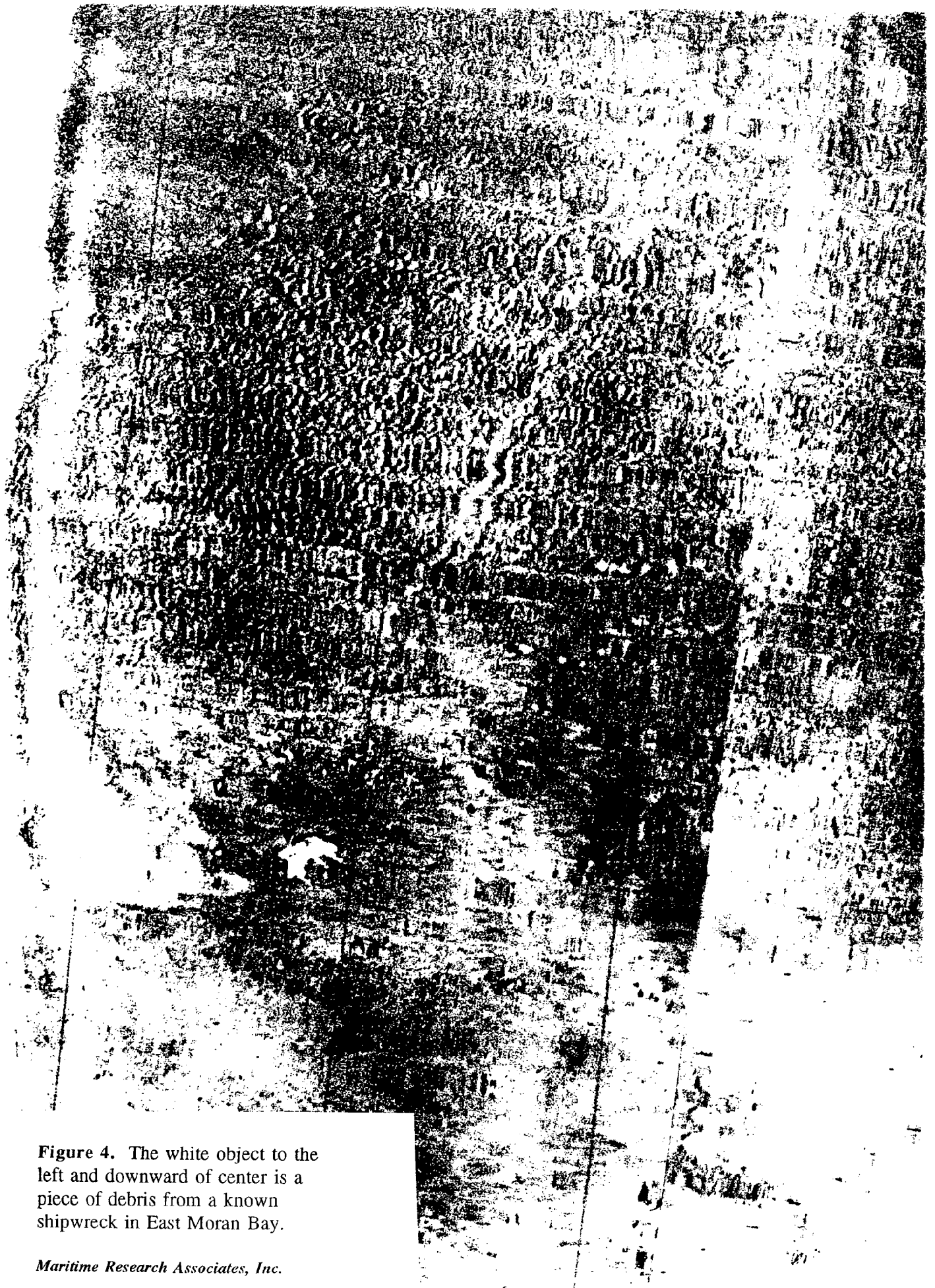
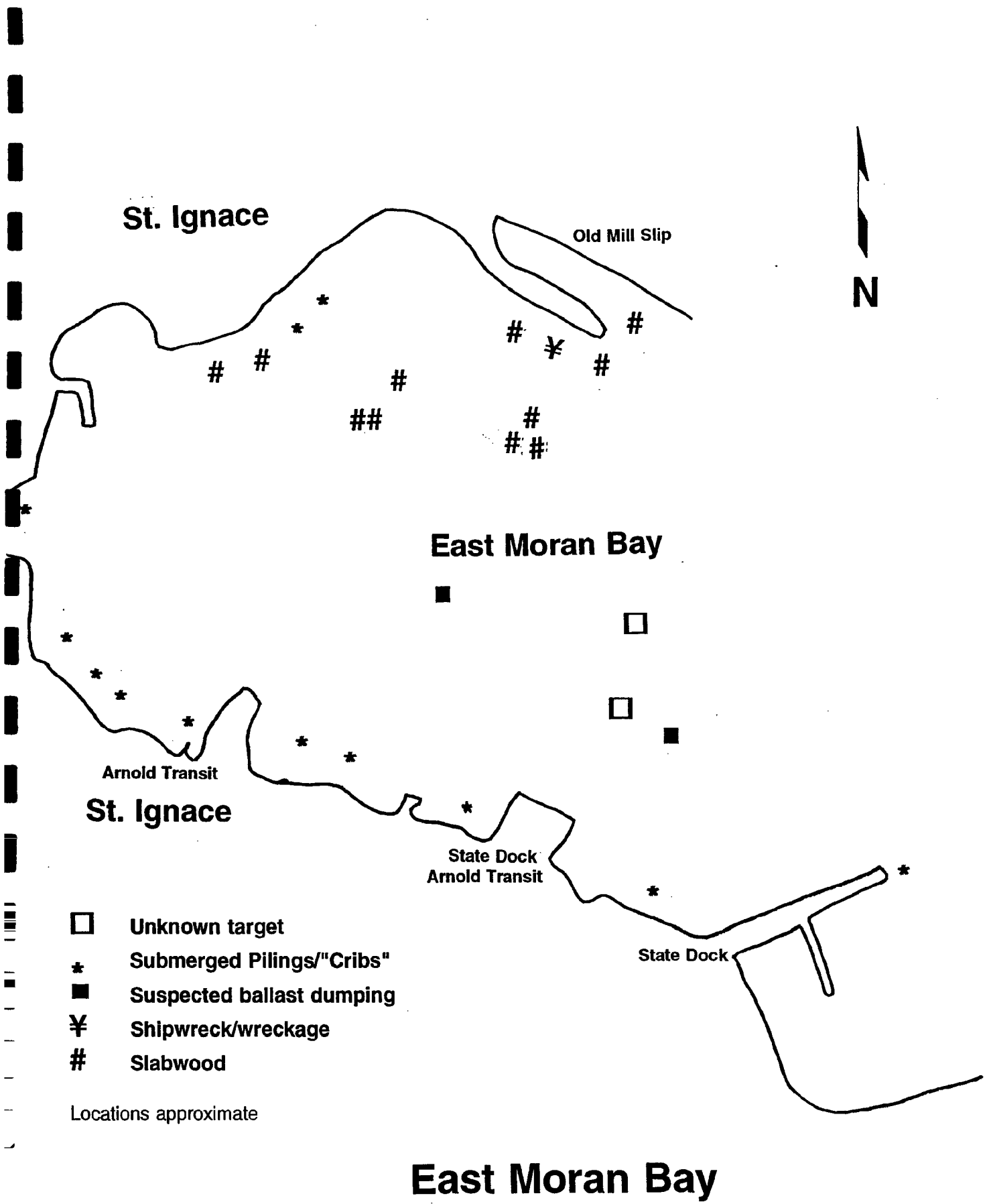
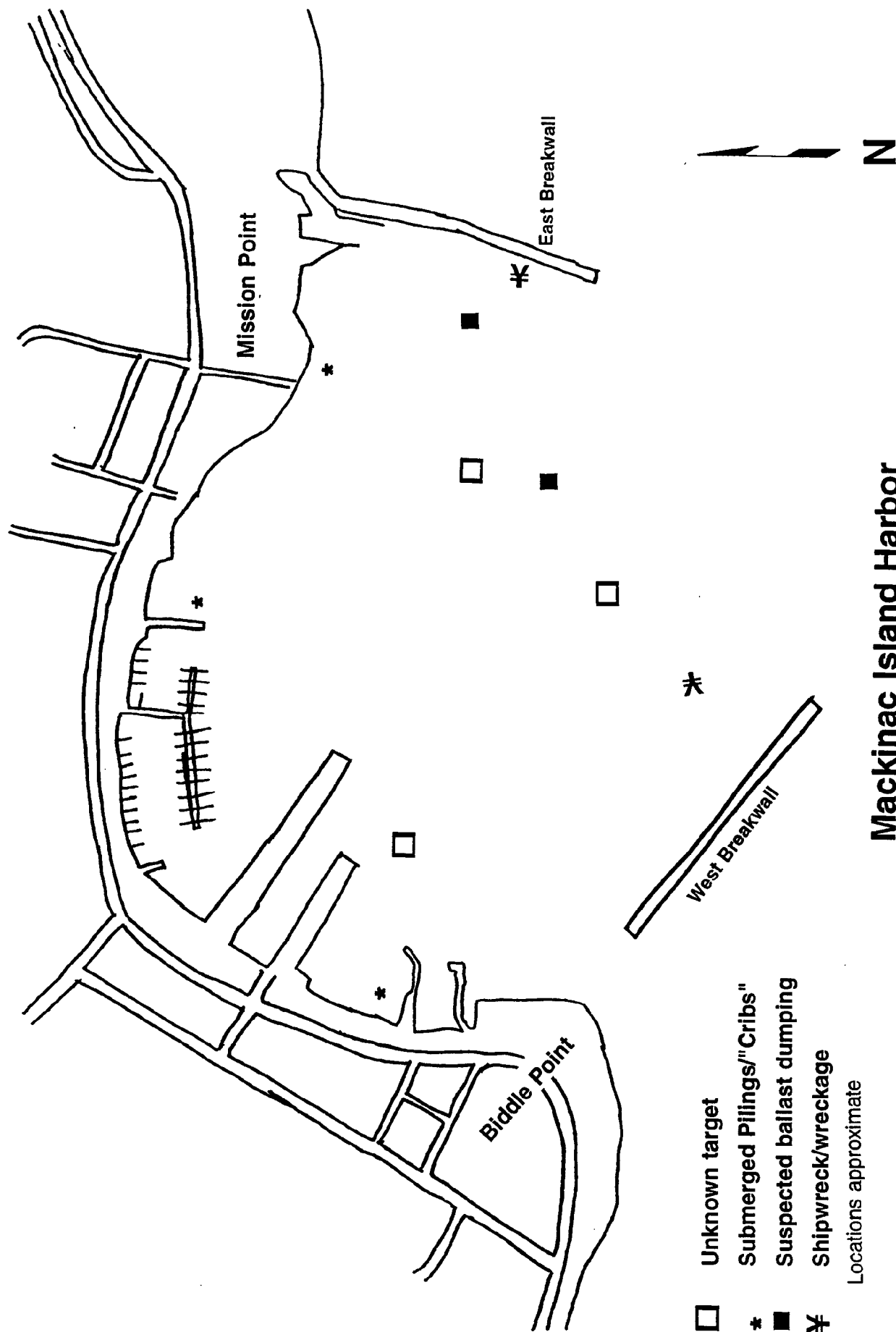


Figure 4. The white object to the left and downward of center is a piece of debris from a known shipwreck in East Moran Bay.





Diver Access

This project includes a diver access component. The portion of the project was designed to locate an area of East Moran Bay that could be used to provide a shore-access site for sport divers. This would enhance the diving experience in the Straits of Mackinac Underwater Preserve as well as offer an opportunity for interpretation and diver education.

Originally, a survey of East Moran Bay near the Hazelton Avenue dead end was considered for a shore access dive site. The area had been extensively surveyed during two underwater archaeology courses. In addition, the site had been dived by the state archaeologist and other Bureau of History staff. The wealth of small artifacts and the discovery of a portion of a shipwreck made this the logical first choice.

As the project progressed, however, it became known that there were several development plans being considered for the Hazelton Avenue site. These plans would likely interfere with the proposed shore dive access site so an alternative site was selected. The alternate site selected is adjacent to the Star Line Dock south of the Gandy Dancer Restaurant. This site was selected for the following reasons:

- The site will be linked to the existing boardwalk system funded by the Coastal Zone Management Program.
- The site will be developed into a waterfront park by the City of St. Ignace with funding from the Michigan Natural Resources Trust Fund.
- The site was municipally owned (a CZM requirement).
- The site is highly visible from the main highway (US-2).
- The potential for finding significant artifacts at the site was great (see Appendix 1).
- The site will not present user conflicts with boaters, ferries, anglers, etc.
- An interpretive sign format already exists (see Appendix 2).
- The site can be easily observed by local sport divers to ensure protection of artifacts.
- There is potential at this site to enhance sport diving through an underwater interpretive trail such as that recently created at the Alger Underwater Preserve.
- Parking and shore-access is available and convenient.

As a result of this site change, the 1992 underwater archaeology course, sponsored by a variety of organizations and state agencies, conducted two surveys at the site. The results of one of those surveys is included in this report as Appendix 1.

The surveys revealed a variety of both large and small artifacts. These artifacts included anchors, old bottles, cooking and eating utensils, tools, and other items. Because of the historical use of the area as a docksite for ferries and freight and passenger vessels, it appears as though many of these items were simply discarded from the dock and vessels using it. Many of these artifacts--including ceramic cookware--are intact and in excellent condition.

There is no question that this site is far superior than the Hazelton Avenue site. It will make an excellent shore-access site with an interpretive sign that will inform and educate divers. The text of the sign, which will be consistent with other signs associated with the boardwalk, is included in Appendix 2.

There is some interest among local sport divers in enhancing this dive site. One simple strategy is to lift a nearby anchor from the silt so it can be more easily seen. Local divers have proposed lifting the anchor but not otherwise moving it from the site. The anchor, discovered in early 1992, is believed to be associated with lumbering activity of the early 1900s. The Michigan Department of Natural Resources and has given conditional approval for such a project, which may occur in 1993. See Appendix 3.

Several "spinoff" activities have occurred as a result of designating this site as the diver shore-access site. The City of St. Ignace has included this diver access as part of their waterfront park. Also, local organizations have raised more than \$1,000 to develop the site further for sport divers. This development will include steps and a diver platform.

Findings

Although this historical review is cursory, the following conclusions can be drawn:

- The potential for historically/culturally significant artifacts on bottomlands in these areas is great.
- The number and variety of artifacts likely to be found is great.
- There is considerable potential for finding both prehistoric and historic artifacts.
- There is a need for additional published historical information for both sites.
- The artifacts found on the bottomlands could provide valuable information about the cultural development of the region.
- Terrestrial development has already obscured many important sources of artifacts. The bottomlands of this region, therefore, potentially offer a rare wealth of "clues" about cultural development.

Recommendations

Recommendations are beyond the scope of this project because this project was primarily designed to provide data. During the course of the project, however, certain recommendations became obvious and it would be valuable to have these recommendations passed on to state and local government officials, the Michigan Underwater Preserve Council, and local organizations interested in historic preservation and management.

- **The East Moran Bay and Mackinac Island Harbor bottomlands host a wealth of artifacts that could provide valuable information about cultural development of the region.** One striking fact about these areas is the scope and nature of human activity. East Moran Bay and Mackinac Island Harbor were among the first settled by Europeans and Native American activity predates colonialism. As a result, the bay and harbor have been busy places for centuries and this activity is certain to have caused a variety of artifacts to find their way to the bottomlands.

Because the water of Lake Huron in the Straits area is cold and generally clear, the natural preservation qualities of freshwater are certain to have protected many important artifacts. Unfortunately, the most significant artifacts are likely to be small and were undetected by the side scan sonar. Some significant artifacts, however, were discovered by volunteer sport divers and were generally left undisturbed on the bottom.

- **East Moran Bay and Mackinac Island Harbor should be the focus of an intensive underwater archaeological survey to discover and preserve important artifacts.** If possible, this initiative should be coordinated with various state agencies; such as the Mackinac Island State Park Commission, Michigan Bureau of History, and local organizations and interest groups. This initiative is likely to yield important new information about cultural development in the region because of the rich reservoir of artifacts the bay and harbor represent.

Although tight state budgets generally prohibit such extensive archaeological work, this initiative should be considered for priority. Funds for archaeological work may be

available from the National Trust for Historic Preservation or other sources. In addition, a work plan should include consideration of the Mill Creek and Fort Michilimackinac sites for underwater archaeological survey work.

- **The history of the St. Ignace area should be researched and published.** St. Ignace is rich in history and that history is the focus of much tourism-related businesses and activities. Ironically, much of the historical record of this community is threatened because it has not been recorded. Many elderly residents of the community can provide valuable information but without oral histories, their recollections are likely to fade.

The last history of St. Ignace was published in 1957 and was incomplete. Still, that publication, *Before the Bridge*, can provide a starting point for a new publication. Although no St. Ignace or Mackinac County historical society exists, there are several related organizations and interested individuals who may be encouraged to undertake such a project.

- **East Moran Bay and Mackinac Island Harbor should be considered historic sites.** Unlike shipwrecks, the bottomland of the bay and harbor are less defined but nonetheless significant as a source of archaeological information. Because of the vast number and variety of artifacts known to be resting on the bottomlands, these two sites should be treated as historic sites.

Treatment of a historic site should raise scrutiny of bottomland permit applications, which means that development activities should be preceded by an underwater archaeological survey to ensure that no important artifacts will be damaged or destroyed. While the nature and scope of such an archaeological survey is the responsibility of the Bureau of History, Michigan Department of State, it seems likely that there is a role for the many volunteer sport divers who have been trained in basic underwater archaeological techniques. Cooperation and coordination between state officials, the Michigan Underwater Preserve Council, interested individuals, and other organizations will be required.

- **Sport divers visiting East Moran Bay and Mackinac Island Harbor should be educated about the prohibitions of removing or damaging artifacts.** The size of many artifacts discovered in this project tends to make them "portable." Sport divers must be educated so that they understand the still penalties for removing or damaging artifacts. State and local government officials may want to consider working with the Straits of Mackinac Area Underwater Preserve Committee, the Michigan Underwater Preserve Council, and other organizations to educate sport divers.

- **The East Moran Bay shore access site should be considered as a receptacle for large artifacts to enhance sport diving.** The Alger Underwater Preserve Committee has created an underwater interpretive trail using artifacts removed from local shipwrecks years before regulations prohibited the activity. The same type of trail could be created at the shore access site. The logical organization to undertake this project would be the Straits of Mackinac Area Underwater Preserve Committee in cooperation with the Michigan Underwater Preserve Council and local government officials. Some artifacts removed from local vessels are currently decomposing at uninterpreted sites along the city's waterfront. Some of those artifacts should be considered for creation of the recommended underwater interpretive trail.
- **Sport divers should be encouraged to avoid high-traffic areas of East Moran Bay and Mackinac Island Harbor.** The bay and harbor are busy with recreational vessels and commercial ferries. The probability of a diver/vessel accident is great if sport divers do not exercise common sense. While the danger is obvious and most divers immediately recognize the potential problems, sport divers in this and other preserves should be encouraged to avoid such high-traffic areas. This can be accomplished--as it has been in this case--with the establishment of a shore-access dive site well away from ferry lanes. Other preserves with high-traffic areas may want to consider developing shore-access dive sites to "lure" sport divers away from potential hazards.

Appendix 1

Continuing Survey of East Moran Bay. St. Ignace, Michigan

July 17-19, 1992

Subject:

An area south of town and Star Line Mackinac Island Ferry dock to be made into a waterfront park and used for advanced archaeology course focusing on project leadership.

Objectives:

- 1) To locate pilings that were left from a dock that spurred off of the dock now being used by Star Line Mackinac Island Ferry.
- 2) To locate pilings left from a rumored second dock.
- 3) To note any significant artifacts found during the survey as man were said to be seen in the area during a previous survey.
- 4) To accomplish tasks in relation to the advanced project leadership course being taken this same weekend by Fred Shannon, Maynard Shultz, Barry Stephan, and Ben Tackitt.

Historical Background:

The information used for this project was obtained during the weekend. This information consists of maps supplied by Jim Montcalm and the Straits Underwater Preserves Committee.

The earliest map we have was drawn in 1884, which is around the time the dock is believed to have been built. The dock was constructed for the Detroit, Mackinac and Marquette Railroad. The dock was used in lumber loading operations. Sometime before the turn of the century, dock (or the railroad company) changed hands. The railroads listed as using this dock are the Duluth South Shore and the Atlantic railroad companies. We were, unfortunately, unable to delve into the docks history in any detail. The current users of what is left of the old dock site are the Star Line Mackinac Island Ferry and the Gandy Dancer restaurant. The latter occupies the original depot.

Site Description:

The site is bordered on the north by the current dock and a forest of pilings that continue out for a total of approximately 587 feet. The maximum depth is 20 feet at the datum line from the last piling (point B through point C to point F) with a gradual decrease back to the shore. The datum from point A through point D to point E was shore-based. The visibility ranged from 5 to 12 feet. The shore provided easy access and the bottom was mostly sand mixed with silt. Plans by the City of St. Ignace call for this site to be developed into a park. An interpretive trail for sport divers has been proposed for an area offshore from the proposed park.

Survey Assessment:

This site is so full of artifacts that further surveying and documenting is warranted. The concern now is preserving the artifacts as they are within very easy reach of those who would pillage, despite the legal ramifications. There is obviously much that is just under the silt and sand that has yet to be discovered.

Participating Team Members:

Jim Montcalm	Steve Shields
Ron Scott	Rick A. Weiss
Jason Weiss	Fred Leete
Don Salwoski	Ken Vrana
Jim DeKeysor	Brent Dekeysor
Fred Shannon	Ben Tackitt
Maynard Shultz	Barry Stephan
Phill Wright	Rob Smith

Tasks Completed:

Piling Survey

Saturday, July 17, 1992, after briefing and a short course in surveying, the volunteer divers undertook an orientation dive of the site. The site planner and assistants laid out the site dimensions. Once that was completed, the crews were able to dive and undertake the underwater work with a grid system. The site was divided into two, 100-foot areas and the divers systematically swept these areas by swimming the width of the sites, each time covering about a 20-foot swath per diver. The divers marked piling remnants with marker buoys. The first area--points A,B,C, and D on the chart--yielded very little because the pilings were probably silted over in this area. This allowed us to sweep the second area--points C,D,E, and F. By using a boat and later a person in an inner tube carrying buoys, the pilings in both areas were quickly marked after they were found. A total of 18 pilings were marked and triangulated. Several more were found on Sunday but lack of time kept us from marking them.

Artifact Survey

This day was reserved for visual observations of the site in search of artifacts. Forty-nine artifacts were reported. They seem to be randomly located except for a certain area where there was an increase in the concentration of artifacts.

Observations and Conclusions:

No pilings from the rumored second dock were located. The pilings marked give an indication of the direction of the spur, as shown on the accompanying site map.

The debris field is probably where the ships would dock. Only one survey reading was taken, but this debris field has an approximate width of 20 feet, west to east. The length seemed to extend almost the entire length of the site.

A list of artifacts reported, some with coordinates, is included in this report. Found in association with the bottles, china, etc., was a lot of charred wood. The remains of charred wood are all small pieces which may indicated that they were from fires built by workmen to keep warm rather than the result of a major fire on the dock.

The Future:

Several dives will be required to locate everything of significance on this site. Hopefully, beside future weekend dives, we need to organize a week-long survey of several dives to locate everything of significance on this site. This task should be done during the next year.

Pilings Survey Data;

Bearings taken, July 17-18, 1992 (See map 1) (All bearings are North by East)

Point A to B (last piling)	108 °
Point B to C to E	162°
Point F to D to A	18°
Point F to B last piling)	89.5°
Point F to 1st group piling	75.8°
Point F to 2nd group piling	84.95°

Located Submerged Pilings (see map 1)

Area 1

- 1 98 feet from point A along the A-B datum line
- 2 101 feet, 7" from point A long the A-B datum line
(several submerged pilings were later spotted along the existing dock on the A-B datum line after #1 and 2)
- 3 153 feet from point D, 18 feet from C-D datum line

Area 2

- 1 143° from A, 71° from F
- 2 145° from A, 76° from F
- 3 146° from A, 77° from F
- 4 149° from A, 77° from F
- 5 154° from A, 87° from F
- 6 155.5° from A, 86° from F
- 7 156.5° from A, 85° from F
- 8 157° from A, 84° from F
- 9 157° from A, 90° from F
- 10 159° from A, 89° from F
- 11 160° from A, 88.5° from F
- 12 162° from A, 91.5° from F
- 13 163.5° from A, 93° from F
- 14 164° from A, 95° from F
- 15 166° from A, 99° from F

Artifact Survey Data:

<u>Observer</u>	<u>Observations</u>
Jim DeKeysor	1. flashlight 2. glass base, 5" diameter, oblong shape 3. steel rudder 4. old "Danger" sign 5. caulking gun 6. chain links (?) (ovals) 7. gaff hook 8. horseshoe
Brent DeKeysor	1. nuts, bolts, and washers 2. steel plates 3. pipe wrench 4. china bowl, intact 5. Champion spark plug 6. china platter 7. rag 8. flashlight
Ben Tackitt	These artifacts were found on a 252° course from shore, through submerged piling #7 to a line perpendicular with the first group of pilings on the A-B datum line. The highest concentration found in a 20-foot area up to the first group of pilings. 1. two large truck or tractor tires, one with a very large whitewall 2. several old bottles 3. several old cans 4. a length of chain 5. many broken pieces of china, a few with maker stamps 6. a brick stamped "Boyne City" 7. a very thick and intact ceramic mug stamped: Carr China Co. Grafton, Va D-41 8. a very thick intact ceramic bowl with no maker stamp 9. a very thick intact ceramic plate stamped: Scammell's China Trenton 10. a field of debris at coordinates noted on site map 11. many pieces of charred wood

Barry Stephan

1. whiskey bottles approximately 150 feet from point B and 20 feet from the B-F datum line
2. 6" diameter pressure gauge, with needle intact, approximately 15 feet toward shore from whiskey bottles

Jim Montcalm &
Ken Vrana

On a course 234° from buoy #3

1. iron fastener
2. wire cable

On a course 300°

1. car hood
2. old (green) bottle/other bottles and potter pieces
3. drift pins/metal fasteners
4. decking and decking nails, cable
5. rudder (?), anchor (?) and brass belaying pin

Ron Scott

Compass and distance readings taken from a pipe about 20 feet in front of point A along the A-B datum line.

1. glass lantern base - 160° 8'
2. metal gear rod - 110° 10'
3. glass jar - 90° 10'
4. Inverness Dairy, Cheboygan (1/2 point cream bottle) - 100° 10'
5. metal light fixture - 160° 12'
6. 18" chain with ring - 160° 12'
7. mailbox - 150° 12'
8. small tobacco can - 300° 13'
9. white bowl, 8" diameter - 240° 12'
10. old whiskey bottle with cork stopper - 270°
11. white bowl, 8" diameter - 240° 12'
12. toilet bowl - 285° 15'
13. old pint bottle - 190° 10'

STAR LINE DOCK

MAP #2

1ST GROUP PILING

AREA 1

AREA 2



Debris Area
Found By Tackitt
Width Approx. 20'
Unknown Length



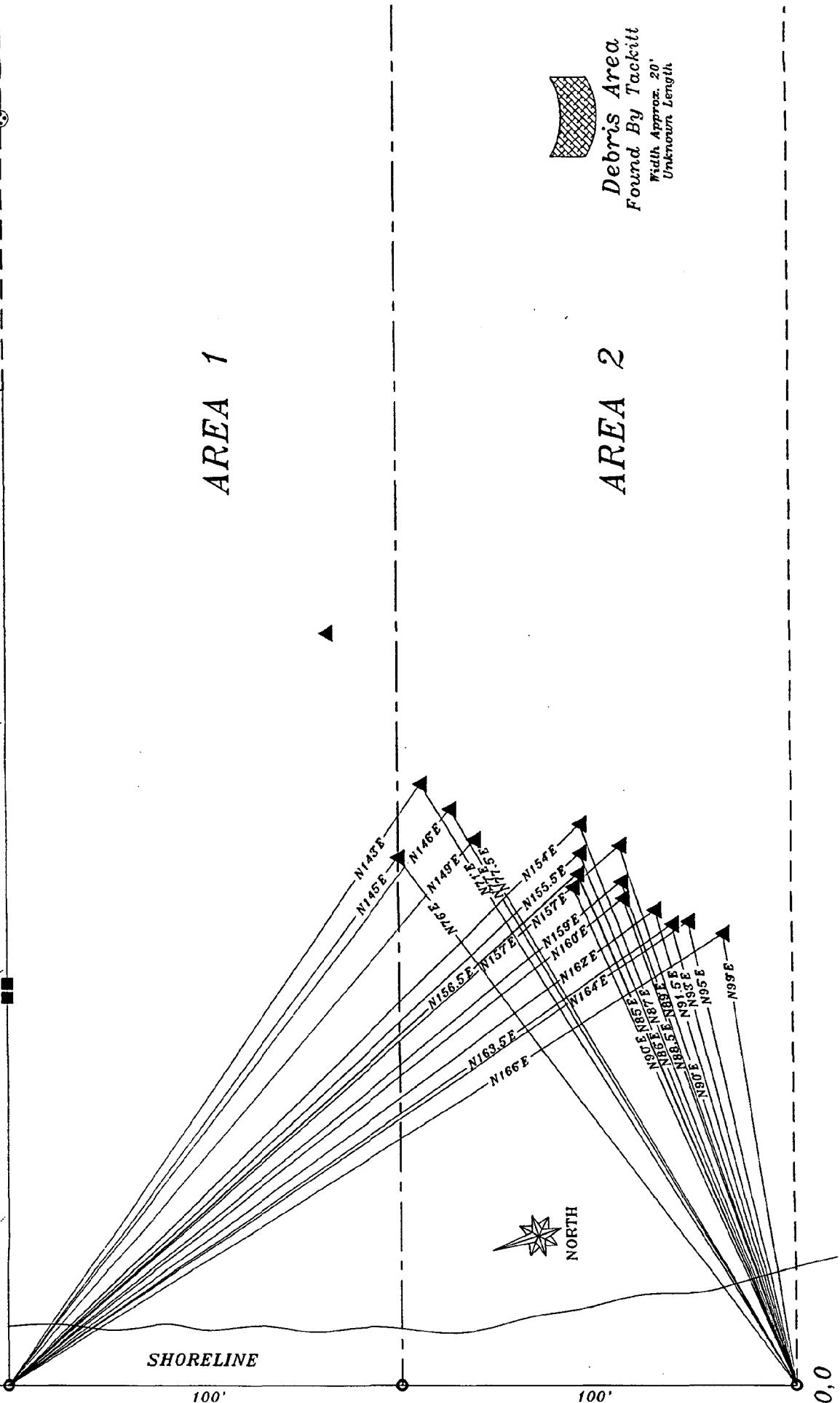
NORTH

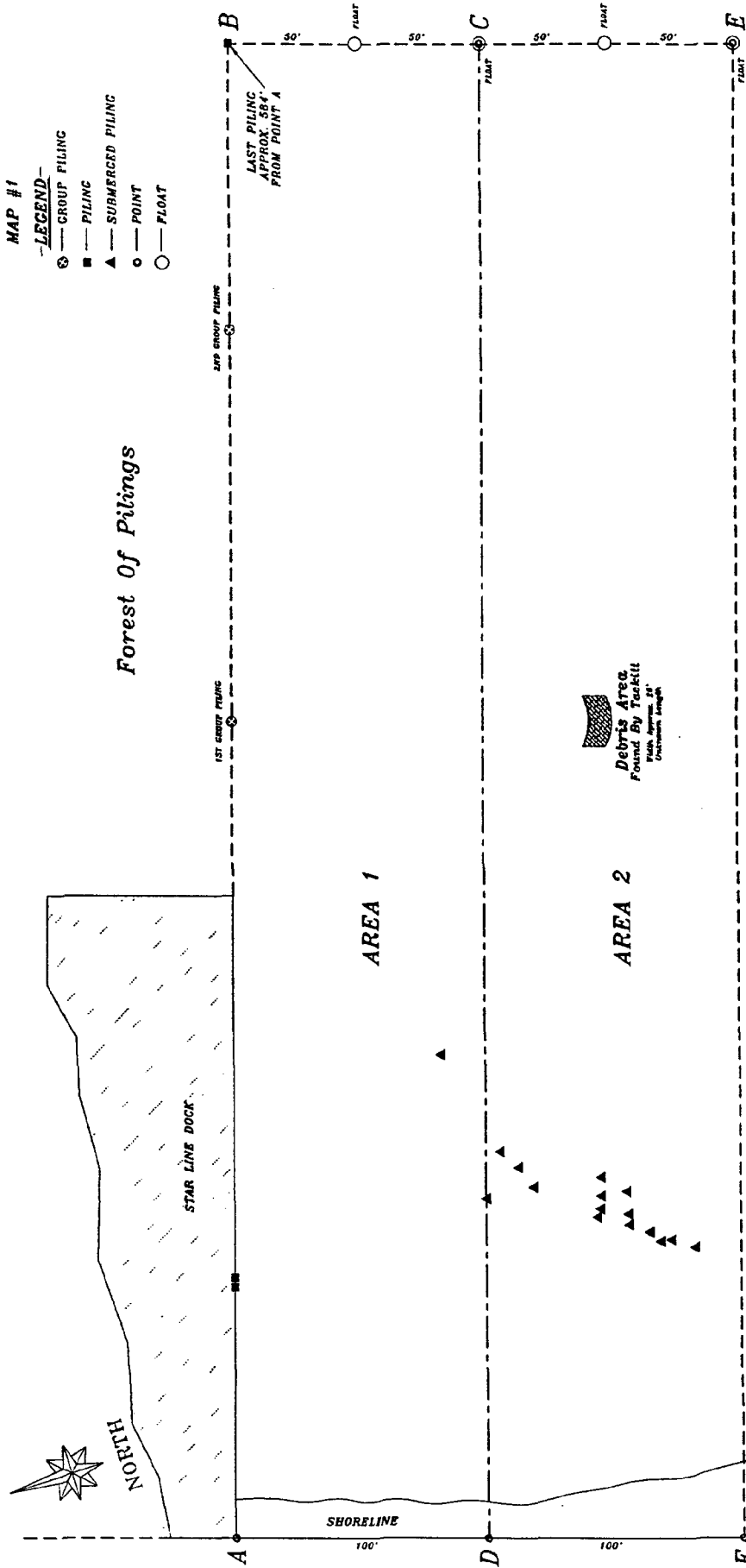
SHORELINE

100'

100'

0,0





ST. IGNACE EAST MORAN BAY

South of Town By Star Line Docks
Surveyed July 17, 18, 1992

Appendix 2

Diver Access Sign Text

Strewn across the bottomlands of East Moran Bay, particularly off this beach, are fascinating artifacts discarded from canoes, schooners, and steamboats for more than 300 years.

Commercial vessels--from Indian and French canoes to modern ore carriers--have passed this way for centuries maintaining a vital link between the natural resources of the region and markets to the east, south, and west. Passengers of all sorts have passed this way on their way to Indian villages, European trading posts, commercial docks, and resorts.

Today, skin and scuba divers enjoy prowling the bottomlands to discover anchors, tools, bottles, machinery, and other items that were lost from passing ships. Strict laws--largely written by sport divers themselves--forbid divers from removing these artifacts so they will continue to intrigue divers of other generations. In this way, our maritime heritage is preserved for others to enjoy.

Appendix 3

Anchor Lifting Memorandum and Response

August 13, 1992

MEMORANDUM

To: John Halsey, Tom Graf
From: Steve Harrington, Maritime Research Associates, Inc.
RE: **Anchor in East Moran Bay**

Background

After several years of searching, St. Ignace diver Jim Montcalm discovered the location of an anchor at the south end of East Moran Bay (map attached). Mr. Montcalm began his search after learning from a local historian about a logging operation that ceased in the early 1900's. The historian, an elderly man, informed Mr. Montcalm that during the final clean up operations, an anchor was lost off a boom used to guide logs in the bay.

Today, the anchor rests in about 12 feet of water in a silty-sand bottom. Although the stock of the anchor is clearly visible, only a single fluke and part of the shank lies above the bottomland. A short chain is also attached to the anchor but appears to be unconnected on the other end.

Although the area generally has many small artifacts, the anchor is isolated and is not associated with any other features. The area in which the anchor lies is designated a shore-access site and will be interpreted and signed through a Coastal Zone Management Grant administered by the Land and Water Management Division of the Michigan Department of Natural Resources. Currently, the area is the subject of an intensive underwater archaeological project and is the site of shore-access sport diving. The anchor is frequently marked by local divers with a single plastic milk jug.

Proposal

Because the anchor is located near a popular shore-access site, and because much of the anchor is currently not visible to divers, a group of local divers proposes to raise the portion

Memorandum
August 13, 1992
Page 2

of the anchor now lying underneath bottomland soils. This action is expected to enhance the recreational value of the site and artifact as well as provide an opportunity for archaeological research on the anchor should that be desirable.

This proposal does not anticipate the movement of the anchor beyond that necessary to expose the hidden portions. A series of photographs have been secured by Maritime Research Associates (MRA), Inc., in anticipation of approval to expose the anchor.

In this case, MRA is representing the Straits of Mackinac Underwater Preserve Committee and does not expect to be directly involved in planning or implementation of the anchor movement. MRA, however, has trained the local divers involved in basic underwater archaeology techniques through classes taught in St. Ignace by maritime archaeologist Phillip Wright.

The local divers expect to be able to use lift bags to accomplish the movement. If during this project new artifacts are discovered, or the situation is other than described, the activity will be suspended until the situation can be assessed and DNR and Department of State officials can be apprised of the situation.

Because this activity does not involve the destruction, alteration, or recovery of state-owned property and only a minor change in the position of that property, a permit is not sought.

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

Stevens T. Mason Building, P.O. Box 30028, Lansing, MI 48909

ROLAND HARMES, Director

NATURAL RESOURCES
COMMISSION

LARRY DEVUYST
PAUL EISELE
GORDON E. GUYER
JAMES P. HILL
DAVID HOLLI
O. STEWART MYERS
JOEY M. SPANO

August 26, 1992

Mr. Steve Harrington
Maritime Research Associates, Inc.
PO Box 275
Mason, Michigan 48854

RE: Anchor in East Moran Bay

Dear Mr. Harrington:

This is in response to your memo of August 1, 1992 regarding a partially submerged anchor in East Moran Bay. You stated in the memo that a group of divers in St. Ignace wish to raise the anchor from the bottom and place it on the lake bed adjacent to its current position. The objective is to expose the anchor to enhance the recreational value of the site in conjunction with the ongoing underwater archaeological survey project in the Bay.

Permits would not be required to remove the anchor and place it on the lake bed for viewing and study. If, however, during this project, new artifacts are discovered or the situation is other than described, the raising of the anchor will be suspended and the Department contacted to assess the situation.

Please provide me with photographs of the anchor in its proposed position on the lake bed.

Thank you for the opportunity to review the proposal and comment.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thomas P. Graf".

Thomas P. Graf
Submerged Lands Management Unit
Land and Water Management Division
517-373-1950

cc: John Halsey, DOS

Appendix 4

Overview of Archaeology of East Moran Bay

***From Diving Into St. Ignace Past:
An Underwater Investigation of East Moran Bay***

**Maritime Press
290 Gorman Road
St. Ignace, MI 49781
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Archaeology of East Moran Bay

By John Halsey

The brief underwater survey of a small portion of East Moran Bay yielded some discoveries.

A variety of artifacts of the last century were discovered. Limitations of the survey efforts were also apparent. Technical limitations included: bottom time, inexperience of surveyors and our desire to leave all artifacts in place.

No evidence of prehistoric or early historic occupations were found, but this is not surprising. Ancient prehistoric remains are likely to be concentrated on old beach ridges located in the Straits and beyond the scope of the survey. Silt deposits may obscure these remains.

No trace of historic Native American or early French occupations was found. Such evidence is undoubtedly present in the bay, but the nature of such remains is uncertain. Canoe spills of isolated pottery vessels, trade goods or bales of fur may be expected. Remains from this period are likely to be relatively small and hidden in bottom sediments. The study area was away from the main area of early historic settlement and represents a filled and altered zone so that evidence of early occupations may have been removed or obscured.

There were signs of other usages of the bay. There is much slab wood littering the harbor bottom. This is the waste of the lumbering era, specifically, of the Mackinaw Lumber Company mill and dock adjacent to the area surveyed. Wood of many sizes and shapes lie at every angle. They distract and confuse surveyors because many have the appearance of finished boards or planks on at least one side. The mill and its byproducts undoubtedly mask earlier remains.

Insurance maps created between 1884 and 1901 offer detailed information about upland properties, including docks. The maps are useful but their usefulness ends at the water-

line. Several historic features were located on the bottom that do not appear on any of the maps. One is a large, square, crib filled with stone and lying just offshore. Another historic feature appears to be a cast-iron water intake pipe, presumably once connected to shore-based water treatment facilities.

Maritime Commerce

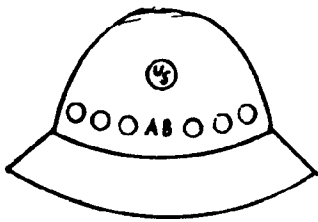
The primary function of a harbor is to protect ships so they can safely and efficiently discharge and load cargo. Harbors may be the scenes of collisions, which result in sinkings. Vessels, scuttled because of deterioration, can also be found on harbor bottoms.

Our survey turned up a portion of a wooden ship's keel and a metal deck winch. These items were found distant from each other and are probably not from the same vessel. Additional surveys could determine whether there are more such artifacts beneath the slab wood.

St. Ignace's role as a jet fuel transshipment facility during the Korean War is evident from large fuel tanks off a point of land at the northeast end of the harbor. The docks built during the lumbering era were still in place in the 1950s and were known as the "fuel company dock." The docks were serviced by a rail spur from the Duluth, South Shore and Atlantic Railway that ran out to the end of the dock. From here, the fuel was transported to large air bases in the Upper Peninsula.

There has been no survey around the tanks. It is uncertain what lies on the bottom of the bay in this area.

The construction of the Mackinac Bridge has left traces on the bottom of the bay. The point of land immediately northeast of the study area was used for material storage during construction. The team discovered that an American



Marked "AB" for American Bridge Division of United State Steel Corp., this helmet was used by a bridge worker during the construction of the Mackinac Bridge. The flared brim "hardhat" was popular in the 1950s, later giving way to the front visor type. The first structural steel was installed July 2, 1955, by Ambridge crews. Sketch: Jackson; Ink: Kubitz.

Bridge Division employee lost a hard hat overboard. Several, large, hopper-like objects discovered late in the last day of the survey were probably used to move bulk materials such as sand and gravel. Those objects were probably abandoned.

Considering the magnitude of the construction project, more evidence of construction activities was expected. A survey conducted under the Mackinac Bridge in connection with the investigation of an auto accident in 1989 revealed a variety of equipment and materials lost or thrown into the Straits. If this practice was common in East Moran Bay, a survey of the north side of the bay could reveal many artifacts. Such a survey could also determine the function of the "hoppers."

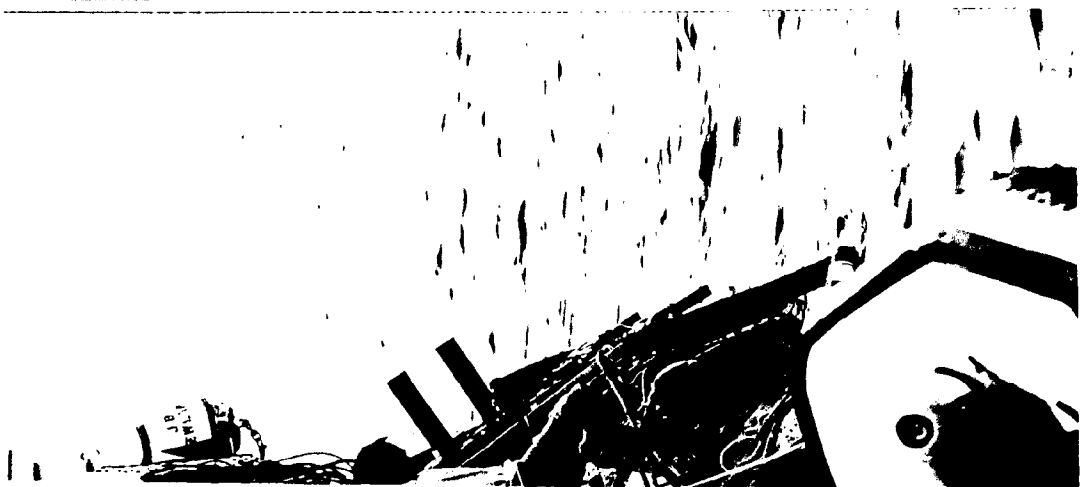
There are traces of recent, transient recreational use of the harbor. The former dock area

has been developed into a public boat launch facility. An ice chisel -- or perhaps a bark spud -- found during the survey, represents an episode of ice fishing.

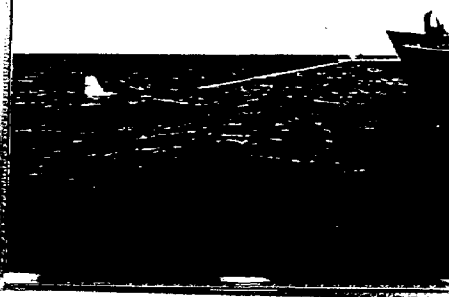
An ice strainer, used to keep an ice fishing hole open, was also discovered. One can imagine the "blue" language from the fisherman's lips as he watched the strainer drift to the bottom. Additional examination of the bottom is likely to reveal lures, hooks and weights lost in the slab wood. Divers also discovered many golf balls scattered throughout the study area. Obviously, some golfers have used the shoreline east of Shepler's dock to work on their drives.

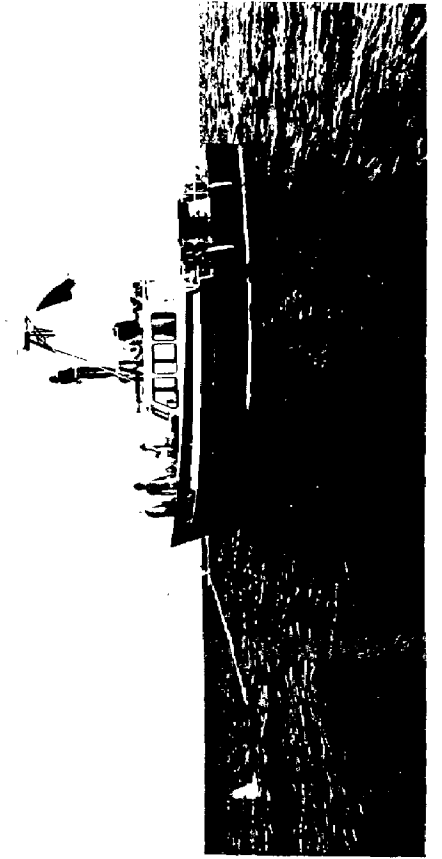
Surprisingly, for an area so dependent on tourism, there was little recent litter. Although thousands of tourists are ferried across the bay every day during the summer, there is little trace of their passage in the portion of the bay surveyed. The fact that the survey area is well outside the ferry lanes is a likely explanation.

Underwater archaeological survey of the boat launch area of East Moran Bay has shown that an array of artifacts of all sizes can be found and represent the use history of the area. While no "great finds" were discovered -- such as a large, intact shipwreck -- other evidence of human activity was discovered. What we found was an approximation of the truth. That's not bad for a start.









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