

**THE HISTORY, PRESENT, AND FUTURE OF UNDERWATER CULTURAL
HERITAGE MANAGEMENT IN JAPAN**

A Dissertation

by

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ABSTRACT

Japan is an island nation; the ocean and seas influenced the life of its people. Considering this fact, it is natural to assume that Japan is a leading nation in the field of maritime and nautical archaeology. However, Japan is one nation that has not developed a strong management system for researching and protecting its underwater cultural heritage. Waterfront developments, marine resource extraction projects, and dredging activities are underway, all without proper care of the cultural heritage located below the waves. In fact, developers have begun these projects without making any attempt to locate cultural heritage sites beneath them. The ultimate goal or purpose of conducting this research is to rectify this situation, to promote the study of underwater and maritime archaeology in Japan to prevent the loss of the important and rich cultural heritage of the country.

To achieve this goal, the author first examined the history of underwater archaeological research in Japan and conducted a brief survey of all underwater archaeological research and maritime disasters. The author next examined how other countries managed their underwater cultural heritage to compare their activities with those of Japan. This is followed by a discussion of the possible reasons for the slow development of the field in Japan. Based on the analysis and the interpretation of Japanese official documents, the author suggests strategies for the protection of Japan's underwater cultural heritage.

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Contributors

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NOMENCLATURE

ARIUA	Asian Research Institute of Underwater Archaeology
ASA	The Abandoned Shipwrecks Act
BCE	Before Common Era
BP	Before Present
CE	Common Era
DRASSM	The Direction des Recherches Archaeologiques Subaquatiques et Sous-Marines
JACA	The Japanese Agency for Cultural Affairs
KNM	Kyushu National Museum
NMSA	The National Marine Sanctuaries Act
NOAA	The National Oceanic and Atmospheric Administration
NRIMCH	The National Research Institute of Maritime Cultural Heritage
PEG	Polyethylene Glycol
RCE	The Dutch Cultural Heritage Agency
ROV	Remotely Operated Vehicle
SMAC	The Sunken Military Craft Act
SONAR	Sound Navigation and Ranging
UCH	Underwater Cultural Heritage
UNCLOS	The United Nations Convention on the Law of the Sea
UNESCO	The United Nations Educational, Science and Cultural Organization
VOC	Dutch East India Company

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CHAPTER I

INTRODUCTION

Introduction

When people gained the ability to explore the seabed, they found remains of our past buried beneath the seafloor in the form of submerged settlements, scattered remains, and shipwrecks. The invention of self-contained underwater breathing apparatus (SCUBA) brought archaeologists to the seas to investigate these underwater sites. They found that these sites offered great potential to uncover our past. People began to realize the need to protect the historical legacy located beneath the sea, and the concept of protecting the underwater cultural heritage (UCH) was born in the mid-20th century, with scientific research and a proper management plan.

The study of UCH was a relatively minor field of scientific investigation for decades, and some countries did not have a management program for their heritage sites. However, in the past three decades, the field of the study of UCH has seen major developments. The United Nations Educational, Science and Cultural Organization (UNESCO) has been promoting the Convention on the Protection of UCH since 2001 (The 2001 UNESCO Convention); in 2018, the countries that ratified the Convention had reached 60 in number.¹ Nations around the world now have laws protecting UCH against illegal salvage activities, coastal development projects, and marine resources exploration works.²

The study of UCH often is associated with the study of our maritime past. This is because oceans and other bodies of water are where our maritime activities took place. The study of

¹ See UNESCO Convention on the Protection of Underwater Cultural Heritage Web Site: <http://www.unesco.org/eri/la/convention.asp?KO=13520&language=E&order=alpha>

² Manders 2017.

shipwreck remains often gives us a complete picture of a moment in the past: the life on board a vessel, a mechanism of commerce in a particular time, and various aspects of the society that built the hull. Such sites are not commonly found on land. Therefore, without UCH, much of our maritime history would be unknown to us. UCH is a unique watery window to our past.

As a nation surrounded by the sea and having the world's sixth-longest coastline, Japan appears to be the prime location for research, protection, and promotion of UCH. The history and culture of Japan cannot be discussed without noting the influence of the seas; the waters surrounding the island influenced nearly every facet of the life of people in Japan. Contrary to the image, however, Japan is one nation that has not developed a strong management system for researching and protecting UCH. A few underwater sites have been explored in Japan. Most of these are submerged prehistoric settlements; maritime or nautical related sites rarely are excavated. There have been some initiatives in developing a management system. Still, waterfront development and marine resource extraction projects are being conducted without proper care of UCH, and such activities may have destroyed many underwater sites.³

The purpose of conducting this research is to help prevent the loss of the rich cultural heritage of Japan. For this, it is necessary to understand the history of UCH research, assess the potential of underwater sites, and examine the current status of UCH research in Japan. Also, it is necessary to have an idea of how other countries are managing UCH. This introductory chapter offers a definition of UCH and some key terms, an overview of the status of research on UCH, as well as the outline of this study. Based on this, the research will suggest reasons for Japan's limited concern with UCH and possible solutions to the problem of our overlooked and undervalued cultural resources.

³ JACA 2017.

Definition of Underwater Cultural Heritage (UCH)

For the purpose of this study, the definition of UCH follows that of the 2001 UNESCO 2001 Convention:

“Underwater cultural heritage” means all traces of human existence having a cultural, historical or archaeological character, which have been partially or totally underwater, periodically or continuously, for at least 100 years.⁴

The term cultural heritage should also be defined as well. Archaeologists in Japan use the word “cultural properties” because some cultural objects are owned as personal property, and the right to own personal property is respected or guaranteed under the Japanese Constitution.⁵ Other countries use the terms “cultural patrimony” or “cultural heritage.” For this study, however, all these words are used interchangeably. The word “heritage” is used as a general term, but cultural properties may be used when referring to a specific law, or to the name of an office.

The study of UCH and how it relates to the fields of underwater, maritime and nautical archaeology is a complex issue of its own. Underwater archaeology is a general term used for researching underwater sites, but it only refers to the technology and methodology being used, and it is not the term to distinguish the subject of the study. The field of maritime archaeology investigates the maritime nature of our past, or how we interacted with the water that surrounds us. A coastal settlement pattern, the peopling of the islands, and adaptation specific to exploiting marine resources may be the subjects of maritime archaeology in a larger sense.⁶

The field of nautical archaeology is a more topical subject, focusing on a vessel and how water transport was utilized. Ship related infrastructures, such as ports and international trade

⁴ Maarleveld et al. 2013.

⁵ Act on Protection of Cultural Properties (Act No. 214 of 1950).

⁶ Delgado 1998

systems, might be studied under this field.⁷ Because remains, such as shipwrecks and coastal sites, often are located underwater, “maritime,” “nautical,” and “underwater” archaeology are terms used interchangeably by non-experts. In fact, maritime and nautical archaeology do not solely use the evidence found underwater but use various types of evidence. For this study, however, the word “underwater archaeology” is used to refer to the study of UCH. This is because, in Japan, the terms “maritime” and “nautical” archaeology are not commonly used.

Current Status of Research

The study of UCH first became popular on the European continent. Discoveries, such as the 17th-century Swedish warship *Vasa* and the English King Henry VIII’s flagship *Mary Rose*, are some of the great discoveries from the earlier years in the development of the field. The raising of the two hulls and the following conservation projects, as well as the display of the remains at museums, are considered some of the best achievements in the field of maritime and nautical archaeology.⁸ Treasure-hunters once pillaged UCH in the Caribbean and Southeast Asia, but many countries have now begun to install proper management systems for protecting UCH.⁹ Today, the emphasis is being placed on assessment, or knowing the status of each artifact, through various survey methods, and on safeguarding those heritage sites.¹⁰

People of Japan showed interest in underwater discoveries relatively early; documents from the 18th and 19th centuries recorded the discoveries of strange stones and ceramics from underwater.¹¹ It was as early as 1908 that the first scientific investigation of an underwater site was

⁷ Kimura et al. 2018.

⁸ See Catsambis et al. 2011, and McGrail 2004.

⁹ Maarleveld et al. 2013.

¹⁰ Manders 2017.

¹¹ Hayashida 2013.

conducted in Japan.¹² The early investigators were dredging simply to find objects, but it is important to note that this reflected public interest in the UCH. Small-scale projects were conducted, but no major development in the field of UCH research took place until the 1970s. By this time, the discoveries made in Europe had been revealed, and some scholars began to advocate the need to develop the field of underwater archaeology in Japan.¹³ Some of the earliest municipal led underwater excavations are the development-led project at Lake Biwa, and the excavation of *Kaiyo-Maru*, a battleship that the fading Tokugawa Shogun purchased from the Netherlands.¹⁴

The most famous underwater archaeological site in Japan is the Takashima Underwater Site in Nagasaki Prefecture, where divers discovered vessels from the Mongol Emperor Kublai Khan's fleet lost during the attempted invasion of Japan in 1281.¹⁵ According to historical accounts from both China and Korea, more than 3,000 vessels were destroyed by the legendary typhoon off the island of Takashima.¹⁶ Research at Takashima began 40 years ago, starting in the 1980s.¹⁷ Various researchers from different organizations came to the island in search of the lost fleet, but all they found were scattered remains.¹⁸

The Japanese Agency for Cultural Affairs (JACA), an agency under the Ministry of Education, Sports, Science, and Technology, is a competent authority in managing cultural heritage sites in the country. The main task of the agency is to set guidelines for managing cultural heritage sites. The primary caretaker of archaeological sites in Japan is the Board of Education at the local

¹² Mikami 2016.

¹³ Oye 1982.

¹⁴ Sasaki 2017.

¹⁵ Sasaki 2015.

¹⁶ Delgado 2008.

¹⁷ Mozai 1982.

¹⁸ Ikeda 2018.

municipal level.¹⁹ The emphasis is placed on what is important for the local community, and the central government plays a minor role in managing archaeological sites.

The local Board of Education manages all local cultural affairs, and municipal cultural officers conduct the majority of the excavations. The local authority decides which sites are to be protected, and excavation and research are the responsibility of each local government.²⁰ Approximately 6,000 excavation projects are conducted in Japan annually, more than 95% of them related to construction.²¹ The right to make a decision to conduct or not to conduct a survey before a construction project is given to the local Board of Education; if the cultural officer at the time believes no survey is required for construction over water, no survey is required. If the cultural officer knows of UCH, some form of a survey may take place.

In recent years, some avocational research groups, including a non-profit research organization, Asia Research Institute of Underwater Archaeology (ARIUA), emerged as a leading institute for underwater archaeological research.²² ARIUA's underwater site database project, initiated in 2009, is considered a breakthrough in the field. This was the Comprehensive Survey of Japanese Underwater Cultural Heritage Project, funded by the Nippon Foundation. They conducted an extensive reevaluation of most of the known underwater sites in Japan, and the results, covering more than 500 underwater sites, were published in a six-volumes of the report.²³ There have been several small-scale underwater archaeological projects in the country, but none appears to have had a lasting impact. Whenever an underwater archaeological project was started, a new team was

¹⁹ JACA 2017a.

²⁰ JACA 2017a.

²¹ JACA 2017a.

²² ARIUA 2013.

²³ ARIUA 2013.

organized; when the project was over, the excavation team was dissolved, losing all the know-how of underwater work.

One discovery made at Takashima changed the situation. In October 2011, a partially preserved hull of a Chinese vessel was revealed under the silt; the discovery appeared on many news outlets as a top story. The research continued, and a second vessel was discovered (fig. 1).²⁴ The Takashima Underwater Site, now named Takashima Kozaki Underwater Site, became the first shipwreck location to be registered as a national historic site in 2011.²⁵



Figure 1. A part of a 3D-Model of the Hull Discovered at Takashima Underwater Site (Courtesy of University of the Ryukyus, Matsuura Board of Education, and Tsuyoshi Machimura)

At this time, JACA recognized that something must be done to manage UCH in the country better. JACA formed the Advisory Committee on the Research of Underwater Sites (The JACA Committee) in 2013 to determine how JACA and the municipal officials should manage and protect UCH.²⁶ This five-year committee was an important platform; it would decide the future of

²⁴ Takano 2013.

²⁵ Nakata 2013.

²⁶ JACA 2017b.

the UCH management plan. Not all the committee members were familiar with the field of UCH. JACA entrusted Kyushu National Museum (KNM) to study UCH to provide the committee members with information regarding the research, protection, and management of UCH sites. Various projects and case studies were conducted under the committee with KNM, including several remote sensing surveys, assessing known sites, compiling information about maritime disasters, and studying the management systems for UCH around the world.²⁷ In 2017, JACA published “Guidelines for the Protection of the Underwater Archaeological Sites in Japan (The JACA Guideline) based on this study and discussions.

Outline of the Research

This research reported here is in several sections. First, this project will examine the history of the field of UCH in Japan (Chapter II). The second part is an examination of the current status of underwater archaeological sites (Chapter III). The third part is the collection of information regarding maritime accidents and an analysis of the historical records of possible shipwreck events (Chapter IV). The fourth part of this project is a brief survey of how other countries in the world are managing UCH sites (Chapter V). The objective, or the aim, of the research, is to consider the reasons that Japan has not seen major growth in the field of underwater archaeology, and the possible future plan for UCH management (Chapter VI).

The first step towards understanding the nature of UCH management in a country is to study how the field has developed. The history of the field of study will guide the future as well. A brief history of UCH research and the development of the management system of Japanese UCH will be discussed. Particular attention is given to different stages of development and the discovery of

²⁷ Annual Reports are published by KNM, see KNM 2014, 2015, 2016, 2017, and 2018.

some key sites that led to a better understanding of the nature of UCH in the country. Particular attention was given to prehistoric UCH sites and Takashima Underwater site, due to the significance of the discoveries. Also, a project led by KNM is briefly discussed.

To study the evolution of a particular subfield of archaeology, it is necessary to understand the nature of the sites that have been discovered and investigated. For this study, the author created a database of Japanese UCH. The information was collected from various sources, but the database of the ARIUA 2013 Report and the study conducted by JACA were the most useful sources of information. The author identified 596 UCH sites in Japan. These sites were analyzed by several criteria, including age and geographical distribution pattern, and status of research.²⁸

The study of UCH, particularly of shipwrecks, often provides a wealth of information regarding our past maritime culture. It is almost impossible to find a particular shipwreck site from the middle of the ocean unless some information about the vessel is available. A record of maritime disasters from historical archives usually is the best place to start searching for the clues to find a lost shipwreck site. KNM conducted a survey of maritime records throughout Japan; the data were gathered by requesting all municipal offices to provide information regarding maritime accidents found in their municipal archives. A total of 5,598 entries of maritime disasters was collected.²⁹ The records were analyzed by date, source of evidence, the port of origin, and ship type. It is beyond the scope of this research to analyze all the data in detail. Therefore, the researcher focused on the analysis of Yamaguchi and Fukuoka Prefectures as case studies.

For any field of study, learning from success is important. It is necessary to know how other countries are managing their underwater legacy to establish a proper management system of UCH

²⁸ See Appendix B.

²⁹ KNM 2018.

in Japan. For this study, particular attention was given to how the laws on heritage management, developed in an international context, led to the development of the 2001 UNESCO Convention. Every country has had different issues regarding how to manage UCH, and even a quick look at each country's situation will end up with a large volume of information. Instead, seven countries were selected as case studies, and the results are presented. The focus was on what caused the development of the field, which agency is responsible for managing UCH, and examples of well-known sites.

The final chapter will discuss the issues regarding how to create a better system of managing UCH in Japan. The author will illustrate some of the challenges facing the Japanese archaeological community. The JACA Guideline is an essential document when considering the future of UCH related issues in Japan. The report presents a guideline that municipal cultural officers can follow when working to protect the underwater legacy. Also included are several legal documents relating to the protection of UCH.

Summary

Because Japan is an island nation surrounded by the sea (Figure 2), it is highly likely that UCH studies will reveal an important aspect of the nation's history. Japanese archaeologists have been conducting some scientific research on UCH. However, most of the work was conducted on isolated projects, and no competent authority has developed in the country. The description of the history of UCH research, comprehensive data from all underwater sites investigated, and an archive of marine disasters were brought together under one umbrella for this research. Combined with the international perspectives on UCH management, previous research, and examples of best practices in other countries around the world, the research reported here will add to our understanding of

Japan's UCH. Based on these studies, the researcher presents possible strategies for managing these precious resources for the island nation.



Figure 2. A map of Japan and the surrounding area

CHAPTER II

BRIEF HISTORY OF UNDERWATER ARCHAEOLOGICAL RESEARCH IN JAPAN

Introduction

This chapter discusses the history of research and the development of a management system for Japan's UCH. The development of UCH research in Japan can be divided into four stages: (1) an early stage of development (before 1945), (2) the beginning of investigation by municipalities (1945 to 1990), (3) the spread of underwater archaeological research (1990 to 2012), and (4) the recent development led by JACA (2012 to present). Some of the key sites will be introduced, with particular focus on how the projects developed, a brief description of each site, and its contribution to the archaeological communities.

Stage 1: Early Development

A few historical documents record people finding peculiar objects, such as man-made stone items and ceramics, from the lakes and seas around Japan.³⁰ Some of these discoveries were recorded with detailed drawings, but they did not lead to a scientific inquiry. However, as early as the start of the 20th century, Japanese scholars began asking scientific questions regarding finds from underwater.

³⁰ Hayashida 2013.

Lake Suwa (Sone Underwater Site)

The chance discovery of lithic artifacts from the bottom of Lake Suwa in 1908 shaped the nascent stage of underwater archaeology in Japan. Fukumatsu Hashimoto was a teacher at a local primary school located near Lake Suwa, and he happened to join the Tokyo Imperial University (Today's Tokyo University) research project at Lake Suwa as an assistant. The purpose of the research was to study the environment and geology of the lake. While collecting the lake bottom sediments, he found pieces of small man-made stone objects. The discovery was reported to the University research team, and the professor in charge contacted Shogoro Tsuboi at the University. Tsuboi, a professor of anthropology, is considered a father of anthropology in Japan.³¹

Tsuboi was quick to realize the importance of the discovery. Around the same time, the discovery of prehistoric lake dwellings from the Alps was reported, and news of the research reached Japan. Realizing the similarity in the two findings, Tsuboi set out to prove the existence of lake dwellings, where people drove piles into the lake and created platforms above water.³² His assumption was that the people of the past had taken a similar evolutionary path, and artifacts, like those from the Alps, could be found in Japan.³³ He was searching for evidence to prove that the people of Japan and the people of Europe shared a similar course of cultural development.

Lake Suwa, located in a basin surrounded by mountains, is relatively shallow, averaging only 6 m deep. Stone tools were found at a location known as Sone, approximately 300 m from the shore. Tsuboi and his team systematically scooped up mud from the bottom of the lake and carefully examined each scoop, recording the location, types of sediments, depth, and the artifacts found (fig. 3).

³¹ Mikami 2016.

³² Tsuboi 1909.

³³ Tsuboi 1909



Figure 3. A Photograph taken during the research at Lake Suwa in 1908
(Courtesy of Lake Suwa Museum)

The publication of Tsuboi's article generated debate regarding how the site was formed. Tsuboi believed that the site formed due to people living directly above the lake there on a built platform. Other scholars argued that the artifacts were simply eroded from a site located on nearby land and deposited at the lake bottom. But there was not enough evidence to settle the debate.³⁴ The assumption Tsuboi made about the artifacts was based on the uni-lineal theory of evolution, which has since been discredited. However, he can be credited with using the scientific method in this work, as he had a clear research question and tried to gather archaeological evidence from a site located underwater to answer it. Thus, this research can be considered the first scientific underwater archaeological project in Japan.

After Tsuboi's project, a few archaeologists continued searching for artifacts from Lake Suwa, trying to resolve the mystery of the site formation process at the Sone Underwater Site.

³⁴ Tsuboi 1909 and Hayashida 2013.

More organized projects took place in the 1920s and again in the 1960s, involving such scholars as Ryuzo Torii and Eiichi Fujimori, who are respected scholars in the field of archaeology. They found a few hundred projectile points. Today, it is believed that the Sone area was once connected to the present shore, but became isolated as the land began to subside gradually. Some of the artifacts were more than 10,000 years old. Fujimori has argued the need to conduct an excavation underwater, but no large scale scientific investigation has been made, and no conclusion has been reached regarding how the site actually formed.³⁵

Tsuzura-Ozaki Site

The site of Tsuzura-Ozaki is located near the northern tip of Lake Biwa, the largest lake in Japan. Artifacts have been found along the eastern shore of the Tsuzura-Ozaki Peninsula. The site was discovered in the 1920s, when local fishermen reported the finding ceramic artifacts, including a nearly complete pottery jug. These artifacts turned out to be ceramic ware dating from the Jomon Era (14,000 BCE-300 BCE), the Yayoi period (300 B.C.E- 250 CE), and the Kofun period (250-550 CE). The area where artifacts were found is the deepest point in the lake, along a steep slope at 50 to 70 m in depth. The discoveries soon got the notice of archaeologists. At that time, only a few Jomon Era sites had been found in central Japan; the artifacts from Lake Biwa were some of the oldest and only known examples of nearly complete Jomon pottery.³⁶

As with the case of Lake Suwa, archaeologists debated how the site was formed. Most of the finds were complete objects, and many scholars believed that the objects were part of religious rituals. In the past, this particular area of the lake may have been considered sacred by the people

³⁵ Mikami 2016.

³⁶ Akita 1997, 262.

who lived there and who may have made offerings to the lake. However, there is no evidence to prove this hypothesis.

Summary

At this early stage of development, the study of site formation processes was one of the major focal points of archaeological research of submerged sites in Japan. Scholars wondered why and how archaeological sites were created underwater. This is because the earliest underwater discoveries were mostly submerged sites, and it was not known at the time that changes in sea (and lake) levels were common when viewing history in a long geologic scale.

The site formation processes of submerged sites in Japan are likely to be caused by two main factors. One factor is seismic activity, which may provoke land uplifts or subsidence, as well as mudslides, which rapidly changed the context of a site. Another factor is the long-term process of climate change and subsequent alteration in the local water level. Cultural factors also may play a role; a site may be part of a sacred location where people made offerings. Harbors and other structures built on water may form a site. Shipwrecks and jettisoned cargo may also form archaeological sites, although, at this early stage of the development of the field, shipwreck sites were not common. It should be noted that the scholars investigated the artifacts raised from underwater, but none of them worked directly on the site.

Stage 2: Beginning of Investigation by Municipalities

The turmoil of the Wars during the 1930s and 1940s halted the advancement of archaeology. After 1945, archaeology in a modern sense, or development-led archaeology, began to take form. Several underwater sites were investigated, but it was not until the 1980s that the

municipalities began to investigate underwater sites on a large scale. Japanese archaeology is based on a decentralized system; all archaeological projects are supported by the budget of that particular municipality. Some of the major UCH investigation projects are introduced below. The case for Takashima Underwater Site (Mongol Shipwreck site) is discussed separately.

Tsuzura-Ozaki Site Revisited

Beginning in the 1950s, Yoshio Oye, an archaeologist who grew up in the village near Tsuzura-Ozaki Site, began collecting information regarding this underwater area. Based on stories from local fishermen, he mapped the location where artifacts were found and created a catalog of the finds (Figure 4).³⁷ He proposed the need to investigate the site underwater with divers. He also suggested investing in training a younger generation of archaeologists who could dive. Oye was one of the earliest scholars to call for the establishment of the field of underwater archaeology. He introduced several books on the subject to Japan, including the translation of foreign books by George Bass and other scholars.³⁸ However, no systematic survey of a site took place while Oye was still present.

Today, the investigation at Tsuzura-Ozaki Site is continuing, utilizing new technologies. Ritsumeikan University is conducting surveys using multi-beam SONAR (Sound Navigation and Ranging) and an ROV (Remotely Operated Vehicle). In 2017, a map of a section of a site, revealing the new finds, was created.³⁹

³⁷ Oye 1982.

³⁸ Oye 1982.

³⁹ Yano et al. 2017.



Figure 4. A Display of Artifacts at Tsuzura-Ozaki Site at the Local Museum

Shipwreck Site at Wakayama Prefecture

The narrow strait of Kitan, between Shikoku Islands and the main Island of Honshu, has been known as a major highway of commerce, but it is also known as a difficult area to navigate. There is a point at which fishermen have found many porcelain and ceramic artifacts. Some of the finds were offered to the shrine on the island nearby; the oldest offering is dated to the Edo period (1603-1868 CE). In 1958, archaeologist Koichi Mori took note of the ceramic collection housed at the shrine. The majority of the artifacts are celadon made in China, dating from the 15th century. Also found was Hizen ware, made in Kyushu during the Edo period. Based on the findings, it was suggested that these artifacts came from at least two possible shipwrecks. Mori proposed that an underwater investigation should be taken.⁴⁰ Unfortunately, no research has been conducted at the site, mainly because the area where artifacts had been found is over 70 meters deep, making it difficult for divers to reach.

⁴⁰ Wakayama City Board of Education 1997.

Kaiyo-Maru

Kaiyo-Maru was the flagship of the Tokugawa shogun. It was a vessel equipped with 26 cannons, the most powerful ship at the time in Japan. The Shogun purchased the vessel from the Netherlands in 1866 (it arrived the following year) in a futile effort to keep his clan in power. Unfortunately, the Shogun's authority as the ruler of Japan had dissipated while waiting for the vessel to arrive. The vessel sank during the Hakodate (Boshin) war in 1868, off the coast of Esashi Port of Hokkaido, due to a winter storm. She had little chance to exhibit her firepower.

The story of the sinking of the vessel inside the harbor was not lost in history. Artifacts have been salvaged from time to time, but, as the years passed, the precise location of the wreck site was forgotten. The existence of the hull was confirmed during the construction of a breakwater when renovating a port. Part of the hull was destroyed, but the town realized the importance of the wreck site and organized an archaeological survey.⁴¹

The extent of the site was confirmed by the dive survey in 1974, led by Shinsuke Araki, at Nara National Research Institute for Cultural Properties. In the same year, an area of 600 m² outside the jetty, and 2,000 m² inside the jetty was registered as a known site, giving it protection against further development. It became apparent that part of the site located outside the port was quickly eroding. The excavation project commenced in 1976. It became the first large-scale excavation of a shipwreck site led by a municipal authority. The excavation and following conservation efforts received technical support from the National Institutes for Cultural Heritage (Tokyo National Research Institute for Cultural Properties and Nara National Research Institute for Cultural Properties).

⁴¹ Ishibashi 2003.

Through the years of excavation, 32,905 items were raised. Among them were five cannons, about 2,500 cannonballs and shots, and various metal and organic remains (Figure 5). The town did not have a conservation facility, and there was not enough money in the budget to pay for conservators. To solve these issues, the town created a conservation facility at the local high school and let the high school students perform the day-to-day conservation work. The hull was left in situ; a copper mesh netting was used to cover the site, as conservators believed that the copper mesh would prevent the shipworms from eating the wood.⁴² Despite being the first large scale underwater archaeological project in Japan, the excavation, conservation, and construction of the museum make the *Kaiyo-Maru* one successful example of underwater archaeological investigation in Japan.



Figure 5. Artifacts from Kaiyo-Maru being displayed at Esashi Town

⁴² Esashi Town Board of Education 1990.

The Lake Biwa Project

Lake Biwa, the largest inland lake in Japan, has 240 km of coastline and has been an important waterway for trade and a source of food for thousands of years for the people of central Japan. The lake became the focal point of submerged cultural heritage management in the 1980s. The government-led large-scale lakefront development plan began in 1972. With the support of the Board of Education of the Shiga Prefecture, preliminary investigations were made along the shore, identifying a total of more than 100 sites.⁴³ The presence of the Tsuzura-Ozaki Site and the work led by Oye influenced the decision to investigate underwater sites. Following an underwater survey by divers, almost all of these sites were excavated by inserting cofferdams around them and pumping out the water to allow for “dry land” excavation.⁴⁴ The information gleaned through these excavations is tremendous: archeologists surveyed and recorded sites ranging from midden sites from the Jomon Era to historic building structures. One important site, dated to the Jomon Era, is the Awazu-midden Site, which changed the way archaeologists viewed the prehistoric life of Japan.⁴⁵ The significance of the Awazu-midden Site is explained in detail in the section titled “Underwater Archaeology and the Study of Prehistoric Sites” below.

Lake Biwa has seen many earthquakes in the past; some of them are recorded in historical documents. There are several legends of villages being swallowed by the lake following an earthquake. Louis Froist, a missionary visiting Japan in the late 16th century, published an account of an earthquake, describing the event in detail. In 1586, he experienced the Tensho Earthquake that destroyed part of the Nagahama castle built at the edge of Lake Biwa.⁴⁶ Furthermore, there is

⁴³ Shiga Prefectural Association for Cultural Heritage 2010, 23.

⁴⁴ Shiga Prefectural Association for Cultural Heritage 2010.

⁴⁵ Tsuboi 1994.

⁴⁶ Nakagawa 2016, 63-6.

evidence of landslides and liquefaction in several areas. The earthquakes alone do not explain the cause of the submergence of all the sites in Lake Biwa. The water level appears to have changed several times in different periods, and people gradually moved their settlements to new locations.⁴⁷

The change in water level at Lake Biwa must be investigated further. A most notable characteristic of Lake Biwa is that it has only one drainage point, at the Seta River, located at the southern tip of the lake. It has been suggested that the silt accumulation in the Seta River, or perhaps a localized uplift along the river, may have changed the drainage pattern of the lake.⁴⁸ When there is an uplift event at this small drainage point, Lake Biwa would be blocked, and the water level would have slowly begun to rise.⁴⁹

Summary

Underwater archaeological research, based on development-led projects, began to take form in Japan in the 1970s and 1980s. While some municipalities were involved with underwater archaeological excavations, the majority of the municipalities were not. The disparity among the municipalities in understanding the importance of underwater sites began to be noted by Japanese scholars and government officials. This will be discussed in the next section.

Stage 3: Spread of Underwater Archaeological Research

The projects at Hokkaido and Lake Biwa, as well as the project at Takashima (discussed below), contributed to the spread of underwater archaeological investigation in other parts of Japan. Some of the examples of projects that followed the initial stage of the development will be

⁴⁷ Akita 1997.

⁴⁸ Tsuboi 1994, 156-8

⁴⁹ Shiga Prefectural Association for Cultural Heritage 2010, 44.

discussed in the present section. In the 1980s, JACA began to notice the importance of the country's UCH. Furthermore, after the mid-1990s, some universities and avocational groups began to advocate the importance of the study of Japan's submerged historical legacy.

The JACA Project

As noted previously, the majority of archaeological projects in the nation are conducted through local municipalities. While the discoveries mentioned above were being made, a few underwater excavations were taking place across Japan. However, there was little coverage of the findings. JACA did realize the importance of underwater archaeology. Between 1989 and 1991, JACA conducted a project to examine how UCH was being managed in Japan. The project was conducted in cooperation with several groups, including the Kyusyu Okinawa Society of Underwater Archaeology (Now ARIUA), founded by Kenzo Hayashida, the town of Takashima, and researchers from various institutes.⁵⁰ Questionnaires were sent out to local municipalities asking about the current status of research regarding UCH within their municipality. All 3,245 municipal offices in Japan at the time were targeted for the study. The result of the interviews identified over 300 sites, but only 216 sites had detailed information for further analysis. The questionnaire asked the respondents for examples of recovered artifacts, site location, age of the site, and a brief description of the site.⁵¹

Of the 216 sites, 109 were located at sea or in coastal areas, and 88 sites were found in inland waterways, such as lakes.⁵² A larger number of marine sites are located in southwestern Japan, while more freshwater sites are found in eastern and northern Japan. Reported sites range from

⁵⁰ JACA 2000.

⁵¹ JACA 2000.

⁵² Kimura 2009.

simple scatters of artifacts to submerged features, structures, and shipwrecks. Among these reported sites, eight are from the Paleolithic Era (?-16,000 B.P.), and 70 date to the Jomon Era. More than 70 sites have no assigned period, meaning that the existence of the site is known, but is not fully investigated. Only 44 sites had been excavated at the time, and 14 of those sites date to the Jomon Era.⁵³

The result illustrates the great potential for research of the Jomon Era. The distribution of sites suggests that the Jomon people utilized inland waters extensively; however, more coastal sites should be investigated to reveal maritime adaptation patterns of the past. The data show that some municipalities, including the Shiga and Nagasaki Prefectures, had a large number of sites, while many of the municipalities showed almost no data regarding UCH. The characteristics of the UCH sites in Japan are discussed in Chapter III. It is important to note here that JACA began to recognize the need for UCH management and realized the disparity of research among the municipalities.

Iroha-Maru

In the mid-19th century, Japan purchased many vessels from foreign countries, and one of them was *Iroha-Maru*. This vessel was built in England, equipped with a steam engine, but was lost at Seto-Island Sea in the year 1867, just prior to the fall of Tokugawa Shogunate. *Iroha-Maru* sank after colliding with another ship. This incident led to the nation's first maritime trial case. The vessel was operated by Ryoma Sakamoto, one of the most famous figures from the end of the Edo period. He probably played only a minor role in Japan's history. However, a series of historical novels, roughly based on his deeds in the recent past, had made him into a national hero. At the

⁵³ JACA 2000.

trial, Sakamoto claimed he had carried various cargo, in the *Iroha-Maru*, one of the valuable items being a shipment of 400 rifles. The trial was a landslide victory for Sakamoto; the judge ordered that he be paid for the lost cargo. Unfortunately, he was assassinated before receiving the payment.⁵⁴

In the early 1980s, a local historical group at Tomonoura town, in the Hiroshima Prefecture, set out to discover the famed vessel, and they found a possible target during a survey. An excavation was planned to confirm the identity of the vessel. The excavation was led by a non-profit research group, Underwater Archaeological Society, based in Kyoto. The group requested the assistance of the local Board of Education, and permission was given to excavate a site.

Excavations were conducted at the site intermittently over the years. The visibility at the site was close to zero, and the current was strong, making it one of the most difficult underwater sites to excavate in Japan. The vessel they found was en route from Nagasaki to Osaka carrying imported items. The vessel had a boiler. This and some of the artifacts, such as a door handle, can be traced back to England, all confirming the identity of the vessel as *Iroha-Maru*. Some of the artifacts were raised and are stored in the local museum at Tomonoura town. It should be mentioned that no single component or a fragment of a gun has been found at the site.⁵⁵ Perhaps, Sakamoto bluffed and won the case at the nation's first maritime accident trial.

Kurakizaki Underwater Site

The Kurakizaki Underwater Site is located on the western coast of Amami Island, the second-largest islands of Ryukyus, south of Kyushu. Amami Island is located about halfway

⁵⁴ Fukuyama-City Tomonoura Rekishi Minzoku Shiryoukan 2008

⁵⁵ Underwater Archaeological Society 2006.

between the main island of Okinawa and Kyushu. The site is found at a narrow channel leading into the village of Uken at Uwan Bay. While dredging to expand a channel, local residents began noticing scatters of porcelain fragments. These fragments were imported porcelain from China, dating to the 12th and 13th centuries.⁵⁶

Following the discovery, the Board of Education realized the importance of the possible site and asked Aoyama University of Tokyo to organize an excavation team. From 1997 to 2001, limited excavation was conducted at the Kurakizaki Underwater Site. The site is located in shallow, clear, warm and calm water. Over 2,000 pieces of ceramics, mainly bowls, plates, and some storage jars, all from China, were recorded and raised. The main assemblage resembles or is almost identical to the assemblages found at the Hakata Bay area of Fukuoka, the main international port of Japan at the time.⁵⁷

Yamami Oki Underwater Site and Maegata Bay Underwater Site

The Goto Islands are chains of islands located at West of Kyushu Island. When sailing, they are the last islands to see (and to stop by) before heading towards China. Starting at least from the 8th century, numerous vessels passed near the Goto Islands, either going or coming from China. Because of the strategic importance of international commerce, the island has received much attention from underwater archaeologists. Stone anchors, similar to those associated with Chinese merchant vessels, have been found around the island (Figure 6). The Board of Education of Ojika town sent out a request for proposals to conduct a survey around the island, and ARIUA responded to the call.⁵⁸

⁵⁶ Uken Town Board of Education 1999.

⁵⁷ Uken Town Board of Education 1999.

⁵⁸ Ojika Town Board of Education 2002.



Figure 6. Stone Anchor Stock Found at Ojika Island

A diving survey, begun in 2001, identified over 80 items. The site is now known as Yamami Oki Underwater Site, dating to the 16th and 17th centuries. Most of the artifacts were identified as originating in Thailand. Only a limited variety of artifacts was present, and the assemblage suggests that they are from a cargo of a single shipwreck event. There were only eight artifacts that originated in China. It is presumed that that vessel started out from Thailand, then stopped over in China before leaving for Japan.⁵⁹ Excavators found a lead ingot, probably used for musket shots.⁶⁰ This was a single isolated find, and it is highly unlikely that only one small lead ingot was carried on board; it is believed that more lead ingots may still be buried nearby.

The success of the survey at the Yamami Oki Site led to the planning of additional surveys of the Maegata Bay. The diving survey was again led by ARIUA. The project started in 2005 and found a scattering of remains, mainly Chinese in origin. The artifacts are dated to the 12th to 13th

⁵⁹ Ojika Town Board of Education 2002.

⁶⁰ Sasaki 2017.

centuries. Divers found celadon bowls and porcelain fragments. In addition to ceramic artifacts, divers found two Chinese style stone anchor stocks.⁶¹

Locating scatters of possible international trade cargo was no doubt a success for ARIUA, but the group took the project further by organizing one of the first underwater site tours in the country.⁶² Although by the year 2000, access to a nation's legacy in an underwater museum was becoming popular in many parts of the world, this was the first project of its kind in Japan. The registered visitors followed guide ropes throughout the site, and information boards were installed underwater, explaining about the site and artifacts found. In addition, an underwater speaker was used to explain the site. Professional divers carried a camera with a cable, broadcasting the underwater scenes to the group of people on the diving boat.⁶³

UCH in Okinawa

The Islands of Okinawa, or Ryukyus, have been known for thousands of years for the passage of a large volume of goods and people by sea transport; it was a watery highway in East Asia. Diving tourism is one of the major industries in Okinawa, and the presence of UCH has been noted for years. Many locations are known to have artifact scatters, mainly of ceramics. However, these sites did not receive proper care and were not registered as known sites to be protected.⁶⁴

In the late 1990s, municipal cultural property officers in Okinawa Prefecture began to collect data regarding these UCH sites. They conducted a detailed analysis of historical sources and asked fishing communities and dive shops for information about possible sites. Once the data were gathered and plotted, the research team conducted dive surveys to confirm the presence of a site.

⁶¹ Ojika Town Board of Education 2007 and Ojika Town Board of Education 2008.

⁶² Nogami 2007.

⁶³ Nogami 2007.

⁶⁴ Katagiri 2015.

All possible sites were recorded using GPS. This effort encompassed a series of projects, supported by different organizations, including subsidiary government funding and private research funding sources.⁶⁵ As a result, more than 200 sites were recorded, and the results were published in an official cultural property report from the Prefecture (fig. 7).⁶⁶



Figure 7. UCH Map of Okinawa
(From Yamazaki et al. 2015, Figure 5)

Ertugrul

In 1890, one vessel met a typhoon. The water that seeped into the engine room made the boiler explode, causing the ship to sink near today’s Kushimoto town in Wakayama Prefecture.

⁶⁵ Katagiri et al. 2014.

⁶⁶ Okinawa Prefecture Buried Cultural Property Center 2017.

The vessel had over 600 people on board, but only 69 of them survived. The vessel was *Ertugrul*, a Turkish frigate that was on its return journey to Turkey after the ceremonial first visit of Turkish officials to Japan. At the time of sinking it is said that the Japanese had helped the sailors, giving them food and medical attention. Also, money was raised through private fund-raising activities and was used to help the survivors. The news of the disaster and the warm assistance provided by the Japanese people moved the heart of the Turkish people. This maritime accident became the origin of friendship between Turkey and Japan.⁶⁷

Kushimoto is located at the southernmost point of the Honshu Island, and the warm current, called *Kuroshio* in Japanese, runs close to shore. Consequently, the area's water temperature is warm, even during the winter months, attracting diving tourists. In recent years, a local dive shop has found a number of artifacts possibly related to this shipwreck. At the same time, a Turkish nautical archaeologist was searching for information regarding the *Ertugrul* wreck site in the hope of conducting a friendship research project. The town was eager to support the work, and, by the early 2000s, the project began to take form. A team of archaeologists from the Institute of Nautical Archaeology in Turkey began to plan a survey, and, in 2007, an international team was formed.⁶⁸ The surveys and excavations were planned and organized, and the city of Kushimoto became the program's host. As of today, more than 8,000 artifacts have been raised from the *Ertugrul* site and are being conserved locally.⁶⁹

A research center was created in the town, using an old school building as the conservation lab and for storage. The project aims to promote the friendly relationship between Turkey and Japan. A group of artifacts is being displayed at the renewed Turkish Memorial Museum in

⁶⁷ Ryo 2013.

⁶⁸ Lledo and Pulak 2008.

⁶⁹ Lledo 2016.

Kushimoto. The center is active in reaching out to elementary and junior high school students, hosting conservation workshops, and presentations at schools.⁷⁰ The excavation of the site did not follow the Act on Protection of Cultural Properties, but, rather, a salvage law. The finds were considered to be a property of the Turkish Navy, and, strictly speaking, are not considered cultural properties by Japanese law. It should be noted that the site is not registered as a known site. The town and the Prefecture did not know how to deal with a case like this where foreign researchers came to excavate a foreign-owned vessel.

Nishihama Sengen Site

The village of Nishihama, near Nagahama, is located on the Lake Biwa shore. It is one of the villages that were swallowed by the water in local folk-tales, but it is not certain when the village was destroyed, or even if the village actually existed. In 2013, students from Shiga Prefectural University formed an underwater archaeological group and started researching the legendary Nishihama village. The group conducted a survey at Nagahama and found the remains of a possible village. Now known as Nishihama Sengen Site, the site was excavated and revealed a possible burial ground of a village. Many stone statues and figures were found, typical of a medieval village cemetery. The significance of the project is that it followed the scientific process for archeological sites: the site was found, surveyed, excavated, and then a final report was published by a university student organization.⁷¹

⁷⁰ Lledo 2011.

⁷¹ Nakagawa 2016.

Recent Developments

Another development that took place in recent years is the growth in the number of academic municipal and avocational maritime archaeologists. Recognizing the increasing importance of the field, Tokyo University of Marine Science and Technology became the first university in Japan to establish a course in maritime archaeology, and Tokai University followed by creating coursework based on underwater archaeology⁷² Tokyo University of Marine Science and Technology initiated a number of survey projects using advanced remote-sensing technologies.⁷³ Some municipalities, including Okinawa, have developed a strong team of archaeologists that can manage UCH in their waters. They also have conducted several outreach programs at which the public can access and see the underwater sites.⁷⁴

ARIUA emerged as a leading avocational group in Japan for the study of UCH. As mentioned above, they initiated a project in 2009 to locate known and unknown underwater sites nationwide, including submerged prehistoric sites and shipwreck sites, and to create a database for further studies (ARIUA 2013 Report). The members of ARIUA recognize the importance of UCH management. This led them to plan the first comprehensive study of submerged sites.⁷⁵ The ARIUA study became one of the most valuable sources for obtaining information regarding underwater archaeology in Japan and will be a foundation for future studies on the subject.

As seen here, a number of other projects were conducted in Japan. The projects were led by different organizations, including avocational groups, universities, prefectural officials, and a foreign research group. These organizations worked closely with the local Boards of Education. However, the research conducted by these groups was sporadic, and, often, the projects were led

⁷² Sasaki 2018.

⁷³ Kondo and Iwabuchi 2011.

⁷⁴ Katagiri 2015.

⁷⁵ ARIUA 2013.

by archaeologists who had little project management experience. Their knowledge and methodologies applied were not easily translated to the Japanese context, and some methodologies had to be re-invented. Despite this situation, each project has been completed to exceptional scientific standards and contributes to our understanding of the past.

Underwater Archaeology and the Study of Prehistoric Sites

One area where UCH can contribute greatly to the knowledge of Japan's past is in the study of prehistory. For most of Japanese prehistory, the sea level was at least 40 meters below the current level, and, during glacier advances, sea levels were 120 meters below the present level.⁷⁶ Tsushima Strait, which separates Japan and Korea, was narrower, making the peopling of Japan easier.⁷⁷ Available evidence indicates that people began to collect marine resources intensively around 16,000 years ago.⁷⁸ Beginning around 9,000 years ago, or perhaps earlier, there was a warming trend, and the sea level began to rise.⁷⁹ This event is known as the Jomon Transgression; it reached a maximum stage between 6,500 and 5,300 years ago.⁸⁰ It means that people had lived on dry land that is underwater today. The changes in sea levels had a major influence on the past way of life. Yet, there has been no research to locate Paleolithic sites at the Tsushima Strait.

The Takashima Underwater Site in the Nagasaki Prefecture is known as a place where Kublai Khan of the Yuan dynasty (1279-1368 CE) lost his invading fleet. However, it is less known for the artifacts from the Jomon Era, discovered below the stratum where the remains from the invasion were found. The Jomon site was found off the Tokonami harbor; pottery, lithic tools,

⁷⁶ Bailey and Flemming 2008, 2153.

⁷⁷ Pope and Terrell 2008.

⁷⁸ Pope and Terrell 2008, 14.

⁷⁹ Ishiga et al. 2000, 223.

⁸⁰ Lutaenko et al. 2007, 343.

bones, and some wood and plant remains were found. The date of the Jomon pottery assemblage corresponds with the results from radiocarbon dating on two different species of intertidal shells.⁸¹

The discovery of the Jomon sites at such a depth is unusual in Japan. A few submerged Jomon sites have been discovered, but they are located at a shallower depth, usually no more than 10 meters deep. There is no clear evidence of mudslide, based on the geologic data of the area, and Nagasaki is not located on a fault line that might cause mass subsidence of 20 meters or more.⁸² Geological evidence suggests that, around 8,500 years ago, the sea level was at around 25 meters below present levels, corresponding with the depth of the site being discussed.⁸³ The discoveries of similar sites will surely help answer many questions regarding the peopling of Japan.

The most significant potential for the contribution of UCH sites to the study of Japanese prehistory arises from the fact that waterlogged sites often contain more well preserved organic materials, as compared to terrestrial sites. Japan is located in an active volcanic zone, and the soil is predominantly acidic in nature, a feature that is detrimental to the preservation of organic remains.⁸⁴ A wide gap exists between our understanding of the past lithic and pottery technologies, and that of past technologies, based on organic materials. A large cache of basketry was discovered at a partially inundated Higashimyo Site in Saga Prefecture. The evidence suggests that basketry was already well developed before 7,000 B.P.⁸⁵

The inundated sites no doubt provide a significant contribution to the study of past technologies, based on wood and other organic materials, but it is to the understanding of past subsistence systems that the study of submerged prehistoric sites can contribute the most. The key

⁸¹ Takashima Board of Education 1993, 75-97.

⁸² Takashima Board of Education 1993, 105-10.

⁸³ Nakada et al. 1994.

⁸⁴ Hongo 1989, 334.

⁸⁵ Bleed and Matsui 2010, 362-3.

to the study of subsistence patterns lies in shell midden sites, full of discarded artifacts and remains of food.⁸⁶ In Japan, more than 2,000 Jomon shell midden sites are known; this number alone signifies the importance of midden sites for the Japanese archaeological community.⁸⁷ However, the data may be skewed, given the differential preservation conditions. A stable isotope analysis of human skeletal remains suggests that the Jomon people had an extremely diverse diet, relying on plant products, despite most of the shell middens lacking plant materials.⁸⁸ Due to differential preservation, middens found on dry land alone cannot be used to reconstruct their diet.

The evidence gathered from the waterlogged sites, especially submerged midden sites, can give a more complete picture of the past subsistence pattern. The best example of a submerged midden site is the Awazu-midden Site in Lake Biwa, located close to the southern tip of the lake.⁸⁹ Three shell middens were found, and the smallest midden, dating to around 4,500 B.P. (the Middle Jomon), has been fully excavated. Another two middens are preserved in situ.⁹⁰ The site, approximately 370 meters x 400 meters in area, was excavated using a cofferdam.⁹¹ The shell midden was found to have thick layers, containing plant remains between the layers of shells. This suggests that plants were discarded during the fall and shells in the spring, making an annual layer.⁹² Such layering has not been detected at dry midden sites.

At the Awazu-midden Site, chestnuts and acorns were the major component of the plant remains. Surprisingly, the plants discovered included beans, gourds, and edible burdock. These are cultivated plants, making the Awazu-midden Site one of the earliest sites showing the evidence of

⁸⁶ Abe 2008, 20.

⁸⁷ Mizunoe 2008, 58.

⁸⁸ Yoshida 2008, 51.

⁸⁹ Tsuboi 1994.

⁹⁰ Matsui and Kanehara 2006, 263.

⁹¹ Shiga Prefectural Association for Cultural Heritage 2010, 148.

⁹² Matsui and Kanehara 2006, 263.

extensive plant utilization, or perhaps horticulture, in Japan.⁹³ The evidence from the Awazu-midden Site indicates that the subsistence of the Jomon people included diverse strategies. It is to be noted that the Awazu-midden Site contributed greatly to our understanding of the past, not only in what pertains to the subsistence patterns but also because the site may revolutionize our understanding of the use of organic materials. Wood species, such as urushi, or the lacquer tree, considered to be native plants of China, were found at the site.⁹⁴ The cultivation and utilization of urushi require extensive knowledge of the plant. There are many questions yet to be answered about why and how the Jomon population came to possess such a comprehensive understanding of the tree not native to Japan.

Takashima Underwater Site

Perhaps the most famous underwater archaeological site in Japan is the Takashima Underwater Site of the Nagasaki Prefecture, also known as the Mongol Shipwreck site (Figure 8). The site helped create the foundation of Japanese UCH studies. A detailed chronology of the project at Takashima best illustrates the development, and, perhaps some problems, of the Japanese underwater archaeological community. The recent discovery of a Chinese vessel at Takashima has been reported by popular media but has produced only a few scholarly publications and site reports.⁹⁵

Based on historical records and accounts of local fishermen, who found artifacts in their nets, the initial survey around the island was planned in the late 1970s. The project was led by a marine engineer, who used an echo sounder he had developed. He located several anomalies and

⁹³ Matsui and Kanehara 2006, 264.

⁹⁴ Noshiro 2009, 94-7.

⁹⁵ Takano 2013.

sent professional divers to survey those points. They were successful in raising some artifacts. However, no remains of a vessel were found at the time.⁹⁶ The greatest discovery, however, came suddenly from an unexpected source.

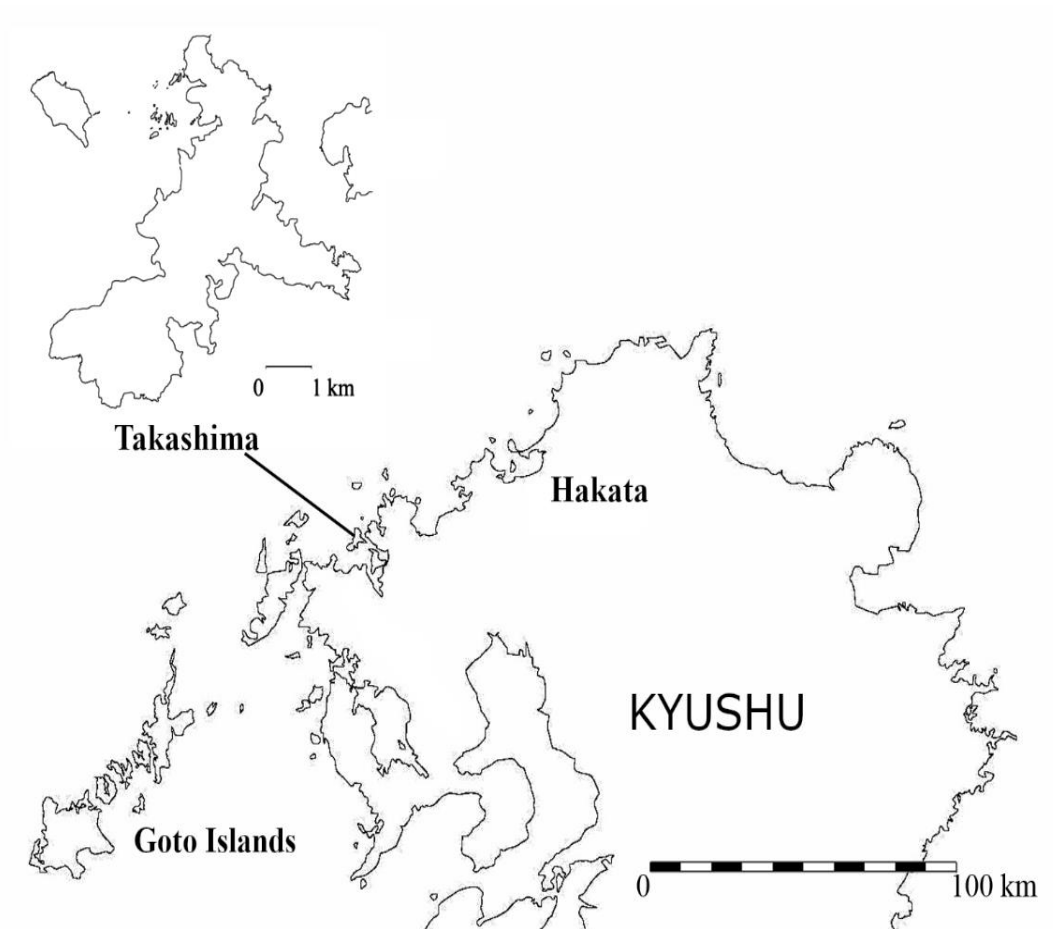


Figure 8. A Map of Takashima and the Kyushu Island

Several years before the project commenced, a local fisherman found a metal stamp while collecting mollusks. The stamp had a script he did not recognize. He decided to keep the item but had no idea about the value of his find. When he heard the news of the project being conducted

⁹⁶ Mozai 1982.

near his house, he realized what he had found may be related to the Mongol invasion. He showed the item to the research group, and, to his surprise, it became the most important discovery in Takashima. It was a bronze seal written in Pagspa-script, an official script of the Mongol Yuan Empire. It was a seal used by an officer, and this was proof that the invasion took place.⁹⁷

Although professional archaeologists were not involved directly during this initial stage, the importance of the site was recognized.⁹⁸ The area with the highest concentration of artifacts was registered as a known archaeological site and protected from development under the Act on Protection of Cultural Properties. Under this law, a site must be thoroughly investigated prior to any land development. As mentioned above, all known archaeological sites in Japan fall under the custody of the local Board of Education, and it is the responsibility of the local government to protect any sites from being destroyed by construction or any other cause. As a result, whenever there were harbor renovation projects within the protected area, the Board of Education at Takashima (or the Matsuura City Board of Education) entrusted excavation projects to various organizations.⁹⁹ A series of surveys and excavations followed intermittently throughout the 1980s and 1990s, led by different organizations. Excavations were conducted at Tokonami and Kozai harbors, and ARIUA became the main research partner of Takashima during the 1990s and early 2000s.¹⁰⁰

The rescue excavations for the harbor renovation at Kozaki produced a large number of artifacts related to the Mongol invasion. Divers found nearly complete wooden anchors with stone stocks, hull fragments, ceramics, weapons, and armor.¹⁰¹ Four anchors were found all aligned in

⁹⁷ Delgado 2008.

⁹⁸ Matsuura City Board of Education 2011.

⁹⁹ In 2006, the town of Takashima was incorporated into Matsuura city. Thus, the site is managed by Matsuura City Board of Education.

¹⁰⁰ Matsuura City Board of Education 2011.

¹⁰¹ Matsuura City Board of Education 2011.

one direction, indicating that they set anchors against the south wind, a typical wind direction of a typhoon (fig. 9).¹⁰² One artifact to be noted was a *Tetsuhau*, or ceramic ball, packed with scrap metal and gunpowder; this is the earliest existing example of an explosive weapon ever used in a naval battle.¹⁰³ More than 2,000 artifacts were raised, but most of them were single isolated items.¹⁰⁴ The site appeared to be heavily disturbed, looking less like a shipwreck site than a “drift” of artifacts (Figure 10). The discovery of a hull had to wait for a few more years.

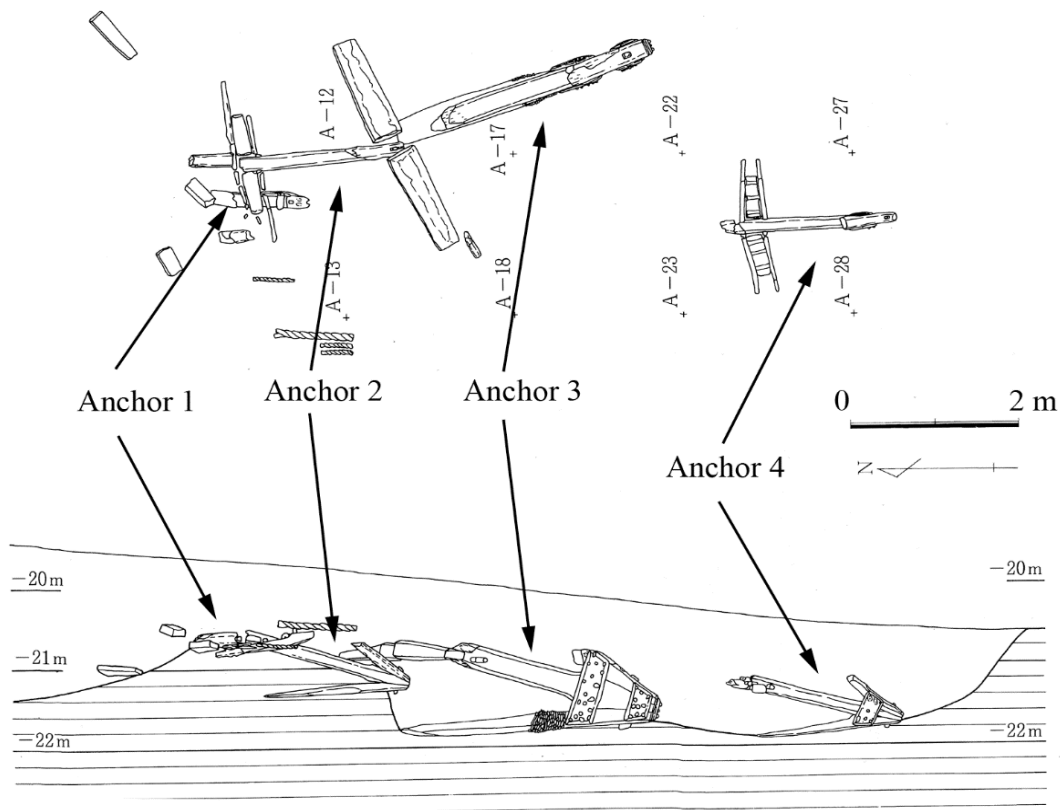


Figure 9. A Drawing of Anchors Found All Aligned
(Adapted from Takashima Board of Education 1996)

¹⁰² Takashima Board of Education 1996.

¹⁰³ Sasaki 2015.

¹⁰⁴ Matsuura City Board of Education 2011.

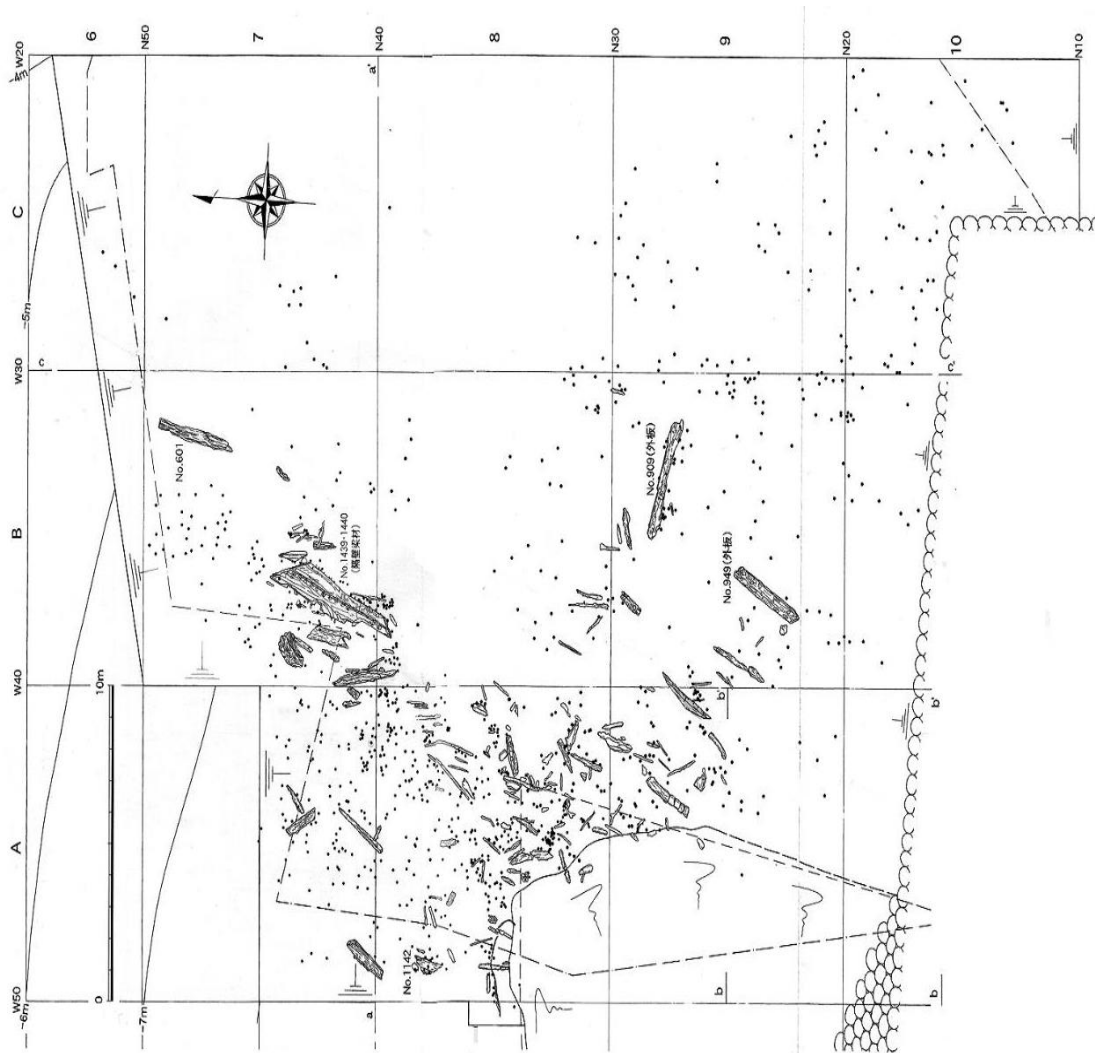


Figure 10. A Site Plan of Kozaki Harbor Excavation by ARIUA
(Adapted from Takashima Board of Education 2003)

By 2004, more than 500 wooden artifacts had been raised from the Kozaki harbor area. However, as these were all single isolated fragments, interpretation of the remains was extremely difficult. The author conducted an analysis and recorded the timbers in 2004 and 2005.¹⁰⁵ Among the timbers, less than a dozen pieces were found joined together, and only nine timbers were longer

¹⁰⁵ Sasaki 2015.

than 2 m in maximum dimension. Most of the timbers were heavily deteriorated. Historical records, such as *Yuan Shih*, mentions that a few thousand vessels were gathered from various towns in south China, as well as from Korea. A timber fragment from Takashima may be from any one of these ships. However, the detailed recording has shown that most of the remains were from south China, and perhaps only a few types of vessels may have been present at the site. There was no conclusive evidence of a vessel from Korea.¹⁰⁶

The rest of the artifacts, unfortunately, were found in a similar condition. A common image of an underwater site full of complete artifacts cannot be applied to Takashima. This is a naval battle site, so the typical artifacts found here are poorly fired storage jars and bowls with no decorations, as well as bricks and heavily concreted iron nails. In other words, the greatest underwater discovery in Japan was full of mundane and low-quality products. Furthermore, the Takashima Board of Education could not allocate sufficient funding for a conservation project.

No one can be blamed for creating this problem; the artifacts had to be raised because the harbor had to be renovated, and it is the norm that a construction company pays only for the excavation, and the cost of conservation is borne by the local municipality. It was the first time in the country that such a large concentration of artifacts was found underwater; the local municipality simply did not have access to support from experts.

It appeared that the research at Takashima would no longer be continued by ARIUA, and the city had to find other means to fund the project. A new phase of research came to Takashima, initiated by the team led by Yoshifumi Ikeda from the University of the Ryukyus, supported by the Grants-in-Aid for Scientific Research.¹⁰⁷ The previous research projects were successful in

¹⁰⁶ Sasaki 2015.

¹⁰⁷ Ikeda 2018.

finding artifacts related to the invasion, but the evidence gathered did not provide an overall picture of the invasion attempt.

The aim of the new project was to create a basic bathymetric map of Imari-Bay, using a multi-beam SONAR system. It soon became apparent that the bay had heavy silt accumulation.¹⁰⁸ The team added a Sub-Bottom Profiler system to investigate what might be buried beneath the layers of silt. Based on the results of the survey, researchers identified approximately a dozen possible anomalies, or areas with possible shipwreck remains. These locations were surveyed by professional divers and probed using steel poles. In October 2011, a partially preserved hull was revealed under the silt; the vessel was named The Takashima No.1 Shipwreck.¹⁰⁹

Soon after the discovery, JACA was quick to take notice. The Takashima Underwater Site was registered as a National Historic Site; it is the first shipwreck site to be registered at the national level.¹¹⁰ The survey project was extended to another five years. With Grant-in-Aid for Scientific Research, a more complete vessel, the Takashima No.2 Shipwreck was discovered in 2014.¹¹¹ Brief observations were made at the site before it was covered with sand for preservation in situ. Only a plan view was made for the Takashima No.1 Shipwreck, but, for the Takashima No.2 Shipwreck, the research team was more prepared. The hull was recorded in 3D using photogrammetry, providing a better chance to study the hull structures in detail.¹¹² The two sites are being monitored at least twice a year, recording parameters, such as dissolved oxygen and salinity. Municipal officials and experts in archaeological site management are deciding how to manage these sites best.¹¹³

¹⁰⁸ Ikeda 2012.

¹⁰⁹ Ikeda 2012.

¹¹⁰ JACA 2017b.

¹¹¹ Ikeda 2016.

¹¹² Ikeda 2016.

¹¹³ Ikeda 2018.

The two discovered vessels had hull structures in the Chinese tradition, with bulkheads to support the hull, double planking, and iron nail fasteners.¹¹⁴ The Takashima No.1 Shipwreck was found broken at one end. The hull was open and laid flat, with some bulkheads missing. The surviving length of the keel was 12 meters. Artifacts associated with the wreck were ceramics, stone shot, and bricks.¹¹⁵ The Takashima No.2 Shipwreck was found buried beneath a thick layer of silt. The hull was well preserved, compared to the first wreck; the vessel retained a V-shaped cross-section.¹¹⁶ Bulkheads were installed at nine locations; the first and second rooms were filled mainly with silt and sand, but the rest of the rooms were filled with boulders.¹¹⁷

As mentioned above, the Takashima No.2 Shipwreck was digitally recorded in three dimensions, and the recordings can be used for further analysis. The construction features and the shape of the hull appeared to be similar to that of the Quanzhou ship, discovered in Fujian Province in China.¹¹⁸ The vessel from Takashima was slightly smaller, but the curve lines of the Quanzhou ship, generated by Green, proved to be very similar when they were reduced digitally to fit the cross-section of the Takashima No.2 Shipwreck.¹¹⁹ The result showed that the reconstructed overall length of the Takashima No.2 was about 20 m, with a maximum breadth of 7.4 m (fig. 11).

The nature of the naval organization in the 13th century China and Korea, as well as other important questions, may be answered in the coming years with further research. Yet, the discovery at Takashima already has contributed greatly to the development of the field of underwater archaeology in Japan. Until the discovery of the two wrecks at Takashima, the study of UCH was a minor sub-field of archaeology and received little attention from both the general public and

¹¹⁴ Kimura 2016.

¹¹⁵ Ikeda 2012.

¹¹⁶ Ikeda 2016.

¹¹⁷ Ikeda 2016.

¹¹⁸ Green et al. 1998.

¹¹⁹ Green et al. 1998.

scholars. Today, the city of Matsuura is seeking ways to promote the site to the public and to conduct scientific research. The city has established a center for underwater archaeological research and is beginning to take the initiative to become the leading organization for the study of UCH in the country.¹²⁰

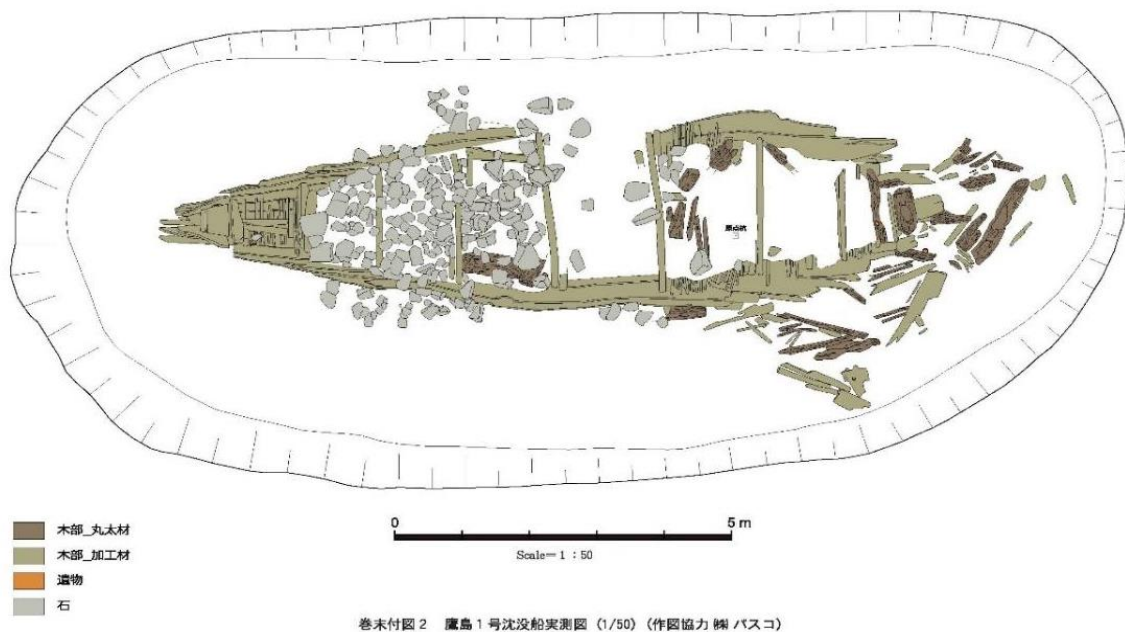


Figure 11. A Plan Drawing of the Takashima No.2 Shipwreck Site
(From Ikeda 2016, p. 11)

Recent Developments led by JACA

Following the discovery of the intact hull remains at Takashima, JACA formed a committee to discuss how the Japanese government should act to protect submerged archaeological sites. The JACA Committee members were selected from a pool of specialists and municipal officials, a

¹²⁰ Ikeda 2018.

vocational archaeologist, university researchers, and a conservator.¹²¹ The JACA Committee was to exist for five years (fiscal years 2013-2017), and its purpose was to publish a set of general guidelines on preserving the underwater legacy for municipal officials to follow. KNM was entrusted to collect and analyze data regarding various aspects of UCH management and present the results to the committee.¹²² In addition to these fact-finding missions, KNM conducted surveys around Japan. Some of the sites investigated are discussed below. The results of the surveys are reported in annual reports published by KNM. The technical difficulties when using survey equipment, the complexities of required paperwork, and issues of logistics were evaluated.¹²³

Kurakizaki Underwater Site Revisited

One of the first sites that the JACA Committee decided to survey was the Kurakizaki Underwater Site. As mentioned, excavated items were ceramics made in China, mainly from the latter half of the 12th century to the 13th century. In 2014, the team from KNM conducted a survey using a magnetometer, Side Scan SONAR, Sub-Bottom Profiler, and an ROV. The purpose of the survey was not only to find hull remains but to see how these survey systems can be applied. The survey revealed no iron remains, and the deposit of the site was extremely shallow, having a thin sediment layer over the bedrock. It appears that there were no hull remains left on the site. Perhaps there was never a sunken ship here, and that the ceramics were discarded for some reason unknown to us.¹²⁴

In the summer of 2015, an archeological session with a symposium and a guided tour of the site was planned. The symposium was held on the first day and the site tour the following day. The

¹²¹ JACA 2017b.

¹²² See Chapter I.

¹²³ See KNM Reports 2014 to 2018.

¹²⁴ KNM 2015.

main themes of the symposium were the result of the previous year's survey at the site, and the status of Japanese underwater cultural research. The tour of the site was a success, due to the warm and clear water, and the fact that it is a shallow site, visible from the surface. The visitors used a glass-box to see underwater from a fishing boat (Figure 12).¹²⁵



Figure 12. A Scene from the Boat Tour at Kurakizaki Underwater Site in 2015

Ai-no-Shima Island

Ai-no-Shima Island, located just east of Hakata Bay, is known as an island that ancient sailors used as a stopover on a trade route. The island is known to have had a guesthouse for the Joseon Mission Trips from Korea during the Edo period. The fishermen have found roof tiles in the sea, and many of them were discarded or were kept as souvenirs (fig. 13). The fishermen had

¹²⁵ KNM 2016.

been calling these “Korean Roof Tiles” because they thought the tiles were brought from Korea during the Edo period.¹²⁶



Figure 13 Some of the Roof Tiles Found at the Island.

One local fisherman realized that these tiles appeared similar to those that been excavated at ancient sites in Japan. Also, one of the tiles he found had an impression with the character “Kego.” Kego was the name of an office from the Nara (710-794 CE) and Heian (794-1185 CE) periods, created to control foreign trade and protect the area against invaders. Archaeologists took notice of this roof tile because roof tiles with such an impression had been found only at two other sites. One of these sites is in Fukuoka, where the tiles were made, and the other site is the Imperial Palace in Kyoto. It is believed that the tiles to be used for the Kego office in Fukuoka, but, for an unknown reason, the tiles were taken to the capital instead.

¹²⁶ KNM 2016.

It is difficult to explain why a building at the capital had to use the roof tiles with the provincial office name written on them. Historians suggest that there was an emergency situation, such as a fire in the capital, and the roof tiles had to be gathered quickly. Packed hastily to be sent to the capital, some of them may have been lost in transit near the Island. Considering the age of the kiln site, the style of the roof tiles, and the year in which the Kego office was built, the tiles may date to the 10th century.¹²⁷

By detecting the age of the roof tiles, archaeologists in Fukuoka began to contemplate the possibility of finding a vessel that might have carried these tiles. ARIUA took notice and conducted a dive survey based on the information from the local fishermen. They were successful in finding a few tiles. Following the success, in 2015, KNM conducted a survey. A bathymetric map of the area was generated using a multi-beam SONAR system, and a Sub-Bottom Profiler was used on selected areas. Data from the sub-bottom profiler suggests that the seafloor had a deposit of loosely packed coarse grain sand. An ROV was used to check the condition of the sea. During the ROV survey, several roof tiles were identified on the seafloor.¹²⁸

Following the 2015 survey, JACA approached the Shingu town authorities to organize an additional survey of the site, and the town agreed. The town proposed a four-year project. The proposal was assisted by the KNM and the University of the Ryukyus, with Ikead, the archaeologist who found the Mongol vessels at Takashima. The cost of the survey was partly paid with JACA funding to support certain projects every year. The main diving unit was composed of professional divers. The divers set the grid and searched for the tiles, while archaeologist Ikeda, and a few other diving archaeologists, who visited the site, recorded the locations. By 2018, close

¹²⁷ KNM 2016.

¹²⁸ KNM 2016.

to 100 roof tiles had been found and recorded in an area of approximately 50 m by 100 m.¹²⁹ One outcome of this project is that the local cultural officer took diving lessons and is now diving with the team. The project is an excellent example of the local government getting involved with the archaeological project underwater.

Van Bosse Wreck Site

In 1867, a Dutch merchant vessel on its route from China to Singapore was blown off course and wrecked in Tarama Island in Miyako province, in the Ryukyus (Okinawa). The wreck was recorded in the local archive but was almost lost in history because only a brief explanation was given about the event. It was known locally that many broken porcelain fragments could be found at Takada beach, on Tarama Island. Archaeologists from Okinawa analyzed the artifacts and identified them to be mainly of Chinese origin, having characteristics of ceramics exported to Southeast Asia during the mid-19th century.¹³⁰ A Japanese historian conducted a brief archival research of the vessel in the Netherlands' archive and identified the name of the vessel to be *Van Bosse*.¹³¹ The local dive shop had found some artifacts scattered over the ocean floor and had been using the site as a diving point. One prominent artifact is an iron box, approximately 1 meter by 1 meter, which may be the chest that the Dutch carried on board. The site was documented during the survey conducted by researchers from the Okinawa Prefecture.¹³²

In 2015, KNM initiated a survey using a multi-beam SONAR, and Sub-Bottom profiler (Figure 14).¹³³ With the help of the local dive shop, an ROV survey was conducted at the location

¹²⁹ JACA 2017b.

¹³⁰ Katagiri 2015.

¹³¹ Kaneda 2001.

¹³² Okinawa Prefecture Buried Cultural Property Center 2017.

¹³³ KNM 2016.

where they had found some artifacts.¹³⁴ The following year saw extensive archival research, interviews of local residents, a walking beach survey, and diving survey using metal detectors. Through these efforts, a basic outline of the site was created.¹³⁵ Today, the dive shop has been assigned as a custodian of the site; the shop is free to use the site as a dive point, but is responsible for a visual survey of the site, and must report to the authorities if any significant change has been seen at the site.¹³⁶

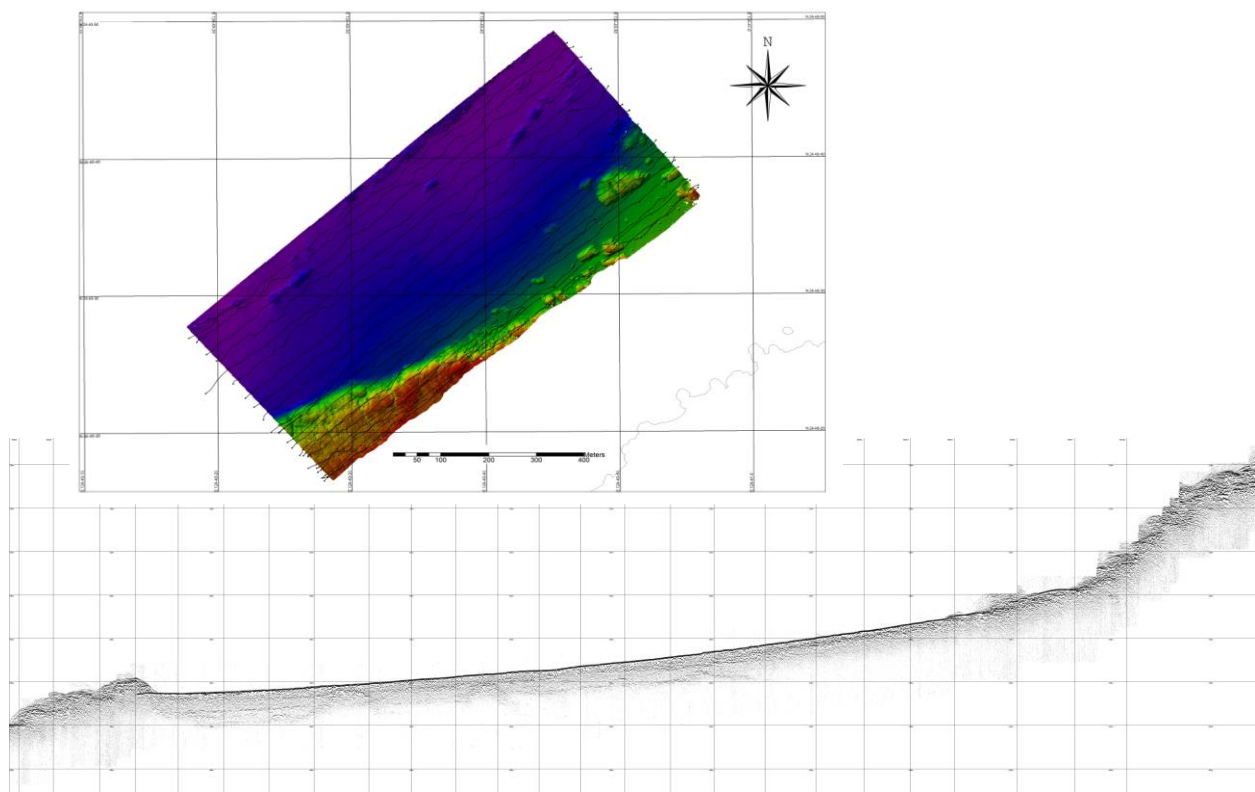


Figure 14. The Image of Sea Bottom at *van Bosse* Shipwreck Site, created using Multi-Beam SONAR and Sub-Bottom Profiler (Courtesy of JACA)

¹³⁴ KNM 2016.

¹³⁵ Tarama Village Board of Education 2017.

¹³⁶ KNM 2017.

Summary

This chapter offered a brief history of UCH research and management in Japan. The research on underwater archaeological sites began in the early 20th century, but scholars did not see the sites directly. Following the methods and processes of land archaeology, underwater archaeological research became the responsibility of local municipalities, but not many municipalities took the initiative in trying to locate a site. The central government, or JACA, became aware of the importance of managing the country's UCH but did little to create a national system of management for that legacy. After the 1990s, various groups began to work on different underwater sites, but no central authority on UCH research emerged. The discovery of Chinese hull remains at Takashima was the turning point in the development of UCH research in Japan. JACA formed a committee to discuss how Japan should manage UCH. A new era of UCH management and research began in Japan. Although it is still too early to see where it may lead, the results of this initiative are very promising.

CHAPTER III

STATUS OF UNDERWATER ARCHAEOLOGICAL SITES

Introduction

The assessment of all known underwater archaeological sites is an essential procedure for managing UCH sites in Japan, as it is the way to know how many UCH sites have been identified, investigated, managed and protected. For this study, a database of Japanese UCH sites was made and analyzed. The study did not concern itself with any individual site, but rather the focus was wider, that is, on the status of UCH in the whole of Japan. First, the chapter introduces the methodology for creating the database, and the terminology is defined. When discussing archaeological sites, it is important to understand the timeline or age/period. Appendix A is provided to give a clear picture of Japanese time periods. Second, there is a discussion of the overall nature of UCH sites throughout Japan. Third, the distribution patterns in age and region are studied, showing regional differences in the ways in which sites are managed. A part of this database is compiled as Appendix B.

Methodology

To collect information regarding UCH in the country, the researcher consulted multiple sources. There is no central database of archaeological sites in Japan, but each municipality has its own. Some are accessible using the Internet, but some are only available in paper or provided upon request.

It was fortunate that similar studies were conducted previously. The author has relied on several of these sources for information. First, JACA conducted a survey of all municipalities, asking them to provide information regarding UCH within their boundaries (JACA 2000

Report).¹³⁷ Second, ARIUA conducted a major work by collecting information regarding UCH throughout Japan, compiling information on about 500 sites (ARIUA 2013 Report).¹³⁸ Third, KNM, following the style of JACA 2000 Report, requested that all municipalities provide information about UCH sites (KNM Database).¹³⁹ Fourth, the Nara National Research Institute for Cultural Properties has a repository of site reports and archaeological site database (Site Report Repository).¹⁴⁰ This database allows a keyword search for the entire text from site reports. The institute at Nara also provides a Site Data Base online, which only gives a brief explanation of almost all known sites in Japan.¹⁴¹

The author also has accessed each Prefecture's webpage, which has online access to the archaeological site map. The author has searched the maps, location information, and descriptions for possible UCH sites. The author conducted Internet searches for other sources of information, such as published books and articles. Once the information was collected, sites were organized with the criteria 1) Status of research, 2) Types of Sites, 3) Location, 4) Era, and 5) Time Period. A brief description of the criteria is provided below.

Status of Research

Excavated Site: Some form of research, based on scientific reasoning, took place. The site was recorded using archaeological methods, and some soil was removed from the site. Artifacts

¹³⁷ JACA 2000.

¹³⁸ ARIUA 2013.

¹³⁹ KNM 2014, and 2017.

¹⁴⁰ Nara National Research Institute for Cultural Properties 2019a Site Reports can be downloaded as PDF. The database do not cover all archaeological site reports, but it is the largest such repository in the country. The Database of Archaeological Site Reports in Japan.

¹⁴¹ Nara National Research Institute for Cultural Properties 2019b. Basic information about archaeological sites excavated is stored in the database.

were removed from the site, conserved, and properly stored. The site may be preserved in situ, or completely excavated, monitored, or left unattended.

Surveyed: A site has been identified visually or by using remote sensing technologies, including Side Scan SONAR, multi-beam SONAR, and magnetometer. A site may be visually confirmed by snorkel or diving survey, or with ROV. In some cases, artifacts may be removed from the site as a sample, but only a limited amount of soil was removed in the process.

Collected: Artifacts were removed from the site without recording, and items were not properly conserved and stored. Collected items may have been sold, or the current location cannot be confirmed. The removal may have been made by chance, such as artifacts caught in a net or found during dredging, or divers brought artifacts to the surface without knowing the significance of the site.

Salvaged: The site, usually a shipwreck, was removed from the original location. The purpose of the action was not scientifically based, and items may have been sold or disposed of.

Unidentified: A story or a rumor of an underwater site is known, but the site itself has not been found or confirmed through archaeological research. Reports of artifacts being raised (but lost since), or reported by diving communities are the main sources of information. In addition, the site is included in this category if the existence of an underwater site is suggested by historical documents or by folklore.

Buried: The existence of a site has been reported but was buried without scientific investigation. Some artifacts may have been raised.

Known Site: A site has been known through historical documents, folklore, or artifacts being raised. A site may be visible from the surface, or part of the site may be connected to a site on land.

NA (Not Applicable): A site without enough available information. The site may be found in a municipal site database or mentioned as an underwater site in a credible publication or a database. This category also includes a site for which the status of research does not fit any of the descriptions listed above.

Types of Sites

Harbor Site: A harbor with some construction features underwater. A site may refer to the entire harbor area, or part of a structure, such as jetty, breakwater, or seawall.

Historic Site: A site, usually a settlement or a structure, such as a bridge that is still in its place and known through historic sources. If there is a record of an event, such as a tsunami or earthquake, that caused the submergence, the site will be included in this category. A structure made on a shore or underwater is included in this category.

Midden Site: An ancient dumpsite of domestic waste, usually in the form of a mound, but found underwater. A midden may be part of a larger submerged site, or perhaps, a dump was created on a shore.

Shipwreck Site: It is difficult to define a shipwreck site. There are some cases in which a vessel had been sunk, or cargo removed intentionally, but which are not shipwrecks in the strict sense of the word. For this study, however, a site with hull remains is considered a shipwreck site. Also, a large pile of artifacts, without a hull, which may have been an entire vessel, may be considered a shipwreck site.

Possible Shipwreck: Concentration of artifacts underwater may derive from a shipwreck, but artifacts may be spread over a large area due to erosion from a submerged site. This category includes a site that produced a relatively large quantity of items that were likely to have been

carried onboard a vessel, but are now widely dispersed. The site may have imported items, or the same items are found in multiples. Also, the presence of a ship, or maritime related items, including anchors, is associated with the finds.

Scattered Site: A collection of items is found in an area but without features. The site should have a clearly defined distribution pattern that indicates a settlement. Also, the collection of items should be of a domestic nature, and not a cargo.

Submerged Site: A site should have features, such as pits or built structures. The site should have a clearly defined artifacts distribution pattern. If a submerged village or a settlement can be associated with a historical source, the site should be considered an Historic Site.

Production Site: A site related to the production of a commercial item or a location set for producing a specialized item. The site should be distinguished from a domestic site. A salt production site, fish traps (fish weir), and stone quarry sites are considered production sites.

Isolated Finds: Only a few pieces of artifacts are found below the surface, but without any features underwater. It may have been part of a shipwreck or a submerged site. Usually, a single find, such as a single anchor, is not considered a site. However, if a municipality has recorded the area as a known site, it is included in this category.

NA (Not Applicable): A site without enough available information

Location

Inland Site: A site located on an inland waterway, such as on a river, lake, or pond. A site submerged under a man-made dam is not considered as a submerged site.

Intertidal Site: A site located along the sea, partially submerged, or some part of the site is submerged at least part of the day. A site located along the beach may be considered to be in this category.

Shallow Sea: A site located between 0 to 5 m in depth. A part of the site may appear on the surface, but the main component of the site should be underwater at all times.

Sea: A site at which all components are totally submerged underwater at all times, and is located 5 m below the surface.

Deep Sea: A site at least 50 m deep.

Era and Time Periods

The purpose of this study is to grasp the nature of Japanese UCH sites, not the overall nature of Japanese archaeology and history. There are various ways to define time periods, depending on the school of thought, as well as by geographical area. The time division used for the study may not reflect any particular school of thought but may provide only a basic idea of the time frame. The Era represents a rough time frame the author has assigned, and periods represent the name of the time periods generally used in Japanese history.¹⁴² An Era may include several time periods. A brief explanation of each Era is followed by time periods in chronological order, but those periods specific to Hokkaido and Okinawa are given at the end.

Paleolithic Era/PL (?-16,000 B.P.): From the earliest time people first arrived in Japan until the advent of pottery production, or the beginning of the Jomon Era (around 12,000 B.P.). People living in Japan at this time mainly lived a nomadic lifestyle. The tools that they used were lithic and probably wood. They probably used logboats for travel, but not enough evidence is available

¹⁴² As found in Totman 2005, Mason and Caiger 2011, Walker 2015, and Mizoguchi 2018.

to draw this conclusion. Sea levels shifted considerably during this time, and many sites may be found in unexpected areas, such as the deep sea, or lakes and rivers in the mountainous area.

Jomon Era/JO (12,000-300 BCE): People began producing pottery jars for the storage of food and other purposes during the Jomon Era.¹⁴³ They practiced intensive horticulture and became increasingly sedentary. More than 100 logboats have been excavated in Japan, indicating that these were the major means of transport materials across waters.¹⁴⁴ Sea level changes were experienced in the Jomon Era as well. Some Jomon sites with close proximity to the sea are found inland on higher grounds, while earlier Jomon sites are found below the water table.¹⁴⁵

Proto-Historic Era/PH (300 BCE-1185 CE): This Era is from the Yayoi period to the Heian period, or roughly from 300 BCE to around the 12th century CE. The Kamakura period, starting around 1185 CE, is included in the next Era. The lifestyle centered on rice cultivation. The formation of the nation gradually took place, culminating in the establishment of Yamato state. Various types of vessels were in use. The vessels used for the tributary mission trip to the Continent, during the Chinese Tang dynasty (618-907 CE), are considered to be one of the best maritime achievements of the Era. The vessels that crossed the East China Sea may have been based on Chinese or Korean construction, but only brief descriptions and stylized iconographic evidence are available for the study.¹⁴⁶ There was no major change in the sea level, but the gradual accumulation of silt in lagoons, as well as coastal erosion, may have caused some changes at the local level.

Middle Age Era/MA (1185-1603 CE): The term Middle Age is a term commonly used to describe European History, but it may be applied to Japanese history with caution. The term describes the timeframe alone, and the nature of the societies is much different. For this study, the

¹⁴³ For more about Jomon Culture of Japan, see Habu, J. 2010.

¹⁴⁴ Miyashita 2006.

¹⁴⁵ Hayashida et al. 2014.

¹⁴⁶ Ishii 2002.

term is used for the time starting at the Kamakura period (1185-1336 CE) and ending before the Edo period at 1603. This is the time when Imperial power in Kyoto had waned, and warlords ruled the country. Bakufu, a town where the feudal lord, or Shogun, resided, was the seat of the government. There are iconographic and historical documents regarding the vessels and maritime practices at the time, but very few physical remains of vessels have been found. At the end of the Era, European nations began to sail to the shores of Japan, bringing Christianity, scientific ideas, and guns.¹⁴⁷ As this Era stretches only a few hundred years, the change in sea level is considered to be minimal. There are records of earthquakes and other natural disasters, causing the disappearance of some villages.

Early Modern/EM (1603-1868 CE): The Early Modern Era corresponds with the Edo period. The almost 300 years of Tokugawa Shogunate is considered to be the time of peace in which the essence of modern Japan was formed. There was a ban on foreign travel, but maritime commerce flourished throughout Japan. The Tokugawa shogun only allowed trade with China and the Netherlands through the port of Nagasaki. Also, official or formal trade with Korea continued. Foreign vessels, including those from Russia, England, France, and the U.S., began to approach Japan at the End of the Era, which led to the opening of Japan known as Meiji Restoration.¹⁴⁸ Again, the sea level changed very little, but the period saw several earthquake events. Also, there were land reclamation and massive flood control projects, which dramatically changed the local environment in some areas.

Modern Era/MO (1868-Present): For this study, the Modern Era starts at the Meiji Restoration in 1868. The opening of Japan brought the Industrial Revolution to the country, with

¹⁴⁷ Ishii 2002.

¹⁴⁸ Ishii 2002.

new forms of transportation, including a railway system and Western-style vessels. Wooden hulls were soon replaced with iron, and later with modern synthetic materials. The large-scale land reclamation projects transformed the Japanese coastline permanently.¹⁴⁹

Unknown/UK: Not enough information was available at some sites, so they could not be assigned to a specific era. These were given an “Unknown” age.

Yayoi Period/Ya (300 BCE - 300 CE): The Jomon Era came to an end when extensive rice farming was introduced to Japan from the Continent. It is believed that advanced farming and new kinds of metal tools were introduced. Pottery that was low fired and usually rich in symbolic decorations gave way to high-fired utilitarian Yayoi pottery. It appears that a strong connection between Japan and the Continent grew during this period. A form of Chiefdom, or Proto-state, emerged, and the famous Himiko, a female ruler of Yamatai-koku, appeared in Chinese historical documents.¹⁵⁰

Kofun Period/Ko (300-538 C.E): The Kofun period is characterized by the emergence of large tumulus, concentrated in the Yamato region of central Japan, but also found in Western and Northern Japan. This is the time of proto-history during which the Yamato state developed.¹⁵¹

Asuka Period/As (538-710 CE): Considered to be the time when the Yamato state consolidated power. The construction of large tumulus declined, and the influence of foreign countries became more prominent. Buddhism was introduced, along with government administrative systems, forms of arts, and advanced technologies. Tributary missions to the Chinese Tang dynasty were sent out to learn about the new political systems and technologies.

¹⁴⁹ Ishii 2002.

¹⁵⁰ For more about the Yayoi Period, see Mizoguchi 2018.

¹⁵¹ See Barnes, G. 2007. for details

Also, conflict with the Silla dynasty (668-935 CE) in Korea led to the dispatch of the Japanese Navy to the Korean peninsula, where the Japanese forces were defeated.¹⁵²

Nara Period/Na (710-794 CE): The capital of Japan was firmly established for the first time at Nara, hence the name of the period. This is the time when the Japanese Imperial court system was firmly established. The Japanese writing system emerged, and the first historical records of Japan were written.¹⁵³

Heian Period/He (794-1185 CE): The new capital was created at Kyoto, and became the Imperial City for the next 1,000 years. Japanese classical court life formed during this period. Japan ceased sending missions to China, and foreign influence waned. The original Japanese form of arts and the way of life had developed. By the end of the period, the central authority declined, and the military class began to rise in power.¹⁵⁴

Kamakura Period/Ka (1185-1336 CE): The power of the Imperial House declined, and Bakufu, or the military clan's stronghold, became the seat of power. The Imperial rule, however, was left in place. The emperor was the symbolic ruler of all Japan, but the Shogun held the real power. The most significant event from the Kamakura period is the Mongol Invasions of Japan, which took place in 1274 and 1281. Although the Bakufu were successful in repelling the invaders, the political power of the house declined following the event.¹⁵⁵

Muromachi Period/Mu (1336-1573 CE): The Kamakura Bakufu fell out of favor, and the Ashikaga clan, based near Kyoto, rose to power, claiming Muromachi Bakufu. It was a time of

¹⁵² See Barnes, G. 2007. for details

¹⁵³ See Barnes, G. 2007. for details

¹⁵⁴ For details, see Shively and McCaullough 1999.

¹⁵⁵ Ishii 2004 and Hattori 2017.

peace, and trade with China was encouraged. However, the regional powers grew steadily. By the end of the Muromachi period, warlords began fighting for more lands to control.¹⁵⁶

Azuchi-Momoyama Period/Am (1573-1603 CE): Warlords fought each other to fill the gap of Muromachi Bakufu. Certain figures began to take steps to unite Japan once again. Among them, three of the best known are Nobunaga Oda, Hideyoshi Toyotomi, and Ieyasu Tokugawa. Some regional clans actively sought out trade with foreign countries, including Portugal, Spain, and the Netherlands. Japanese were active in trade in Southeast Asia, as well.¹⁵⁷

Edo Period/Ed (1603-1868 CE): The Tokugawa clan united Japan under one rule, and opened Bakufu in Edo, which is today's Tokyo area. Initially, trade with foreign countries was encouraged, but gradually the Bakufu began to control and limit the trade. By the mid-17th century, the Japanese were not allowed to leave the country, Christianity was banned, and trade was limited to a man-made island of Dejima in Nagasaki. Only China and the Netherlands were allowed to trade with Japan. It was a time of peace, and economic growth focused internally. By the 19th century, foreign vessels, including those from Russia, Great Britain, America, and France, began to approach the Japanese coast. By this time, Tokugawa Bakufu has lost its past glory. With increased pressure from foreign powers, Bakufu opened Japan for trade. In 1868, Bakufu relinquished its power to the Emperor, terminating the age of Samurai rule.¹⁵⁸

Periods after Edo: Meiji Period/Me (1868-1912 CE), Taisho Period/Ta (1912-1926 CE), Showa/So (1926-1989 CE): After the fall of Tokugawa Bakufu, the name of the period became that of the Emperor who reigned at the time. Japan opened its doors to foreign countries and started modernizing society. Japan began rapid industrialization, strengthening military power

¹⁵⁶ Takahashi and Gomi 2019 and Maruyama 2018.

¹⁵⁷ Murai 2012.

¹⁵⁸ Iwabuchi 2010 and Tsuji 2005

as well. Japan went to war with China in 1894 and with Russia in 1904, eventually leading to the Pacific War. The introduction of the railroad system and the steam-powered iron hull vessels, as well as heavy industry, changed the nature of commerce rapidly and completely.

Ainu Period/Ai (7th cent CE-1868): The Ainu period is geographically limited to Hokkaido and also to the sites related to the Ainu population. The Ainu people continued their semi-nomadic way of life after the Jomon Era gave way to life based on rice cultivation in the Yayoi period. It is difficult to determine the exact relationship among ancient Japanese people, Ainu people, and modern Japanese. However, in archaeological records, a new period can be set around the seventh century CE in Hokkaido. In Southern Hokkaido, people from the Japanese mainland began to move in, creating the Matsumae colony. The sites related to the Japanese population will be given the Japanese time period, but for the sites related to the people of native Hokkaido, the Ainu period was assigned.¹⁵⁹

Gusuku Period/Gu (11-16th cent CE): The name of the time period specific to Okinawa and the Amami Islands. Gusuku is the name for castles in the Ryukyu Islands and can be translated as the castle period. As the name suggests, many castles were built in this period, but these should not be confused with European castles. These castles may not have been built for defensive purposes; perhaps castles were symbolic structures for the local community, and the time period can be considered an early stage of stage development in which many communities interacted. The time period ends with the beginning of the united rule of the Ryukyu Kingdom. Although politically, it was a highly segmented society, sea commerce connected the people, creating a regional unity within the Ryukyus Islands.¹⁶⁰

¹⁵⁹ See more for the history of Ainu; Segawa 2007 and 2016.

¹⁶⁰ Hokama 1986 and Anzato 2006.

Overall Nature of Sites

Through this research, the author has identified 596 UCH sites in Japan. Considering that the total length of the coastline of Japan is over 29,000 km, there is roughly only one UCH site every 50 km of coastline. Okinawa Prefecture has the highest number of sites, 132 in number. Okinawa, with its warm and clear water, makes the identification of sites relatively easy. The Ryukyu island chain has been a maritime highway throughout history.¹⁶¹ Also, it was through the efforts of the Prefectural officers and private researchers that the sites were identified.¹⁶² Shiga Prefecture has 116 sites. Almost all of these sites are located along Lake Biwa. They were discovered due to government-led waterfront development projects. Nagasaki Prefecture, where the Takashima Underwater Site is located, has 51 sites.

The number of possible UCH sites from these three Prefectures add up to about half of all known sites in Japan. Hokkaido and Shizuoka Prefectures, both 24 in number, come next. The rest of the Prefectures have 20 or fewer sites, but most Prefectures have fewer than eight sites. Saitama and Nara Prefectures reported no UCH sites within their territory. It is understandable that some of these Prefectures have no UCH sites because these Prefectures are located inland, having no access to the sea. However, Akita and Miyazaki Prefectures also reported no underwater sites within their boundaries. These Prefectures are located along the sea, having a combined total of several hundred kilometers of coastline. On the other hand, Nagano Prefecture, an inland and the most mountainous Prefecture in Japan, has 18 sites. The discovery of Sone Site at Lake Suwa and a chance discovery of Paleolithic tools at Lake Nojiri made cultural officers aware of possible lake-bottom sites. The number of sites reported does not reflect the real nature of the site

¹⁶¹ Hokama 1986.

¹⁶² Okinawa Prefecture Buried Cultural Property Center 2017.

distribution pattern, but rather the difference is due to how much research has actually taken place and how aware Prefectural officials are of the presence of such locations.

Types of Sites

There are 33 shipwreck sites in Japan and 57 possible shipwreck sites. There is a gray line between a shipwreck site and a possible shipwreck site; if all these sites were shipwrecks, then the number of known shipwreck sites would be 90 in total. Most of the sites, however, are made up of scattered materials, and only nine of them have been partially excavated. The rest of the sites remain almost untouched by archaeologists. Despite the lack of interest paid by the Japanese archaeological community, 90 sites are too great a number to be disregarded. There are 56 harbor and historic structures, 135 identified submerged sites, and 211 scattered sites.

Location of Sites: There are nearly 400 recognized sites from the sea and intertidal zones, while only half the number of inland sites are known. Japan does not have large easily navigable rivers, and traveling inland is a difficult task. The inland sites are all submerged sites, perhaps once they were settlements. Japanese municipal archaeologists have been conducting limited surveys and excavations, even inland, whenever they were able. The number of identified coastal sites may appear small compared to that of other countries, especially considering Japan's maritime history.

Age of Sites: There are 34 Paleolithic sites. The submerged Paleolithic sites are the key to understanding the early peopling of the island nation. The underwater sites have made contributions towards the understanding of early Japanese prehistory. The 232 Jomon Era sites make up the most numerous age group of UCH sites in the country. The Protohistoric sites are 165 in number. The number of Middle Age sites decreases to 127. The Early Modern Era, with 214 sites, comes in a close second to the Jomon period. The number of maritime-related sites increases

as we move towards the more recent Era, while the number of submerged settlements and scattered sites drops. There are 41 Modern Era sites, many of them maritime related sites, and 37 sites without a definite age given. Overall, it appears that all ages are represented in the submerged sites, indicating a great potential for answering many questions regarding the history of Japan.

Status of Research on Sites: Among the total of close to 600 sites, 323 sites have been surveyed, and 150 sites have been excavated. There are 67 collected sites counts. Most sites are left unattended, and a construction project may destroy the heritage.

Among 323 sites surveyed, 41 sites were submerged settlement sites, 23 shipwreck sites, 149 scattered sites, and 110 sites were not categorized (Table 1). Close to 30 submerged settlement sites surveyed were located inland, while a dozen settlement sites surveyed were found along the coast, including the intertidal zone.

The age distribution follows a similar pattern as the excavated settlement sites. There are 23 surveyed shipwreck sites in Japan. Among 149 scattered sites surveyed, roughly half of them were found inland, and the over half at sea. This result is important to note. More scattered sites were found and surveyed at sea, but, as discussed below, a larger number of inland sites are being excavated than are the sites located at sea. One reason may be that municipalities do not feel the need to excavate a site located at sea, despite the importance of a site.

There were 110 sites without a category. These include fish traps, salt production centers, and quarry sites. A large majority of such sites were recorded from Okinawa Prefecture, heavily skewing the data. Other Prefectures do have fish traps and salt production sites located along the coast, but these were recognized as land sites and are not reflected in this study.

Surveyed Site	Submerged	Shipwreck	Scattered	Other
TOTAL	41	23	149	110
Intertidal	6	3	40	93
Lake/Pond	27	0	65	4
River	2	0	3	1
Sea	6	20	41	8
Other	0	0	0	4

Paleolithic	3	0	11	0
Jomon	11	1	71	1
Proto-History	16	1	54	2
Middle Age	10	4	26	22
Early Modern	7	14	28	92
Modern	0	5	3	8
Unknown	7	2	12	0

Table 1. The Number of Surveyed Sites by Location and Age

Among the 600 sites, 150 sites were excavated, partially or fully. The percentage of excavated sites to the total number of sites is actually high compared to those found in other countries. Many of the known UCH sites are well documented, largely because those sites had to be excavated for a number of non-archeological reasons. The percentage of unexcavated, but known, sites should be much higher. It can be assumed that many sites have been destroyed without people knowing they even exist. Most were small, submerged sites, found during dredging, or along a lakeshore during construction.

For excavated sites, 60 of them are submerged sites and settlements, 14 are midden sites, and 45 are scattered sites (Table 2). There are a dozen harbor and historic sites, while less than ten sites are shipwrecks. One characteristic of Japanese underwater archaeology is that most of the excavated sites are submerged settlements located inland, and the maritime related sites are rare. Some harbors and coastal structures are present, but some are still in use and have not been properly excavated. Some sites are located along the coast, but all are located in shallow waters.

Most sites are from the Jomon Era, while some Paleolithic sites are found in lakes. Midden sites are usually found along lakeshores, but some are found in the intertidal zone. Among the 45 scattered sites, over 30 are located inland. Scattered sites show a wider variation in age, from the Paleolithic to the Modern Eras. Some Early Modern sites may have been part of the cargo of a vessel.

Excavated Site	Submerged	Midden	Scattered	Other
TOTAL	60	14	45	12
Intertidal	9	4	6	4
Lake/Pond	35	8	31	3
River	4	1	1	1
Sea	11	0	7	2
Other	0	1	0	2

Paleolithic	5	0	5	1
Jomon	34	12	27	2
Proto-History	32	4	26	3
Middle Age	12	4	8	5
Early Modern	5	0	2	7
Modern	0	0	0	2
Unknown	3	0	2	0

Table 2. The Number of Excavated Sites by Location and Age

Analysis by Region

The regional tendency of underwater archaeological sites and the status of research will be discussed below. For the purpose of this study, seas around Japan have been divided into nine regions; Northern Japan (Hokkaido and Aomori Prefectures, including Pacific Coast, Sea of Japan, and sea of Okhotsk), North Pacific (includes the coast of Iwate, Miyagi, Fukushima, Ibaraki, and Chiba Prefectures), North Sea of Japan (Akita, Yamagata, Niigata, Toyama, Ishikawa, Fukui Prefectures), Central Inland Region (Tochigi, Gunma, Saitama, Yamanashi, Nagano, Gifu, Shiga,

Nara Prefectures), Southwestern Pacific Coast (Tokyo, Kanagawa, Shizuoka, Aichi, Mie, Wakayama, Tokushima, Kochi Prefectures), Southwestern Sea of Japan Region (Kyoto, Hyogo, Tottori, Shimane, Yamaguchi Prefectures), Seto Inland Sea Region (Osaka, Hyogo, Okayama, Hiroshima, Yamaguchi, Kagawa, Ehime Prefectures), Kyushu Region (Fukuoka, Saga, Nagasaki, Kumamoto, Oita, Miyazaki Prefectures), Nansei Islands and Okinawa Region (Kagoshima and Okinawa Prefectures) (Figure 15; Table 3).



Figure 15. A Map of Japan with the Names of Prefectures

1. Hokkaido	2. Aomori	3. Iwate	4. Miyagi	5. Akita	6. Yamagata
7. Fukushima	8. Ibaraki	9. Tochigi	10. Gunma	11. Saitama	12. Chiba
13. Tokyo	14. Kanagawa	15. Niigata	16. Toyama	17. Ishikawa	18. Fukui
19. Yamanashi	20. Nagano	21. Gifu	22. Shizuoka	23. Aichi	24. Mie
25. Shiga	26. Kyoto	27. Osaka	28. Hyogo	29. Nara	30. Wakayama
31. Tottori	32. Shimane	33. Okayama	34. Hiroshima	35. Yamaguchi	36. Tokushima
37. Kagawa	38. Ehime	39. Kochi	40. Fukuoka	41. Saga	42. Nagasaki
43. Kumamoto	44. Oita	45. Miyazaki	46. Kagoshima	47. Okinawa	

Table 3. Names of Prefectures

Northern Japan

There are 32 sites in North Japan. Among them, 18 sites were excavated, four surveyed, and six collected. Although the sites are not numerous, it should be noted that close to half of them have been excavated (Table 4). One characteristic of this region is that, when a site is discovered, it is likely to be surveyed and excavated. A large-scale survey has not been conducted, and the potential of the region is yet to be recognized. Archeologists know of five shipwreck sites, but there are still several shipwreck sites waiting to be discovered.¹⁶³

The age distribution pattern of UCH in this region shows unique characteristics, reflecting the history of Hokkaido. Most of Hokkaido was inhabited by Ainu, an indigenous population of Northern Japan, Kyoto was the center of the Japanese government, but its influence did not reach the island. Thus, the Ainu population maintained their own cultural identity. The large-scale intrusion of the Japanese population rapidly accelerated during the early Meiji years, instigated by the need to define the national territory borders as the Western countries, namely Russia, began to

¹⁶³ KNM 2018.

approach the area.¹⁶⁴ The main components of UCH found in the region can be divided into two groups, submerged sites (including log-boats) from the Ainu period and more recent wrecks related to the colonization of Hokkaido. An isolated Paleolithic site found in deep-water off Aomori is an interesting find, but archeologists need more information about the site.¹⁶⁵ Overall, the results from Northern Japan are consonant with the history of the region.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
HOKKAIDO	24	13	4	3	4	9	4	1
AOMORI	8	5	0	3	1	3	1	1
	32	18	4	6	5	12	5	2

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
HO	5	6	14	1	5	5	5	6	2	4
AO	4	0	4	2	4	1	1	2	0	0
	9	6	18	3	9	6	6	8	2	4

Table 4. Overview of Sites in the Northern Japan Region¹⁶⁶

North Pacific

There are 29 total sites in the North Pacific region (Table 5). Only five sites have been excavated, while 13 sites were surveyed. Artifacts were collected from three sites, and the remaining eight sites are known, but not enough information currently is available. Compared to

¹⁶⁴ Tabata. ed. 2011.

¹⁶⁵ The Japanese Paleolithic Research Association 2010

¹⁶⁶ Table 5 through table 12 use the same abbreviation. Status: Ex (Excavated), Su (Surveyed), Co (Collected). Type: Shi (Shipwreck), Sub (Submerged Site), Sct (Scattered Site), Har (Harbor Site). Location: Sea (Sea), Int (Intertidal Zone), Inl (Inland Water). Time Period (Era): PL (Paleolithic), JO (Jomon), PH (Proto-Historic), MA (Middle Age), EM (Early Modern), MO (Modern), UK (Unknown). Note that not all types of sites are included in the table, and there are some sites with overlap in time Periods, thus the total number of sites and the sum of the sites from the table may not match.

the results from Northern Japan, the number of excavated sites appears to be small. The lack of information is partly due to the way in which the data are collected for this study. The majority of the information for this study relies on the ARIUA 2013 Report.¹⁶⁷ When the members of ARIUA's research team were collecting information, the 2011 Tohoku earthquake and tsunami hit Japan, and the field research on the Northern Pacific shore had to be canceled.¹⁶⁸ As a result, the report does not have much information about the area.

Many of the sites from the region fall into the category of a s a possible shipwreck, while only a small number of submerged sites are reported. The North Pacific region is dominated by a deeply inundated (saw-tooth) coastline; sandy beaches, lagoons, large gulfs, and harbors are rare. There are not enough flatlands for extensive farming that could support a large population. People probably lived close to the sea. The sea level also drops suddenly off the coast as well. These environmental features do not support the formation of well-preserved submerged sites. Combined with the physical feature of the region, the area has seen a series of tsunamis, including the most recent catastrophic Tsunami in March 2011. A submerged site may have been destroyed by these devastating waves or may be covered by earth due to landslides.

The Fukushima Prefecture has 11 sites, all from inland. These are all scattered sites or small, submerged sites along lakeshores. The result obviously is skewed. On the other hand, Chiba Prefecture records six shipwreck sites among the total of 10 sites. Chiba Prefecture, located near Tokyo, projects out towards the ocean and was known as a "difficult sea." But there are other locations along the North Pacific coast that are dangerous for shipping, and there should be more shipwrecks to discover.

¹⁶⁷ ARIUA 2013.

¹⁶⁸ ARIUA 2013.

In the North Pacific, the volume of trade increased during the Edo period. Some of the goods from the Kitamae trade of the Sea of Japan during the Edo period were brought to the capital at Edo. They went through the Tsugaru Strait, sailing towards south on the Pacific Coast.¹⁶⁹ The mechanism of trade of the Kitamae trade on the Pacific side is not well understood. The Okitsu Beach Site in Chiba is one site that produced artifacts from this trade.¹⁷⁰

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
IWATE	3	2	0	0	1	0	1	1
MIYAGI	2	1	1	0	0	1	1	0
FUKUSHIMA	11	1	8	0	0	4	7	0
IBARAKI	3	0	0	0	3	0	0	0
CHIBA	10	1	4	3	6	1	1	0
	29	5	13	3	10	6	10	1

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
IW	1	0	2	0	0	0	2	0	1	0
MI	0	0	2	0	1	0	1	1	0	0
FU	0	0	11	0	6	4	1	1	2	2
IB	3	0	0	0	0	0	0	1	1	1
CH	6	3	1	0	4	1	1	4	5	0
	10	3	16	0	11	5	5	7	9	3

Table 5. Overview of Sites in the North Pacific Region

North Sea of Japan

In the North Sea of Japan, 25 sites are known, a relatively low number, considering the long coastline of the region. From the region, seven sites have been excavated, nine sites surveyed, and

¹⁶⁹ Ishikawa Prefecture History Museum 2017.

¹⁷⁰ Okitsu Beach Site Research Club 2010.

artifacts were collected from seven sites (Table 6). There are eight possible shipwrecks, 10 submerged sites, and five scattered sites. Only three sites are recorded from inland, while 19 sites are from the intertidal zone and sea. The result gives the impression that underwater sites found inland have not been explored, and much more focus has been placed on the maritime tradition of the area. There appears to be no peak in the age distribution of UCH.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
AKITA	0	0	0	0	0	0	0	0
YAMAGATA	2	1	0	1	1	1	0	0
NIIGATA	7	2	2	2	2	2	3	0
TOYAMA	5	1	4	0	0	4	1	0
ISHIKAWA	7	2	2	2	4	2	1	0
FUKUI	4	1	1	2	1	1	0	1
	25	7	9	7	8	10	5	1

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
AK	0	0	0	0	0	0	0	0	0	0
YA	1	0	1	0	1	1	1	1	0	0
NI	5	0	2	0	0	4	3	2	0	1
TO	3	2	0	0	2	1	1	1	0	0
IS	2	2	0	0	1	0	2	1	1	0
FU	2	2	0	0	1	0	2	1	1	0
	0	0	0	0	5	6	9	6	2	1

Table 6. Overview of Sites in North Sea of Japan Region

For this survey, no underwater site was found from Akita Prefecture. From Niigata Prefecture, over a dozen possible sites are known. In Niigata, reports of fishermen raising artifacts have been heard for years, and a small but enthusiastic group of scholars formed a research team

to conduct interviews to record known locations. The group published a report in 2014, detailing over 40 known locations.¹⁷¹ This report also recorded known maritime artifacts, such as anchors, found along the coast as well. Some of these possible “sites” may be shipwrecks. One characteristic of the Sea of Japan is that the seafloor drops suddenly off the Japanese coast, reaching close to 1,000 meters just several miles out. It is difficult to conduct visual surveys in the deep sea; municipal officials in the Sea of Japan should become keen on the use of survey technologies to examine these sites.

Central Inland Region

Prefectures in the central inland region of Japan have no access to the sea. Despite this geographical feature, 140 underwater sites have been identified. The number of sites is as great as that of Okinawa Prefecture. In this region, there are 53 sites excavated and 80 sites surveyed (Table 7). No shipwreck site has been found, except for the occasional longboats. There are 49 submerged and 78 scattered sites. The Jomon sites are the most numerous. There are some Middle Age and Early Modern submerged sites; some of them are submerged villages, part of a castle, a bridge, or harbor.

Among 140 sites, 116 sites are located in Shiga Prefecture at Lake Biwa. Also, there are 18 sites in Nagano Prefecture. Saitama and Nara Prefectures reported no underwater sites. It is important to note that Nagano Prefecture has a large number of sites. Most of these sites are from the Paleolithic Era and the Jomon Era, investigated more than 30 years ago. The Sone Site in Lake Suwa, the first underwater site investigated in Japan in the early 20th century, is located in Nagano Prefecture. As seen from the example of the Awazu-midden Site discussed in Chapter II,

¹⁷¹ Niigata Underwater Ceramic Research Group 2014.

submerged sites provide important clues to the nation's history. It appears that the success of Nagano and Shiga Prefecture has not been passed along to the surrounding Prefectures.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
TOCHIGI	1	0	1	0	0	0	0	0
GUNMA	2	1	0	1	0	1	0	0
SAITAMA	0	0	0	0	0	0	0	0
YAMANASHI	2	0	2	0	0	2	0	0
NAGANO	18	4	14	0	0	4	14	0
GIFU	1	1	0	0	0	1	0	0
SHIGA	116	47	63	2	0	41	64	3
NARA	0	0	0	0	0	0	0	0
	140	53	80	3	0	49	78	3

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
TO	0	0	1	0	0	0	0	0	1	0
GU	0	0	2	0	1	1	0	0	0	1
SA	0	0	0	0	0	0	0	0	0	0
YA	0	0	2	0	1	2	1	0	0	0
NA	0	0	18	4	15	1	1	0	0	0
GI	0	0	1	0	0	1	0	0	0	0
SH	0	0	116	2	108	71	26	17	0	13
NA	0	0	0	0	0	0	0	0	0	0
	0	0	140	6	125	76	28	17	1	14

Table 7. The Overview of Sites in Central Inland Region

Southwestern Pacific Coast

There are a total of 66 underwater sites in this region; 11 sites have been excavated, 26 sites surveyed, and artifacts collected from 14 sites (Table 8). The area recorded 17 shipwreck sites, 18 submerged sites, 20 scattered sites, and four historic sites. Close to 50 sites are located at sea and

in the intertidal zone, and rest are from inland. There are two peaks in the age distribution pattern. The Jomon and prehistoric sites, mainly of submerged settlements and inland sites, make up one peak. Another peak consists mainly of shipwrecks and scattered sites from the Early Modern and Modern Eras. Sites from the first peak are being excavated. The sites from the second peak are not excavated but only surveyed. There are 14 modern wrecks, including Western vessels.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
TOKYO	6	1	2	2	3	1	1	0
KANAGAWA	11	1	7	0	5	0	2	2
SHIZUOKA	24	9	8	3	5	10	8	0
AICHI	8	0	6	1	0	3	3	1
MIE	4	0	0	4	0	0	3	0
WAKAYAMA	5	1	0	3	2	0	0	1
TOKUSHIMA	4	0	1	0	1	2	1	0
KOCHI	4	0	2	1	1	2	2	0
	66	12	26	14	17	18	20	4

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
TO	5	0	1	1	1	0	0	4	1	0
KA	5	5	1	0	0	1	3	4	6	0
SH	7	5	11	0	9	9	4	4	4	2
AI	7	0	1	0	3	3	2	2	1	0
MI	1	3	0	3	0	0	0	0	0	1
WA	3	0	2	0	0	2	0	1	2	1
TO	4	0	0	1	0	0	1	2	0	0
KO	4	0	0	0	0	2	1	2	0	0
	36	13	16	5	13	17	11	19	14	4

Table 8. Overview of Sites in Southwestern Pacific Coast Region

Shizuoka Prefecture has nine excavated sites and eight surveyed sites. Kanagawa Prefecture has seven sites, with only one site excavated. This one site is a harbor from the Kamakura period at Wakae-jima, which is a national registered historic site. In the region, some submerged villages appear in historical documents. These villages were said to have been destroyed by tsunamis that earthquakes caused. The largest number of possible submerged villages is in Kochi Prefecture. The Japan Agency for Marine Earth Science and Technology, Kochi Institute for Core Sample Research, has conducted an in-depth study of the past earthquakes from marine core samples, and also conducted diving research on some possible submerged sites.¹⁷² Only a few underwater sites have been excavated from other Prefectures in the region. However, several sites in the region were not included in this list because their existence is only rumored. As a result, they have not received a proper survey and investigation.

Southwestern Sea of Japan

There are a total of 22 sites in the region, three excavated sites, and nine surveyed sites (Table 9). The total number of sites is the lowest among the regions, with only a few sites reported from each Prefecture. Three sites have been excavated, and nine sites surveyed. In the region, three shipwreck sites, four submerged sites, and nine scattered sites are known; 11 sites are known from the sea, eight sites from the intertidal zone, and three sites from inland. Sites from the Jomon Era appear to be the most numerous, but this totals only eight sites. The data do not reflect the true nature of site distribution by age.

As with the Northern Sea of Japan Region, the sea level drops off the coast precipitously. Traditionally, major ports were found inside lagoons during the Protohistoric and the Middle Age

¹⁷² Tanikawa et al 2016.

Eras, but gradually the ports were relocated to an area with a deeper gulf. Perhaps shipwrecks may be found in ancient lagoon areas, now on land deeply buried by sand. Historical records document foreign shipwrecks, but there is no direct evidence of their existence. There has been no evacuation in Yamaguchi Prefecture, an important chokepoint for trade connecting the Sea of Japan, the Pacific Ocean, Seto Inland Sea, and the Kyushu region. It is clear that more research is needed in the area to illustrate the region's rich maritime tradition.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
KYOTO	2	1	0	1	1	1	0	0
HYOGO	1	0	1	0	0	0	0	1
TOTTOORI	3	1	0	2	0	1	2	0
SHIMANE	15	1	8	3	2	2	7	3
YAMAGUCHI	1	0	0	1	0	0	0	0
	22	3	9	7	3	4	9	4

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
KY	1	1	0	0	0	2	0	0	0	0
HY	1	0	0	0	0	0	0	1	0	0
TO	0	2	1	0	3	1	0	0	0	0
SH	8	5	2	4	5	2	1	3	1	0
YA	1	0	0	1	0	0	0	0	0	0
	11	8	3	5	8	5	1	4	1	0

Table 9. Overview of Sites in Southwestern Sea of Japan Region

Seto Inland Sea Region

The Seto Inland Sea was and still is an important waterway in Japan. Relatively shallow and calm waters make transport easy, but sailors must watch for shoals and small islands. A total of 62 underwater sites is reported from the region. Excavations have taken place at 19 sites, and surveys

took place at 17 sites (Table 10). Artifacts were collected from more than a dozen sites, and there are many reports of artifacts being raised from the sea by fishermen. Even today, isolated items raised from the sea are being traded at an on-line auction. There are 22 shipwreck sites, which is the largest among the regions. In addition, 18 submerged sites, and 10 scattered sites have been reported. There also are several harbors and historic sites found in the region. Most of the sites are related to maritime trade, such as shipwrecks, disposed of cargo, and harbors. Only seven sites are from inland, and the rest of the sites are from the sea. Despite the small sample numbers, the results are representative of the characteristics of the region.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
OSAKA	3	2	0	1	1	2	0	0
HYOGO	6	1	2	3	4	0	0	2
OKAYAMA	12	1	5	4	3	4	4	1
HIROSHIMA	8	2	2	1	1	1	2	2
YAMAGUCHI	7	3	2	2	2	2	2	0
KAGAWA	9	3	3	3	7	1	1	0
EHIME	17	7	3	4	4	8	1	2
	62	19	17	18	22	18	10	7

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
OS	1	1	1	2	1	2	3	2	0	0
HY	4	1	1	0	0	3	4	2	0	0
OK	7	3	2	2	3	5	5	1	0	1
HI	3	4	1	3	0	0	1	3	0	1
YA	4	2	1	2	3	2	0	2	0	1
KA	7	1	1	0	0	3	3	2	1	0
EH	12	5	0	1	7	6	5	6	1	1
	0	0	0	10	14	21	21	18	2	4

Table 10. Overview of Sites in Seto Inland Sea Region

The Protohistoric Era and the Middle Age Era have the highest concentration of sites. The sites from the Jomon Era are, in fact, low in number compared to other regions. The age distribution of sites looks similar to that of the Southwestern Pacific Coast, except that there are more modern and Western shipwrecks in the Pacific Coast. The Seto Inland Sea did not see an influx of foreign trade, and predominantly remained a sea controlled by the Japanese. Osaka Prefecture has the lowest number of sites, despite being the center of commerce for centuries. The modern city of Osaka grew by reclaiming the sea, most likely destroying UCH in the process. A similar case may be seen in Tokyo Bay. More research is needed in the region, perhaps identifying sites to be investigated from the list of possible site locations made through interviewing fishing communities.

Kyushu Region

The Kyushu region has acted as the gateway to Japan. Traders, as well as invaders, came to Kyushu, and it can be assumed that many foreign vessels can be found along the Kyushu coast. There are 78 known sites in the region, with 27 sites excavated and 38 sites surveyed (Table 11). The number of sites being investigated is high. Counting the Takashima Underwater Site as one shipwreck site, archeologists know of 14 shipwreck locations in the region. There are 15 submerged sites, 45 scattered sites, and four harbor and historic sites. Only two inland sites are known; the rest of the sites are located along the coast and the seas.

Although the majority of the sites are from the sea, the highest concentration is from the Jomon Era. The next highest concentration is the Protohistoric Era, with 22 sites. The Early Modern Era comes close with 19 sites. Many submerged sites and scattered sites from the Jomon Era are found in Nagasaki Prefecture. Although this area has not seen major earthquakes, there has

been a gradual submergence of the land, known as hydro-isostasy.¹⁷³ As seen in Chapter II, an Early Jomon site was found at Takashima Underwater Site. Kyushu has been the center of underwater archaeology, and many cultural property officers are aware of the importance of UCH. However, it appears that they do not have much knowledge of how sites should be investigated and properly protected. Stone anchors and scatters of ceramics have been found across Kyushu, except in Miyazaki Prefecture.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
FUKUOKA	9	1	4	2	6	0	3	0
SAGA	6	2	4	0	2	1	2	1
NAGASAKI	51	19	27	1	6	9	33	3
KUMAMOTO	10	5	3	1	0	3	7	0
OITA	2	0	0	0	0	2	0	0
MIYAZAKI	0	0	0	0	0	0	0	0
	78	27	38	4	14	15	45	4

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
FU	8	1	0	0		2	4	4	1	1
SA	4	2	0	0	3	0	1	4	1	0
NA	33	17	1	5	34	16	5	10	1	0
KU	4	5	1	0	9	4	1	1	1	0
OI	2	0	0	0	0	0	2	0	0	0
MI	0	0	0	0	0	0	0	0	0	0
	0	0	0	5	46	22	13	19	4	1

Table 11. Overview of Sites in Kyushu Region

¹⁷³ Nakada et al. 1994.

Nansei Islands and Okinawa Region

The Nansei Islands and Okinawa Region is a unique area of Japan. Okinawa, or Islands of Ryukyus, has maintained independence for centuries by relying on the delicate balance of powers between China and Japan, before being finally incorporated into the Japanese system of government.¹⁷⁴ The result of this study shows there are 142 sites in the region (Table 12). Surveys were conducted on 128 sites, but only eight sites have been properly excavated. There are 11 shipwrecks, 3 submerged sites, 29 scattered sites, and 30 harbor and historic sites. There is a record of 117 sites in the intertidal zone, and most of these sites are fish traps, salt production, and quarry sites. In other regions, these types of sites usually were not counted or recognized as UCH, and the disparity in the number of such sites only reflects this fact.

Prefecture	Number of Sites	Status			Type			
		Ex	Su	Co	Shi	Sub	Sct	Har
KAGOSHIMA	10	1	7	1	2	0	7	0
OKINAWA	132	6	121	4	9	3	22	30
	142	7	128	5	11	3	29	30

Pre	Location			Time Period						
	Sea	Int	Inl	PL	JO	PH	MA	EM	MO	UK
KA	10	0	0	0	0	0	5	7	1	0
OK	14	117	1	0	1	7	28	109	5	6
	0	0	0	0	1	7	33	116	6	6

Table 12. Overview of Sites in Nansei Islands and Okinawa Region

¹⁷⁴ Kamiya 2003.

One point to note in Okinawa is that a large number of sites are identified and visually surveyed. The locations are recorded, but not all sites are incorporated into the local site map for protection. Shipwreck sites, with a large number of ceramic remains, usually are recorded. Many of the sites are simple scatters of artifacts, widely disbursed. Some may have been ancient ports that have been eroded. A vessel may have wrecked nearby, but no hull has been found. In Okinawa, it is easy to detect such a site, just by snorkeling. Local communities are also aware of such locations, and dive shops utilize these sites as diving points. In addition, due to the maritime nature of Okinawa's history, archeologists have sought to record these sites. In other regions of Japan, such as at the Seto Inland Sea, where water visibility is low, it would be difficult to detect a scattered site. Still, the case of Okinawa should be promoted as an ideal way to manage underwater archaeological sites elsewhere in Japan.

Summary

In this chapter, the overall characteristics of UCH sites in Japan were illustrated. For this study, a site database was created using various sources of information. Sites from all over Japan were analyzed for age, type, and site locations. In addition, the status of the sites was recorded. The data were first analyzed, looking at the country as a whole, and then region-by-region. The regional differences in types of sites and age are not due to the differences in how people from the past interacted with the sea in each region, but the differences are due to the nature of how the data were collected and the level of interest in UCH by local municipal officers. Despite this, a preliminary summary of the nature of UCH site management can be seen. The majority of UCH sites are inland Jomon settlement sites. In some regions where municipal officers are active in UCH management, maritime sites are recorded, but the further investigations, while needed, are rare.

CHAPTER IV

SURVEY OF RECORDS OF MARITIME DISASTER

Introduction

The study of underwater cultural heritage and maritime archaeological sites can contribute greatly to the understanding of Japan's past maritime culture, mainly through the study of shipwreck remains and harbor sites. However, as mentioned above, the study of shipwrecks and underwater sites has not been a focus of the Japanese archaeological community until recently. Underwater archaeology in Japan has focused mainly on submerged prehistoric sites. Moreover, the number of shipwreck sites discovered so far is small, considering the length of the Japanese coastline, which ranks sixth in the world. It is, therefore, necessary to focus on finding more shipwreck sites.

The next logical step for Japan is the study of historical records, which can give us an idea of how much maritime traffic there was, and an analysis of the record of maritime accidents to determine patterns and areas where mishaps were more frequent. These areas should then be surveyed to increase the chances of locating new shipwreck sites.

This chapter includes a study of the records of maritime accidents across Japan. In addition, two Prefectures, Yamaguchi and Fukuoka, have been selected for further analysis as case studies to illustrate the potential of investigating accident records on a smaller, regional scale. The primary data for the analysis used in this chapter are derived from the study conducted by KNM and JACA in 2017 and 2018.¹⁷⁵

¹⁷⁵ KNM 2018.

Study of Maritime Accidents across Japan

Historical accounts of shipwrecks are an important source of information for searching for a shipwreck site and for assessing the potential of UCH in a certain area. Record of wreck events and maritime disasters also can be used to determine the region's maritime connection with the sea. A list of maritime disasters has been compiled and studied in the past, but there is no comprehensive record for all of Japan. Temples, shrines, regional centers, and traditional noble families may have such archives. However, it is a lifetime's work to go through all the available records and the records yet to be discovered, stored deeply within archive materials.

To acquire an overall image of the records that exist in the nation, JACA, together with KNM, conducted a survey of maritime records throughout Japan. JACA requested all Prefectures to collect records of maritime disasters; the Prefecture then asked cities and towns to find such entries in their own municipal records. Usually, Prefectures, cities, and towns have compiled local archive materials and published them as documents of their local history.

JACA distributed a data sheet to be filled out by the Prefecture, and the Prefectural office asked the local cultural officers to gather the data. The form asked the officers to list maritime accidents by 1) year of the event, 2) location where the disaster took place, 3) a brief explanation (the type of disaster), 4) the original source of the evidence, and 5) additional information. The data were collected, analyzed by the staff at KNM, and published in 2018.¹⁷⁶ This record can be used as a basis for further research and assessment of UCH around Japan. Using the report, the author has analyzed the number of records, age of maritime accidents, source of evidence, and port of origin. The researcher also studied the nature of maritime disasters involving foreign vessels.

¹⁷⁶ KNM 2018.

Number of Records

There were 5,598 entries of maritime disasters. The average number per Prefecture was 119. Niigata Prefecture had the highest number of records (637), and Shizuoka, with 443, showed the second greatest number of records. The total of these two Prefectures accounted for 19% of all records. There were 3,231 disasters from the top 10 Prefectures, which is about half the number of all records in Japan (Table 13). The number of records varies from Prefecture to Prefecture. This indicates that some areas are known for a high number of maritime disasters, reflecting the higher volume of maritime commerce. However, it also suggests how well the records survived or were kept in some areas. Possible explanations of the outcome are provided below.

Niigata Prefecture lies along the major trade route of the Kitamae trade, or the Sea of Japan traditional ship route, and flourished in the Edo period. The northern wind during the winter months may have caused many merchant vessels to wreck. A large number of vessels traveled through the Ishikawa and Akita Prefectures, but only the Niigata Prefecture shows a large number of recorded accidents. This probably means that more records were kept (or survived) in the Niigata Prefecture. In Chapter III, Niigata Prefecture was noted for the study of ceramics found at sea, led by the Niigata Underwater Ceramic Research Group.¹⁷⁷

The Shizuoka Prefecture, with the second-highest number of records, sits at the center of the trade route between Edo and Osaka, the two largest ports in the nation during the Edo period. It is not surprising to see a large number of wrecked vessels in the area, especially after the 1600s. The number of records in the Kanagawa and Aichi Prefectures is surprisingly low. The Nagasaki Prefecture was the port of call for the Chinese and Dutch ships. It has the third-largest number of records. It is easy to imagine that the number of recorded wrecks will be high in Nagasaki because

¹⁷⁷ Niigata Underwater Ceramic Research Group 2014.

of the higher volume of trade. Also, the Edo government kept detailed records of sailing activity near Nagasaki, in order to get an accurate picture of trading activities with foreigners.

	Prefecture	Number of Records	Percentage of the Total Record
1	Niigata	637	11.4%
2	Shizuoka	443	7.9%
3	Nagasaki	359	6.4%
4	Aichi	322	5.8%
5	Kagoshima	276	4.9%
6	Fukuoka	272	4.9%
7	Aomori	240	4.3%
8	Yamaguchi	235	4.2%
9	Fukui	225	4.0%
10	Mie	222	4.0%
Top 10 Prefectures /All Prefectures		3231/5598	57.7%

Table 13. The Number of Recorded Maritime Accidents in the Top 10 Prefectures

The number of recorded marine accidents is low in Okayama, Tokushima, and Fukushima Prefectures. However, the actual number of accidents may not be as low as the historical documents make us believe. In other words, the numbers are heavily skewed. Okayama, located along the main sea trade route in the Seto Island Sea, must have had numerous accidents. It appears that wrecking events were simply not archived, or some of the records are there but

logged incorrectly in the municipal historical records. The Osaka Bay must have had many accidents, but, again, very few records survived. The records in Edo Bay also were few.

In the Fukuoka Prefecture, where the flourishing international port city of Hakata is located, the majority of the surviving records were from outside the Hakata Bay. Perhaps accidents that took place in busy port cities were not recorded because they were so common that officials did not feel a need to document them. Officials usually recorded only unusual events, such as a vessel lost at open sea, accidents of an official vessel, or a foreign ship entering a harbor.

Records by Date

During the Edo period, increasingly high numbers of marine disasters were recorded. This can be attributed to the fact that these records simply survived better. The majority of the records are from the 18th to 19th centuries. There is no doubt that the increase in the number of records can be attributed to the increase in the volume and the importance of commerce. It is equally important to note that returning shipwreck survivors to their hometowns became mandatory in the Edo period.¹⁷⁸ The number of records peaks in the 18th century and the number of records slightly decreases during the Meiji period. This is due to the activities of Chinese merchants, who were most active in international trade at the time, although Chinese mercantile activities declined in the late 18th century.

For earlier time periods, the number of maritime disasters recorded is directly related to the activities of foreign trading activities. It appears that many of the local accidents were not documented; records were kept only of the important events, such as when accidents involved officials or foreigners. The earliest records are official government documents left by the Imperial

¹⁷⁸ Kanasashi 1968.

and noble families. There were about 100 recorded marine casualties prior to the 17th century across Japan, while the Kyushu Island alone counted 45 recorded incidents.

The importance of the Kyushu area for foreign trade in the early periods can be seen from the numbers. Kagoshima Prefecture had the highest number of wrecks along the southern islands of Japan. The wrecks involved official trading vessels sailing between China and Japan. The Japanese Yamato rulers sent Tributary missions to Imperial China, and the ships often used the southern route, going through Kagoshima to reach China. Later, many of the mission trips took the northern route, passing through the Goto Islands of Nagasaki.¹⁷⁹ With seven entries, the Nagasaki Prefecture has the second largest number of wrecks in the early periods; many of the accidents took place near the Goto Islands, the westernmost islands of Japan. It is interesting to note that the Kurakizaki Underwater Site is located at Amami Island in Kagoshima and that ARIUA has conducted surveys and limited excavations at Ojika Island (Goto Islands).¹⁸⁰ The archaeological evidence and historical records appear to match well in the reconstruction of the ancient foreign trade routes.

Source of Evidence

As mentioned above, the data of this particular study were compiled by municipal cultural officers throughout Japan. The data were mainly gathered using archival records available at the municipal archive, compiled and archived by the municipal officials in the past. The data from some of the Prefectures indicate the original, or primary, source, while other records only reference the name and number of the city archive. Not all records were compiled in the same manner, and, therefore, this study of sources can provide only a general tendency of the gathered

¹⁷⁹ Ueda 2006.

¹⁸⁰ See Chapter II for details.

data. There were 980 primary sources for this particular research.

The Prefectures with larger numbers of primary sources are not always those with the larger number of recorded events. With 93 sources, the Shizuoka Prefecture ranked first in the number of primary sources used. At Shizuoka, people kept good records of marine accidents, and the actual number of incidents was probably high. On the other hand, although the record of Kanagawa Prefecture shows a higher number of sources, the recorded number of incidents was not high. In the Shizuoka Prefecture, some primary sources listed several maritime incidents, while, in the Kanagawa Prefecture, each primary source had only a few records on maritime accidents. In contrast. The Niigata Prefecture, with the highest number of recorded marine accidents, had a low number of sources.

It appears that maritime records had been compiled in the past as one archive document. The nature of the maritime activities from a region may be revealed by a detailed study of original documents, considering not only when they were written, but why they were written, the number of records in each source, and how they were compiled. Such analysis requires a deep knowledge of local archives and is beyond the scope of this study.

There is a lot of space for improvement in this study. This survey only touches upon the surface of the historical records. The present inventory only contains the name of the primary source and a brief description of the accident(s). Sometimes the nature of the accident is not stated, but the study of a primary source may yield details about the event, such as who was operating the vessel or even the detailed location of where it sank.

It should be noted that not all the records in this study refer to shipwrecks. Some may be a simple record of a drift event, a ship-to-ship collision, or a foreign vessel that came into contact with a local ship. A more detailed study, by professional historians, is needed to acquire a better

picture of these marine disasters and events. Nevertheless, this study is a good starting point for identifying possible shipwrecks in particular areas.

Port of Origin and Types of Ships

When comparing the ports of origin, it is necessary to consider them within an historical perspective. Certain cities and towns may now belong to the same Prefecture, but, historically, may have belonged to two separate regions. A detailed study of the records may reveal a certain region's history, but this kind of study should be conducted with a vast knowledge of the specific area. The present dissertation is intended as a seminal work upon which to base further studies.

The main question being asked here is whether a vessel was traveling locally, or if it was engaged in some form of inter-regional trade. A simple chart was created for comparison. The chart lists the number of accidents of vessels that originated within the region, vessels not from the region, vessels of foreign origin, unknown ships, and the total number of accidents. The last column gives a calculation of a percentage of accidents involving the vessels from within the region (Number of local vessels plus unknown, divided by the total number of wrecks) (Table 14). In general, the lower the percentage, the greater the amount of foreign and non-local traffic in the records.

Overall, the data had a wide distribution pattern across the Prefectures. The Gifu and Shiga Prefectures represent one of the highest concentrations of local vessels, but this is probably because the Prefectures are located inland. The third in place for the highest concentration of local vessels was the Toyama Prefecture. This came as a surprise when the data were analyzed. Toyama is located along the Kitamae trade route, and it was expected to have a higher number of marine disasters with vessels engaging in inter-regional trade. For example, the Okitsu Beach Site in Chiba

produced Hizen porcelain (Imari) from Nagasaki and Saga, traveling all across the Sea of Japan and sailing down the Pacific Coast.¹⁸¹ Some of the vessels involved in such trade must have had some troubles in Toyama Prefectures.

Prefecture	Local	None-Local	Foreign	Unknown	Total	Local Traffic
Gifu	1	0	0	6	7	100%
Shiga	8	1	0	9	18	94%
Toyama	32	5	1	5	43	86%
Iwate	73	18	4	58	153	86%
Fukui	108	30	7	80	225	84%
Hiroshima	19	8	0	11	38	79%
Miyagi	23	6	1	2	32	78%
Niigata	293	169	6	169	637	73%
Ehime	67	33	4	13	117	68%
Hokkaido	57	36	22	63	178	67%
Ishikawa	56	35	3	17	111	66%
Okayama	3	4	1	5	13	62%
Kanagawa	46	32	11	10	99	57%
Aomori	91	98	8	43	240	56%

Table 14. The List of Port of Origins by Prefectures

¹⁸¹ Okitsu Beach Site Research Club 2010.

Prefecture	Local	None-Local	Foreign	Unknown	Total	Local Traffic
Yamagata	37	49	4	28	118	55%
Ibaraki	80	82	5	16	183	52%
Okinawa	98	27	66	4	195	52%
Wakayama	56	70	7	25	158	51%
Osaka	1	3	0	2	6	50%
Kyoto	83	105	7	24	219	49%
Chiba	12	12	9	7	40	48%
Oita	10	11	5	4	30	47%
Aichi	85	171	1	65	322	47%
Shizuoka	167	219	24	33	443	45%
Kagoshima	103	74	82	17	276	43%
Fukuoka	50	70	91	61	272	41%
Hyogo	17	30	6	7	60	40%
Kagawa	33	53	0	2	88	40%
Akita	7	23	3	7	40	35%
Shimane	30	50	20	6	106	34%
Fukushima	1	2	0	0	3	33%
Yamaguchi	62	103	56	14	235	32%
Miyazaki	32	62	31	12	137	32%

Table 14 Continued

Prefecture	Local	None-Local	Foreign	Unknown	Total	Local Traffic
Mie	44	148	6	24	222	31%
Saga	2	6	2	1	11	27%
Tottori	2	16	9	6	33	24%
Kyoto	3	13	6	3	25	24%
Kumamoto	7	7	36	6	56	23%
Tokushima	1	4	4	1	10	20%
Nagasaki	17	52	260	30	359	13%
Kochi	2	16	19	3	40	13%
Tochigi	0	0	0	0	0	0
Gunma	0	0	0	0	0	0
Saitama	0	0	0	0	0	0
Yamanashi	0	0	0	0	0	0
Nagano	0	0	0	0	0	0
Nara	0	0	0	0	0	0
TOTAL	1919	1953	827	899	5598	

Table 14 Continued

Overall, the data had a wide distribution pattern across the Prefectures. The Gifu and Shiga Prefectures represent one of the highest concentrations of local vessels, but this is probably because the Prefectures are located inland. The third in place for the highest concentration of local vessels

was the Toyama Prefecture. This came as a surprise when the data were analyzed. Toyama is located along the Kitamae trade route, and it was expected to have a higher number of marine disasters with vessels engaging in inter-regional trade. For example, the Okitsu Beach Site in Chiba produced Hizen porcelain (Imari) from Nagasaki and Saga, traveling all across the Sea of Japan and sailing down the Pacific Coast.¹⁸² Some of the vessels involved in such trade must have had some troubles in Toyama Prefectures.

When looking at the geomorphology of the Toyama Bay, the reason for the lack of inter-regional trade makes sense. The west of Toyama Bay is in the Ishikawa Prefecture, and the peninsula protrudes out to the sea. The Toyama Bay is a large bay, protected by the peninsula. A vessel might wait for a good wind at the tip of the peninsula and then sail across the entrance of Toyama Bay. Even if the merchant decided to sail inside the bay, the waters in that area most likely were calm.

Some regions appear to have neglected keeping records of their local traffic, while some Prefectures kept good records of activities by local vessels. The Iwate and Fukui Prefectures are good examples of the latter. Both also had a high concentration of shipwrecks from within the Prefecture. It appears that the Prefectures kept a fairly comprehensive record of local incidents, showing a large number of disasters involving fishing vessels. The Iwate and Fukui Prefectures may have had a high volume of inter-regional trade, but, because of the high volume of recorded local accidents, the data appear to be skewed. On the other hand, the Mie Prefecture shows the opposite case. The overall majority of the recorded accidents involved vessels from other regions. It is easy to understand why a majority of the records from the Nagasaki Prefecture refers to foreign vessels because it was the only official port open to foreigners during the Edo period. When

¹⁸² Okitsu Beach Site Research Club 2010.

comparing the domestic vessels, the local traffic accounted for over 70% of the total vessels recorded.

The records from the Okinawa Prefecture show almost no accidents of local vessels; the majority of them are accounts of foreign or official vessels. Some Prefectures, as discussed above, have recorded a large number of accidents of local fishing vessels. Fishing in Okinawa was considered a private economic activity, and fishing cooperatives were loosely organized. On the other hand, fishing was a major industry in Iwate, and the fishing cooperatives acted as an influential group within a community, selling their product at the capital, Edo. The number and types of documents consulted also affected the information on what kind of ships appear in this particular study.¹⁸³ How people used the sea, social organization, and various other factors affected the records.

From the current data, it is difficult to create an accurate picture of the types of ships that sailed along the Japanese coast throughout history. In the form used by JACA to survey Prefecture officials, the type of ship was not included in the information to be reported. Despite this, many of the municipal officers added notes on this topic as an additional field. Thus, the data collected are not complete, and any comparison between the Prefectures must be made with caution. Such a study may be conducted in the future.

Foreign Vessels

The total number of marine disasters involving foreign vessels counted for this study was 826 (Table 15). Most of the records are accounts of ships coming close to shore or running aground, and accounts of a total loss of a hull, or wrecking events, appear to be rare. The original

¹⁸³ Yamaguchi 1957.

data also included cases where foreign vessels were sighted but had no direct involvement with the people. When counting only the accidents that caused some damage to the hull, or had some direct engagement with the local people, the total number of such cases drops down to 270. Contact with Western countries was extremely rare. Looking at the age distribution pattern, the 18th century had the highest number of recorded maritime incidents with foreign ships.

There were 826 marine disasters involving foreign vessels. Most of the records are accounts of ships running aground. Accounts of the total loss of a hull, or of a shipwreck, appear to be rare. It can be assumed that marine accidents by foreign ships were unusual events (but not totally uncommon). A fair number of accounts were kept, representing a reliable representation of the international relationships and the nature of trade at the time. The large majority of the entries are found in the Kyushu area, Nagasaki, Fukuoka, and Kagoshima. Most of the reported incidents involved vessels from China or Korea. The coast along the Sea of Japan had a higher concentration of ships from Korea, while Kyushu and the Pacific Ocean had ships from a wider variety of homeports. The Seto Inland Sea was primarily a domestic sea.

The merchants from China were the largest group of sailors coming to Japan. Typically, a vessel had around two dozen people on board, and appears that not everyone on board spoke Chinese. There may have been some cases where Chinese ships were owned and operated by Western merchants, but these vessels were recorded as ships from China. Because the Japanese were allowed to trade only with China, Korea, and the Netherlands, and were prohibited from contact with other countries, the local officials were more likely to report a marine accident as coming from one of these countries, even though they knew the vessel came from elsewhere. There is a monument in Okinawa with the name of “Dutch Cemetery (*Oranda-Haka*),” where it is said that shipwreck sailors from the Netherlands were buried. However, it is known from historical

records that the bodies came from an English vessel.¹⁸⁴ A detailed study of each account may reveal a slightly different picture than one produced by this particular study.

	KO	CH	BO	RU	US	BR	DU	SP	SE	UK	TOTAL
Pre 1600	7	9	10	0	0	0	1	6	0	6	39
1600-1700	23	74	0	0	0	0	6	2	5	11	121
1700-1800	112	179	0	2	0	1	8	1	0	20	323
1800-1868	95	87	0	6	13	15	8	0	2	32	258
After 1868	14	2	0	9	9	20	0	0	2	17	73
Unknown	1	5	0	0	1	1	1	0	0	3	12
TOTAL	252	356	10	17	23	37	24	9	9	89	826

Table 15. Records of Maritime Accidents Involving Foreign Vessels¹⁸⁵

Case Studies: Yamaguchi and Fukuoka Prefectures

This study provides a unique examination of the overall nature of maritime incidents in Japan, but it is necessary to look closer at the regional level. For the purpose of illustrating the potential in analyzing the available data locally, two Prefectures were selected as case studies. The researcher selected the Yamaguchi Prefecture, located on the western tip of the Honshu Island, and the Fukuoka Prefecture in northern Kyushu, just across from the Yamaguchi Prefecture.

¹⁸⁴ Katagiri et al. 2014.

¹⁸⁵ KO - Korea, CH - China, BO - Northeast Asia (Bohai), RU - Russia, US - United States, BR - Britain, DU - Netherlands, SP - Spain/Portugal, SE – Southeast Asia, UK – Unknown.

Among all the collected records of maritime disasters, the Yamaguchi Prefecture had 235 records, and the Fukuoka Prefecture had 272 records, which add up to 4 % and 5%, respectively, of the total. In both Yamaguchi and Fukuoka, the records of local, foreign, and inter-regional vessels are represented. Thus, the records of these two Prefectures appear not to be skewed, representing good examples to analyze the development and nature of Japan's maritime tradition. Rather than selecting two Prefectures from two different regions, these two Prefectures were selected from the same region, in the Sea of Japan coast, just across from Korea. To understand the whole of Japan, it is necessary to conduct a similar study of all Prefectures, which is beyond the scope of this research.

The Yamaguchi Prefecture

The Yamaguchi Prefecture is surrounded by the sea on three sides. Among its 19 municipalities, all except one are located along the sea. The Prefecture is also located at the major choke point of maritime trade. The vessels traveling in the Sea of Japan, wishing to go into the Seto Inland Sea or into the Pacific Ocean, must go through this narrow channel (fig 16).

The greatest number of records can be seen in Yamaguchi city (78 entries), followed by Shimonoseki city (64 entries), Hagi city (44 entries), and Nagato city (23 entries). Yamaguchi city has the largest number of records, probably due to its size. The city grew by absorbing a number of local communities, becoming the main urban center of the Prefecture. Some local samurai clans kept good records of maritime disasters that were well maintained at the local archive. The earliest recorded date of a wreck is in the year 562 CE, and the next record dates from the 16th century. There is a sharp increase in the number of entries in the 18th century, peaking in the early 19th

century. It appears that, after the Meiji period, incidents involving foreign vessels were not recorded or kept at the local municipal archives.

In the past, when a maritime accident took place, the local villagers took control of the situation, often salvaging all objects of interest without contacting the original owner of the properties. Gradually, it became customary to return the cargo and people to the original port, if a reward was promised. However, it was the local clan that determined the outcome of the event, and there were no standard procedures or laws in place. Therefore it was not customary to leave records of maritime disasters, or, what was more likely, the locals decided not to leave such records as a way to protect their economic interests.

During the Edo period, a new law was passed. It said that every wreck event had to be investigated and recorded so that the people and the property could be brought back to the original port and to the owner. The Shogun's main concern was the maintenance of peaceful maritime commerce. The bakufu at Edo feared that disputes might arise between clans, and, as a result, made the system of maritime rescue clear and applicable to all. Moreover, local and regional officials were involved in checking the communities to ensure that they were adhering to the regulations.¹⁸⁶

Yamaguchi is located close to the Korean Peninsula, and the number of recorded incidents with foreign vessels was expected to be high. In actuality, the percentage of foreign vessels was 23%. The large majority of the records, 46, involved ships from Korea. It appears that most of the accidents took place in the winter months. Survivors from the Korean Peninsula were likely to be returned to their home country, but perhaps we believe this because we have more records of such cases. Korean shipwreck survivors regularly were sent back to the Western provinces, towards

¹⁸⁶ Kanasashi 1968.

Kyushu, and from there to Korea. In the 1630s, the Tokugawa Bakufu issued an edict that all foreign shipwreck events had to be recorded, and the survivors sent to Nagasaki.¹⁸⁷

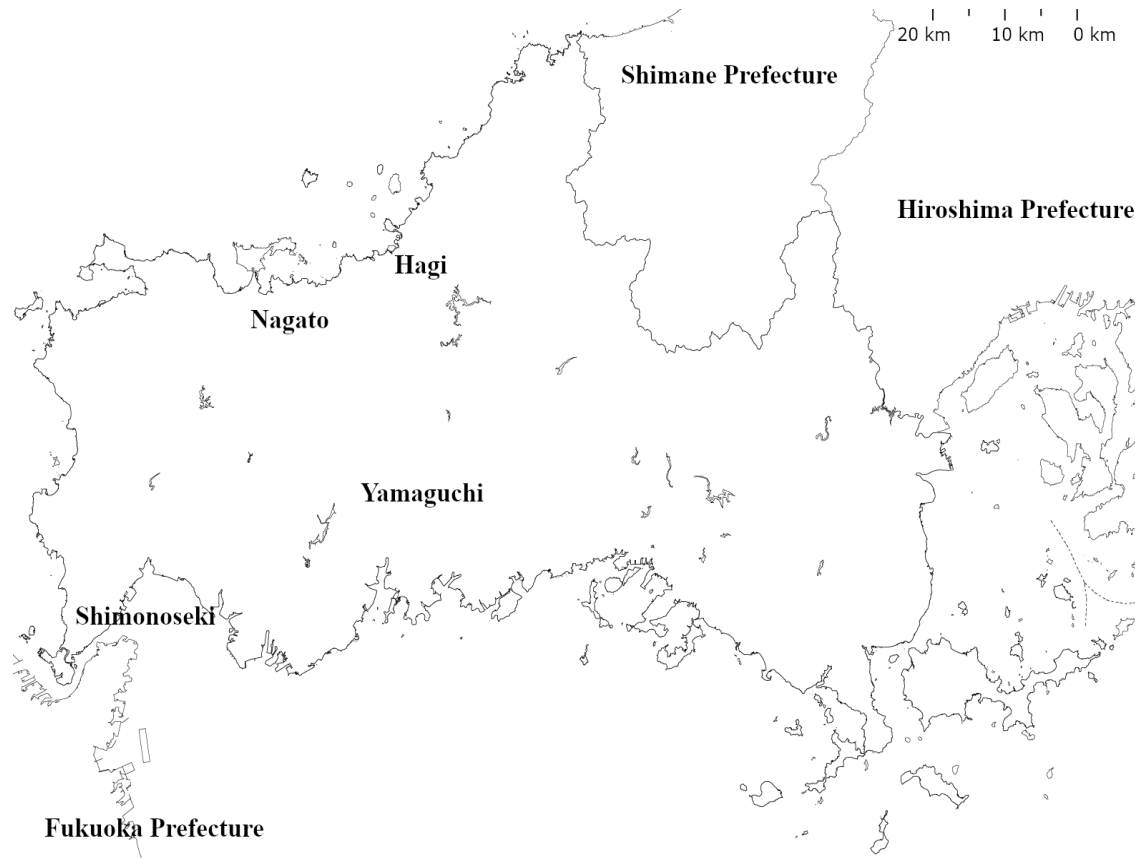


Figure 16. Map of the Yamaguchi Prefecture

As mentioned, the greatest number of maritime accidents occurred during the 18th century. This relates to the increase of Chinese merchants' activities due to the ending of the maritime ban in 1684 by the Qing Emperor. At around the same time, Tokugawa Bakufu imposed an annual limit on the number of vessels that could visit Nagasaki, causing an imbalance in trade activities. In other words, there was an influx of Chinese vessels around Japan, but only a few of them were

¹⁸⁷ Aranno 1988.

allowed to enter Nagasaki. This meant that there was a large number of merchant ships wandering around Japan, trying to find a way to sell their goods. The Tokugawa Bakufu tried to control the situation by exerting a firm control of the communities along the coast. The Bakufu announced *Uchiharai-Rei*, a policy that required the coastal territory leaders to chase away foreign ships, using force when necessary.¹⁸⁸ The result was a sharp decline in trade. In the 19th century, there was only one case of a maritime accident involving a Chinese vessel.

Records from the Yamaguchi Prefecture come from a number of different sources. The data for this study were retrieved from municipal archives from 13 municipalities. In addition to one archive document, 43 historical documents and five published books are cited as source material. The records from Shimonoseki City specify the sources for each case reported, and appear to represent a fairly comprehensive record of the past. Other cities do not specify which historical documents were used, and it is likely that not all available documents were consulted.

In other words, types of sources differ from city to city. Kibe, a historian focusing on the study of maritime disasters, notes that, during the Edo period, at least 178 cases of maritime disasters involving Korean ships were recorded in Nagato city alone.¹⁸⁹ On the other hand, this particular study counted 48 accidents with Korean vessels in the entire Yamaguchi Prefecture. It appears, then, that only a small fraction of the incidents reported found their way to the municipal archive; the others were not included in the present study. The large difference in the number of records and their dependence on the sources and municipalities was shown to be a relevant factor. It leads to the conclusion that the records compiled for this study are far from complete. There were certainly more shipwrecks and accidents than we know of, at least for the time being.

¹⁸⁸ Kibe 1997.

¹⁸⁹ Kibe 1997.

The Fukuoka Prefecture

The Fukuoka Prefecture, located across from the Korean peninsula, is thought to be where rice cultivation was introduced from the Continent. Additionally, the office of foreign affairs was located here during the Prehistoric Era (fig. 17).¹⁹⁰ The city of Hakata in Fukuoka, developed when Samurai ruled the country, may be called the gateway to Japan.¹⁹¹ The international nature of Fukuoka is reflected in the records of maritime disasters. Fukuoka has one of the highest percentages of maritime accidents involving foreign ships. Most of the foreign vessels came from the Korean Peninsula. Munakata city, with 98 events, has the highest number of recorded maritime incidents. There were 42 incidents near Oki-no-shima (Oki Island), the sacred island of the Munakata shrine, which was recently designated as a UNESCO World Heritage Site.¹⁹² Oshima (literally the Big Island), an island closest to Oki-no-shima, has 37 records. About half of these entries, 36 to be exact, refer to foreign vessels.

Fukutsu city, located adjacent to Munakata city, also had a high number of records. Entries for both foreign and domestic accidents were recorded, but the details are missing. Contrary to what may be expected, the entries of marine accidents around Fukuoka city, where Hakata is located, are not as high as those from Munakata city. Accidents did take place within the Bay, and more accidents took place near the islands located around the Bay, such as Shika Island and Genkai Island. Considering that the bay is relatively shallow, protected from the winds, and the sailors knew where the dangers lay, the accidents, if they happened, tended to be minor, and probably were not recorded.

¹⁹⁰ Kawazoe ed. 2011.

¹⁹¹ Batten 2005.

¹⁹² National Federation of UNESCO Associations in Japan 2018.



Figure 17. A Map of the Fukuoka Prefecture

Compared to the large number of marine accidents in Fukuoka and Munakata cities, only 16 entries are known from Kita-Kyushu city. The Kita-Kyushu area should have more records, as can be assumed from the larger number of records from Shimonoseki city in the Yamaguchi Prefecture, just across the narrow straits. A large part of the records from Kita-Kyushu city derives from a single historical source. A detailed study of other sources, not consulted while compiling a city archive, may provide a clearer picture of the maritime accidents in the area.

As seen elsewhere, the records from the Fukuoka Prefecture also note an increase in the number of accidents at the beginning of the 17th century, due to the requirements to protect the shipwrecked sailors and return them to the port of origin.¹⁹³ The number of recorded accidents peaked in the 18th century, with over 100 entries. The 19th century had 43, and the 17th century had 29 entries. It is interesting to note that the number of records for foreign vessels is higher than that of domestic vessels during the 17th and 18th centuries.

The data for the Fukuoka Prefecture, as a whole, were compiled using ten historical documents, seven scholarly published books, and one archive document. Compared to other Prefectures, the data were compiled from a variety of sources, but the number of sources is not high. Although Fukuoka and Yamaguchi are Prefectures located next to each other, the number of shipwrecks from period to period appears different. More in-depth research, based on the study of local archives, will reveal an accurate picture of the past.

Summary

This chapter reported on a preliminary analysis of maritime accident records all across Japan. The data were compiled using municipal historical documents collected by KNM and JACA. The available data, although not a complete record of all wrecks in Japan, has given some insight into the Japanese maritime tradition. Close to 6,000 entries were collected. Most of the records date to the Edo period, and the data show a sharp increase in foreign trade in the 18th century. The records compiled are slightly skewed due to differential preservation, the nature of what was recorded, and which sources were used to compile the original data. The Yamaguchi and Fukuoka case studies showed a large number of disasters recorded using various types of sources from different periods.

¹⁹³ Nofuji 2016.

However, it is easy to imagine that more marine accidents took place than has been reported. The data were compiled by municipal historians, and some data may have been entered incorrectly. The records show great differences between Prefectures, and even between municipalities. A detailed analysis of the sources will give a clearer picture of what may be found underwater.

CHAPTER V
A BRIEF STUDY OF UNDERWATER CULTURAL HERITAGE MANAGEMENT
AROUND THE WORLD

Introduction

UCH, particularly as it pertains to shipwrecks, is considered an international asset, attesting to humanity's common past. Some shipwreck sites contain artifacts from around the globe, and some sites' ownership may be claimed by a country thousands of kilometers away from the shipwreck site. The archaeological community is becoming a global community, and the management systems, research methods, and intervention theories increasingly are shared and developed in an international context.

Japan can learn much from other countries. Several have a long history of developing UCH management systems, and some trials and errors were made along the way. Each country has its own way of managing its UCH and the issues relating to its study, protection, and disclosure. This chapter will cover the development of UCH management in the international context, as well as current trends in UCH management. Case studies of seven countries will be included to illustrate the discussion.

Development of UCH Management Systems

The management of the world's UCH in an international framework is a complex matter. However, for this study, it is not necessary to illustrate all related issues. Rather, the researcher will present an outline of how UCH management developed on the international stage, with particular attention given to the 2001 UNESCO Convention.

Early Development

Laws on how to dispose of lost ships and recovered cargo can be found in the Code of Hammurabi, from Ancient Mesopotamia, dating to around 1750 BCE. The principles of the Law of Salvage can be found in the Rhodian Sea Law (900 BCE), or the Corpus Iuris Civilis of the Roman Emperor Justinian (533 AD).¹⁹⁴ These laws were written to bring lost cargo to the line of commerce and to rescue troubled vessels at sea. The salvage law has been applied as a legitimate law for centuries.

In the 20th century, particularly in Europe after the Second World War, this attitude towards lost ships and cargo was challenged by archaeologists, who viewed the wrecks more in terms of artifacts, than of freight. The archaeological value of a shipwreck site is now determined by its antiquity, and, in many countries, the cultural value is considered far more important than the market value of a shipwreck and its cargo. Contexts became even more important than contents.

One of the earliest laws to protect underwater remains is the Greek Law, “On Antiquities,” passed in 1932. In this Law, it is declared that antiquities in rivers, lakes, and on the seabed are the property of the state.¹⁹⁵ The protection of UCH did not remain on people’s agenda for long. In the 1950s, the advent of underwater tourism, using newly developed SCUBA, changed the situation. At the same time, the discovery and recovery of the warship *Vasa* in Sweden helped create awareness of UCH. During the 1960s, many countries began to include the protection of underwater remains in their existing laws for heritage management. Today most states have laws regulating the submerged cultural heritage within their territorial seas. Beyond this area, however, binding legal protection of cultural heritage does not exist.¹⁹⁶

¹⁹⁴ Secci 2011, 116.

¹⁹⁵ Agouridis 1998.

¹⁹⁶ Elia 2000, 43.

Heritage management in an international context must wait until the formation of the United Nations. One of the earliest examples of an international heritage management rule was the Recommendation on International Principles Applicable to Archaeological Excavations, adopted by UNESCO in 1956. The Principles, however, are prescribed for territorial waters and do not apply to archaeological sites located in international waters.¹⁹⁷

The first mention of the protection of UCH in an international treaty was in the United Nations Convention on the Law of the Sea (UNCLOS).¹⁹⁸ It was, and still is, the largest collection of marine-related international agreements, and it is considered the basis of all maritime laws and treaties. UNCLOS divided the oceans and seas into territorial waters, contiguous zones, economic exclusive zones, and the Area – usually called an open sea.¹⁹⁹

The UNCLOS may be called the constitution of the world's seas. Article 149 of UNCLOS states that “all objects of an archaeological and historical nature found in the area shall be preserved or disposed for the benefit of mankind as whole, particular regard being paid to the preferential rights of the State or country of origin, or the state of cultural origin, or the state of historical and archaeological origin.” Article 303 of UNCLOS says, “States have the duty to protect objects of an archaeological and historical nature found at sea and shall co-operate for that purpose.”²⁰⁰

Despite the fact that UCH is mentioned in UNCLOS, the document does not provide a coherent legal platform for the protection or the management of submerged archaeological sites.²⁰¹ It seems to limit the protection of objects only within the Area, that is, the open sea. In addition, “objects of an archaeological and historical nature” is vague, and the definitions of “dispose” and

¹⁹⁷ Leshikar-Denton 2010, 87.

¹⁹⁸ Regarding UNCLOS, see Harrison 2013, for details.

¹⁹⁹ Dromgoole 2013.

²⁰⁰ Lynn 2013.

²⁰¹ Elia 2000, 43-44.

“preserve” are not provided. A legal definition “must be broad enough to satisfy the state parties, specific enough to be clear in its scope, and narrow enough to leave out an especially problematic regional or historical problem.”²⁰² There clearly was a need for an additional legal framework, in an international context, for protecting UCH.

The International Law Association aims to study and clarify a variety of international law issues. In 1988, a Cultural Heritage Law Committee was established within the ILA, and one of the committee’s projects was to draft a convention on the protection of UCH. Since the committee was not composed of experts on the subject, they contacted the International Council on Monuments and Sites (ICOMOS), seeking advice.²⁰³ In response to the request, ICOMOS established the International Committee of the Underwater Cultural Heritage (ICUCH).²⁰⁴

Meetings were held in the mid-1990s to discuss the principles and procedures for protecting UCH. Meanwhile, in 1994, the ILA adopted the Buenos Aires Draft Convention on the Protection of the UCH.²⁰⁵ The outcome of the meetings was the creation of the Charter on the Protection and Management of UCH, ratified in Sofia, Bulgaria, in October 1995.²⁰⁶ This Charter details “best practices” in the protection and management of UCH.²⁰⁷ Later it became the basis of the 2001 UNESCO Convention’s Annex.

The 2001 UNESCO Convention

UNESCO took the lead in creating international standards to protect UCH. The details of their creation have been written elsewhere, but the standards illustrate a trend in management and

²⁰² Frigerio 2013, 77-80.

²⁰³ Workman 2008, 222.

²⁰⁴ Catsambis 2012, 47.

²⁰⁵ Catsambis 2012, 48.

²⁰⁶ Workman 2008.

²⁰⁷

preservation that started with UNCLOS, followed by the failed attempt by the Council of Europe and the ICOMOS efforts.²⁰⁸

The purpose of this section is to describe the principles of the 2001 UNESCO Convention. The Convention does not discuss property rights, and it does not mention the term “shipwreck.” The Convention did not include a means to discourage those who do not follow the rules. It appears to be a set of recommendations, making this Convention weak in enforcing the principles and ambiguous in its aims. However, the document does put forth the concept that that establishes a nation’s right to protect its underwater heritage, that is, that UCH should not be used for commercial gain of a certain individual, but should be utilized for the public good. The 2001 UNESCO Convention came into being at the UNESCO General Assembly in 2001 and became an International treaty when more than 20 countries ratified it. As of 2019, more than 60 countries have ratified or adopted the Convention.²⁰⁹

Article 1.1. defines UCH as “all traces of human existence having a cultural, historical or archaeological character which have been partially or totally under water, periodically or continuously, for at least 100 years such as: (1) sites, structures, buildings, artifacts and human remains, together with their archaeological and natural context; (2) vessels, aircraft, other vehicles or any part thereof, their cargo or other contents, together with their archaeological and natural context; and (3) objects of prehistoric character.²¹⁰”

Perhaps the most discussed “rule” or “principle” of the 2001 UNESCO Convention, and often the most misunderstood, is the issue of “in situ preservation.” It is stated that “the preservation in situ of UCH shall be considered as the first option before allowing or engaging in

²⁰⁸ Dromgoole, 2013.

²⁰⁹ See UNESCO Website

<http://www.unesco.org/eri/la/convention.asp?KO=13520&language=E&order=alpha>

²¹⁰ Official Text of the 2001 UNESCO Convention.

any activities directed at this heritage.²¹¹ This does not mean that sites must be preserved in situ, but only states that the option should be considered first. Nor does it mean that sites should not be excavated; rather, it means that scientific research should be encouraged.²¹²

The 2001 UNESCO Convention is accompanied by an Annex. It comprises 36 Rules, appearing under the headings: General principles; Project design; Preliminary work; Project objective, Methodology, and techniques; Funding; Project duration—timetable; Competence and qualifications; Conservation and site management; Documentation; Safety; Environment; Reporting; Curation of project archives; and Dissemination.²¹³ The Annex is embraced internationally as the standard for UCH management, even by the states that did not ratify the 2001 UNESCO Convention.²¹⁴ By accepting the terms of the Annex Rules, states may comply with the Convention. Such is the case with the United Kingdom.²¹⁵

It is easier to accept than actually to implement the law and install management systems that enforce the spirit of the Convention; some countries have no legislation to control activities directed towards UCH.²¹⁶ Furthermore, some countries may not even have a concept of UCH and must create a new definition before discussing the activities related to it. Article 22 requires states to establish a competent authority to manage the country's UCH. Although some have established a new center for that purpose, for others, it is difficult to create a new authority. The problems of implementing its rules, or deciding not to ratify the Convention, differ from country to country. UNESCO provides one working solution for protecting UCH. It should not be ignored when discussing how a country should manage its submerged history.

²¹¹ Official Text of the 2001 UNESCO Convention.

²¹² Maarleveld et al. 2013.

²¹³ Maarleveld et al. 2013.

²¹⁴ Frigerio 2013, 323.

²¹⁵ Lynn 2013, 5.

²¹⁶ Kirwan 2010, 107.

Current Management System of UCH

UCH management strategies can be divided into three phases, defined as understanding, protecting, and educating.²¹⁷ The first and fundamental strategic step is understanding the resource through archaeological research, survey and excavation, inventory, and cataloging. Once the resources are available, and the significance of the site has been determined, it is time to consider the protection of the site. It is only after certain protection measures are in place that a site can be used to educate the public, the cultural growth of the citizen through the education being the final goal.²¹⁸ For this study, more attention is given to the museum as a learning institution. The discussion also focuses on the ways in which UCH otherwise can be utilized for the benefit of the public.

The core of maritime archaeology today is no longer about excavation and recovery of artifacts, but about managing UCH.²¹⁹ The number of known underwater sites is so high that it is beyond the capacity of most institutions to conduct intensive research on all such sites. For example, a rough estimate gives about 40,000 underwater sites within Danish territorial waters.²²⁰ Therefore, in situ preservation of UCH appears to be the best choice to save money and protect most sites.

However, the preservation of an underwater site “as is” should not be chosen as a default, and conservation in situ is not the same as discounting the site. UCH should be managed actively. This involves creating protection to ensure the lasting survival of that site. Usually, a site is covered to prevent oxygen from reaching the artifacts directly. Sediment often is used along with cover

²¹⁷ Secci 2011, 115.

²¹⁸ Secci 2011.

²¹⁹ Eriksen et al. 2015.

²²⁰ Eriksen et al. 2015, 9.

layers, including sandbags, geotextile, or concrete.²²¹ Studies show that wood samples reburied at a depth of 50 cm of sediment had little deterioration, while wood samples left on the seafloor were heavily deteriorated.²²² However, it is necessary to monitor the site to prevent human interference, such as anchoring directly above the site, or souvenir hunting.²²³ The in situ preservation solution is not, however, a panacea. Some preservation methods have proved ineffective and, in certain cases, resulted in a loss of the site's archaeological integrity.²²⁴

Protection is not synonymous with safeguarding the resources so that no one can see or touch them. It is necessary to emphasize the benefits of allowing public access to UCH. The 2001 UNESCO Convention states that each State Party “shall take all practicable measures” to develop public awareness of the value and significance of UCH.²²⁵ This is because it is through the activities connected to UCH that states can raise awareness of their cultural heritage.²²⁶ However, it often is difficult to determine where to draw a line between protecting the heritage and allowing access to it. There is no general solution. This must be decided on a case-by-case basis. Historic shipwrecks are considered a non-renewable heritage that is subject to natural decay and human impact, including by divers visiting the site.²²⁷

For the protection, as well as for the education of the public, the primary concern involves those people with diving licenses. It is difficult to estimate the number of divers worldwide. The Professional Association of Diving Instructors (PADI) reports having issued over 21 million certifications by 2012.²²⁸ It is unthinkable not to educate the divers about protecting UCH. It is

²²¹ Björdal and Nilsson 2008, 863.

²²² Björdal and Nilsson 2008, 871.

²²³ Harvey and Shefi 2014, 202.

²²⁴ Harvey and Shefi 2014, 191.

²²⁵ Secci 2011, 117.

²²⁶ Secci 2011, 125.

²²⁷ Spennemann and Edney 2015, 142.

²²⁸ Spennemann and Edney 2015, 142.

safe to say that almost all sports divers understand the need for safeguarding the marine environment. This is because divers are usually taught at their SCUBA classes that one of the most important responsibilities of the diving community is to protect the environment. Such practice came as the result of awareness-raising programs.²²⁹ Scott-Ireton makes a good point, accepted by all heritage managers, when she states that the conservation of the underwater realm should include UCH as part of the environment.²³⁰ The cultural heritage is sometimes defined as the soul of a landscape. A basic understanding of the importance of protecting UCH among all divers is necessary to ensure that there is no further damage to this historical legacy.

Education should not be targeted only at the diving community. All people should understand the benefit and importance of protecting the planet's UCH. Energy companies, through constructing wind farms, oilrigs, and pipelines, often destroy UCH. Before such construction takes place, developers must assess the environment likely to be affected by the proposed project; that is, "population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship."²³¹ Many countries have established laws to protect or mitigate the damage to their UCH when development takes place over water.

Fishing communities also must be informed regarding the importance of UCH. In fact, the fishing community is one of the greatest assets for locating sites. Price conducted a study in Maine and found that the information the local fishing community possessed accurate information pertaining to the location of shipwrecks.²³² Fisheries are becoming aware that UCH should be protected and can benefit the local community if it is managed in the right way.

²²⁹ Scott-Ireton 2005, 119.

²³⁰ Scott-Ireton 2005, 120.

²³¹ Maarleveld and Auer 2008, 69.

²³² Price 2013.

The public can learn much from visiting archaeological sites and seeing artifacts and features in a natural setting. Many archaeological sites on land have been made into underwater museums, open to the public; some famous sites attract thousands of visitors annually, contributing to the local economy. It has been a challenge to show underwater archaeological sites to the public at large because divers represent only a fraction of the interested population. Furthermore, not all sites are accessible due to underwater conditions or site preservation issues. A site must be safe for divers to visit, and must not be vulnerable to exposure to various environmental factors, such as salinity, currents, and human impact. Considering the fragile nature of some archaeological remains, the number of sites that can be opened to the public is not large.

One way to see a site is to build a structure around it, creating an underwater museum. This method of exhibition is not without technical and logistical problems, despite the fact that it is the easiest way for the general public to approach an underwater site. It is difficult to construct structures around an underwater site, and the maintenance cost for such structures may be quite high. Furthermore, protecting and cleaning both the artifacts and the glass through which the public is expected to see a site may require technical staff.

A walk-in underwater museum, where an archaeological site is preserved in situ, is the Baiheliang Underwater Museum in China, which opened in 2009.²³³ The site is a natural cliff, where local officials in the past inscribed the changes of the water level of the Yangtze River on the exposed bedrock. The site records the changes in the water level of China's main river for over 1,000 years, beginning in the Tang dynasty. However, the site became submerged due to the construction of the Three Gorges Dam.²³⁴ An underwater museum was built around the site;

²³³ Zan 2009.

²³⁴ Ge, X. 2011.

visitors go down to the bottom of the river with an escalator and view the rock cliff and stone statues from the glass window.²³⁵

The more common way of exhibiting the site to the public is by encouraging access to divers and snorkelers. There are several underwater archaeological parks, including the Underwater Archaeological Park of Baia (Italy), the Underwater Archaeological Park of Caesarea (Israel), and the Thunder Bay National Marine Sanctuary (U.S.). These parks provide a sensational experience, not only to see archaeological remains but to see marine species and geological formations as well.

As mentioned above, most often it is not possible to allow the divers to visit a site while maintaining its integrity. Organic remains will decay quickly in warm, high-energy waters. Also, the safety of the divers is of utmost importance, and not all archaeological sites are located in warm, clear, and shallow areas. Despite the difficulties, underwater parks can be the best way for the public to observe a site directly, enjoy its history and cultural value, understand the importance of the past in the process of understanding the present, and learn the importance of protecting the cultural heritage.

One way to facilitate more public interest is to place replicas of artifacts underwater. At Baia, replicas of statues are placed underwater for the visitors, along with “real” structures. At the San Pedro, Florida, Underwater Archaeological Preserve, there are concrete replicas of cannons.²³⁶ Sometimes a site may not be located at a place suitable for public access. At San Juan Harbor in Puerto Rico, two wrecks, the *Manuela* and *Cristóbal Colón*, had to be recorded and removed because the sites were located at a shipping channel, and it was not possible to preserve the sites

²³⁵ Zan 2009.

²³⁶ Frigerio 2013, 258.

in situ. The decision was made to recreate the entire site in a new location, suitable for the divers to access, even though the process was highly destructive.²³⁷

Artificial shipwrecks often are utilized to encourage diving tourism. Most divers agree that more such wrecks should be created to take the pressure off historic shipwrecks.²³⁸ It is important to promote these underwater sites, along with related maritime sites located along the shore. The maritime cultural landscape has been a key expression of an area's history, and the tourism industry may benefit from this concept. Florida's Underwater Archaeological Preserves protect shipwrecks dating from the 18th century to the previous century. At the same time, sites along the coast have been integrated into cultural trails that people can visit.²³⁹ The Florida Maritime Heritage Trail is divided into six themes: Historic Shipwrecks, Lighthouses, Coastal Forts, Ports, Coastal Communities, and Coastal Environments.²⁴⁰

Another possible approach is to recreate a site digitally. Recent developments in visual technologies are making the cost of such operations relatively low, compared to what it was a decade ago. Virtual reality (VR) technologies can make a site come to life for the people who cannot dive. The digital reproduction of features and artifacts, or even contexts, can assist or enhance the understanding of a site. These tools will increase the success of underwater archaeological parks.²⁴¹

Case Studies of Seven Countries

To illustrate how others are managing their UCH, seven countries (Australia, China,

²³⁷ Frigerio 2013, 258.

²³⁸ Spennemann and Edney 2015, 145.

²³⁹ Frigerio 2013, 249.

²⁴⁰ Scott-Ireton 2005, 50.

²⁴¹ Frigerio 2013, 267.

France, Korea, the Netherlands, Sweden, and the U.S.) were selected as case studies. The information on how these countries manage their UCH is used here to compare their models and practices with the ones used in Japan. For each country, the general management framework, laws, agencies responsible for the UCH are discussed, together with some case studies.

Australia

Australia is considered one of the leading nations in the field of UCH management. Initially, however, small-scale treasure or souvenir hunting were widespread. One vessel that changed this trend was the *Batavia* shipwreck. The *Batavia* was a Dutch East India Company (VOC) vessel wrecked in 1629, representing one of the earliest European contacts with the new continent. In 1963, the site came to the attention of archaeologists when news spread that it was being looted by recreational divers. Archaeologists at the Western Australia Museum took responsibility for excavating the wreck site, but, at the same time, they realized the need for a legal framework to protect Australia's shipwrecks. Because the vessel was considered to be owned by the Netherlands, the Dutch government and the Australian Commonwealth government agreed on the ownership and control of the *Batavia* wreck in 1972.²⁴² It was one of the first successful international agreements on how to excavate and manage a vessel with a foreign flag.

After the excavation of *Batavia*, several survey projects were conducted. They revealed a large number of shipwrecks around Australia. The Commonwealth and the states began to discuss how the heritage under the sea should be protected. The Historic Shipwreck Act of 1976 protected shipwrecks, but not all types of UCH sites.²⁴³ When the Act was first put into place, the protection

²⁴² For details regarding the *Batavia* Shipwreck, see van Duivenvoorde 2009.

²⁴³ Staniforth et al. 2009, 6.

of a vessel had to be approved on a site-by-site basis. In 1993, the government implemented blanket protection for shipwrecks more than 75 years old. This includes all the sites found up to 200 miles from the coast. It is estimated that more than 5,000 shipwrecks of various ownership are protected by this Act.²⁴⁴

The federal government oversees the general management of UCH, but each state has its own management plan in place. Nevertheless, there appears to be a good deal of cooperation among the states. The wreck sites are registered on the site map at both national and state levels. While access to some sites is restricted, most are open to the public. Developments in the vicinity of designated sites must be reported to the state, and the cost of survey and mitigation is to be paid from the development project budget. Nonprofit groups, and university institutions, such as Flinders University, are active internationally.²⁴⁵

China

China has 18,000 km of coastline, more than 6,500 islands, and extensive inland waterways. The country must have had a wide variety of vessels adapted to the local environments. The Quanzhou ship, the Southern Song dynasty (1127-1279 CE) cargo vessel, was carrying a large number of goods from Southeast Asia. It was discovered in a silted canal near the town of Quanzhou, which was a flourishing center of international trade in the Fujian province during the Song and Ming dynasties. The vessel was excavated in the 1970s, and it is known as one of the finest examples of the so-called Chinese “junks” from ancient times.²⁴⁶

However, the public at large did not see the benefit of the findings. The efforts to protect

²⁴⁴ Staniforth et al. 2009, 7.

²⁴⁵ For management system of Australia, see Staniforth and Nash 2006.

²⁴⁶ Green et al 1998.

the underwater remains were not widely supported until the discovery and sale of artifacts raised from the VOC wreck in Indonesia, the *Gerdermalsen*. This Dutch shipwreck was located by a British treasure hunter, and the auction that followed an unsystematic excavation resulted in the wide dispersal of Chinese artifacts.²⁴⁷ The *Gerdermalsen* was carrying precious cargo from China, but the Chinese government had no means to intervene in the sale of its contents.

In 1989, the administrative law, "Underwater Remains Protection Ordinance," was passed by the State Council, and the management of its UCH began in China.²⁴⁸ Around the same time, the most important shipwreck site in China, the Nanhai No.1 Shipwreck, was discovered off the coast of Guangdong Province.²⁴⁹ The vessel was filled with cargo from the Chinese golden age of sail. The Nanhai No. 1 Shipwreck became famous partly due to the major public relations campaign led by the Chinese government.

It took more than a decade to determine the fate of the shipwreck, but the decision was made to raise the entire vessel.²⁵⁰ The decision was based on the finding that it was difficult to protect the site from looting, and, besides, the site was slowly eroding²⁵¹. Once the decision was reached, the government was quick to implement the project. A large container was placed around the site, the container's bottom inserted underneath, and the entire container was raised with the soil around the shipwreck undisturbed. The container was then brought to a newly built museum, the Maritime Silk Road Museum, where the hull is still being excavated in a controlled environment, and visitors come to see the artifacts excavated from the site (Figure 18).²⁵²

In the past, China used the Japanese system of heritage management as an example to

²⁴⁷ Thorncroft 1987.

²⁴⁸ For details on Chinese laws and management system for UCH, See Liu 2014a.

²⁴⁹ Wei 2011.

²⁵⁰ China National Centre of Underwater Cultural Heritage 2017

²⁵¹ Chinese Academy of Cultural Heritage 2017.

²⁵² China National Centre of Underwater Cultural Heritage 2017.

create its own system. The regional governments conduct the excavations and surveys, and they are responsible for the management of sites and artifacts. The central government provides training and technical support for the needed area, based on the national interest. The management plan has been successfully applied to the protection of archaeological sites on land, but it is difficult to apply the laws to archaeological remains underwater. The local government coordinates with developers to create a mitigation plan. For a large project, the central government steps in.

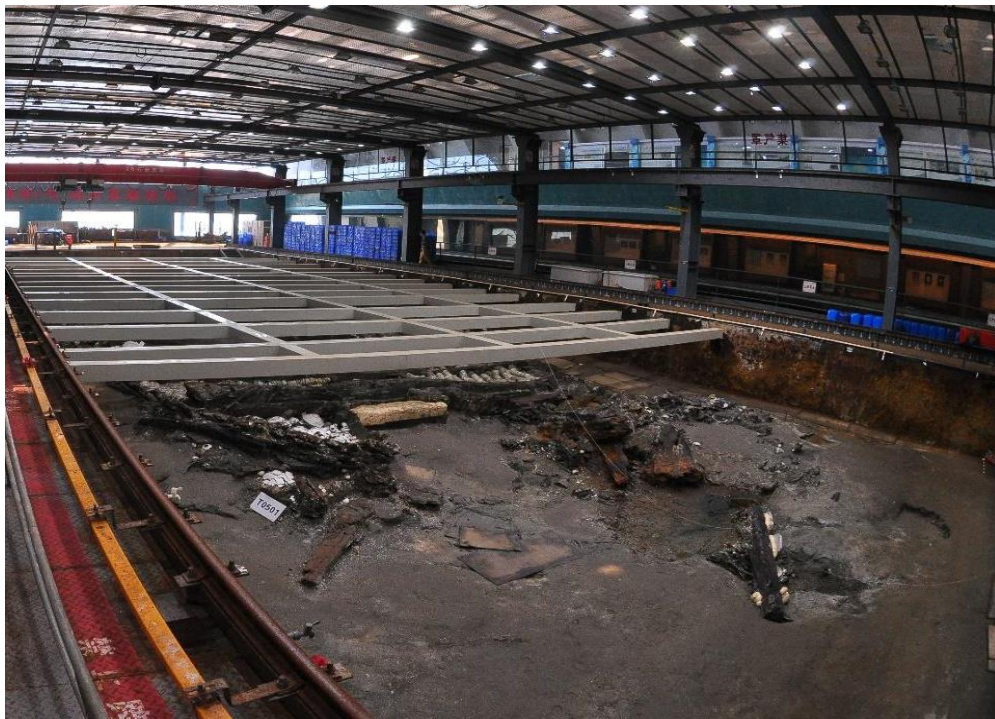


Figure 18. A Photo of Nanhai No.1 Shipwreck at the Museum
(Courtesy of the China National Center of Underwater Cultural Heritage, Photographed in 2018)

China's first government office to manage UCH, the Underwater Archaeology Department, was established within the National Museum of Beijing.²⁵³ In 2009, the Underwater

²⁵³ For early years of China's underwater Archaeology, See Wei 2011.

Archeology Laboratory was established as an internal organization of the National Cultural Heritage Bureau. However, in 2014, the Underwater Archeology Conservation Center was established as an independent cultural bureau organization. The Center, now being called China National Center of Underwater Cultural Heritage, has absorbed the Department at the National Museum, becoming the only underwater archeology organization in China. Underwater sites fall under the same system that manages archaeological sites on land, but the Center provides technical support, mainly training in the area of survey, excavation, and conservation.²⁵⁴ Offshore surveys, or those that occur beyond the local municipal boundaries, are conducted directly by the Center.²⁵⁵

Unfortunately, most underwater sites are found by non-archaeologists and are usually disturbed by the time archaeologists see the site. Although it is clearly stated in the law that all discovered artifacts are owned by the state, some fisheries are not cooperating with the heritage officials. There is a system for the government to pay rewards for reporting a discovery. There appears to be a need to promote understanding about the significance of UCH to a larger part of the population.²⁵⁶

France

France is known as the birthplace of SCUBA diving, and the public retains a strong interest in the sea. One famous shipwreck site discovered by Jacques-Yves Cousteau, the inventor of SCUBA, was the Grand Congloue, investigated in 1966.²⁵⁷ The site later proved to contain two superimposed shipwrecks. This may be the first shipwreck(s) site scientifically researched by a

²⁵⁴ Chinese Academy of Cultural Heritage 2012.

²⁵⁵ China National Centre of Underwater Cultural Heritage 2015.

²⁵⁶ Liu 2014b.

²⁵⁷ L'Hour 2015, 365.

national institute. France minister of culture. In 1966, Andre Malraux, established the Direction des Recherches Archaeologiques Sous-Marines (DRASM), a national research department for the study and protection of the country's UCH. The Department changed its name to the Direction des Recherches Archaeologiques Subaquatiques et Sous-Marines (DRASSM) in 1996.²⁵⁸ It was founded to oversee the management of underwater ruins in general. In 1966, only 49 submerged sites had been recognized in France. Today, close to 6,000 sites have been identified. An estimated 15,000 to 20,000 sites exist along the French mainland coast. There may be 100,000 to 200,000 sites in the French territorial sea and the French EEZ.²⁵⁹ All marine surveys beyond municipal boundaries are conducted by DRASSM, but surveys in coastal areas and inland waterways are conducted by other organizations, or by private companies with the permission from DRASSM.²⁶⁰

The French law says that all historical objects for which personal ownership cannot be identified belong to the state. The law stipulates that the person finding a random object is entitled to a reward proportional to all the assets found during the subsequent excavations. This law not only prevented finders from keeping objects for themselves but also helped to alert the proper authorities of a site location while avoiding the vandalizing of that site for economic purposes.²⁶¹ Construction companies are required to pay a tax, regardless of whether the historical site is on land or over water. Tax monies are used to pay for the initial exploration survey and assessment of the site.²⁶²

France ratified the 2001 UNESCO Convention, but already had a comprehensive management system for underwater sites and did not require major changes in domestic law to

²⁵⁸ DRASSM 2019.

²⁵⁹ L'Hour 2015, 367.

²⁶⁰ DRASSM 2019.

²⁶¹ Inada 2014.

²⁶² European Archaeological Council 2016a.

accept the new UNESCO rules. France is aiming to be an international leader in the field of maritime archaeology, and the ratification of the 2001 UNESCO Convention is one way of showing this leadership. DRASSM has the capacity to work in international waters, assisting other countries, such as Brunei, Gabon, Libya, Pakistan, and Taiwan.²⁶³

Korea

The origin of underwater archeology in Korea can be traced to the discovery and excavation of the Shinan Shipwreck, the Yuan dynasty cargo vessel that was en route to Hakata, in Japan. The Shinan Shipwreck was accidentally found in 1975 by a local fisherman. The excavation project took place between 1981 and 1984.²⁶⁴ Because there were no archaeological divers in the country, and the location of the site had zero visibility with a strong current, the underwater activities were conducted by the Navy divers. Archaeologists recorded the findings on the surface. The underwater map is not very detailed, compared to today's standards, but it provides a basic outline of where all the artifacts were found. In addition, the site was completely excavated and recovered, including the hull remains.²⁶⁵ A new conservation center was created, and, after the conservation was complete, the hull went on display at the National Maritime Relics Exhibition Hall, which opened in 1994.

The museum later became the National Research Institute of Maritime Cultural Heritage (NRIMCH), the official organization for conducting underwater archaeological works in Korea.²⁶⁶ The vessel was carrying over 20,000 Chinese ceramics ordered by the temples in Japan. The ship left Ningbo at the mouth of the Yangtze River in 1323, as suggested by a dated wooden tag

²⁶³ L'Hour 2015.

²⁶⁴ Office of the Cultural Property Management 1984.

²⁶⁵ Office of the Cultural Property Management 1984.

²⁶⁶ For overview of Korean underwater archaeology, see NRIMCH 2016.

discovered from the wreck.²⁶⁷ The wooden tags and the boxes had writing, showing where the cargo was to be delivered. Destinations included the Tofukuji Temple and the Hakozaki Shrine in Japan.²⁶⁸ It is not certain why the vessel was in Korea at the time of the sinking. Perhaps the vessel was running along the northern coast of China and Korea to reach Japan, avoiding the direct open sea route.²⁶⁹



Figure 19. A Photo of the Shinan Shipwreck at Display
(Courtesy of NRMCH)

In 2010, the Cultural Property Protection Law was amended to include relics found underwater. The principle is the same as the management frame for archaeological sites on land. The state claims the ownership of all artifacts found both on land and underwater. A survey is

²⁶⁷ Kim 2016.

²⁶⁸ Yokkaichi 2016, 156-7.

²⁶⁹ Kim 2016.

required for every development project of a certain size. It is stipulated in the law that the cost of surveys and excavations must be paid by the developer, even though some funding is available from the local governments. Some institutions and organizations are allowed to conduct surveys, but the right to excavate an underwater site is given only to NRMCH. Accidental finds must be reported to the police within seven days from the discovery. In order to encourage the reporting of underwater remains, compensation is paid to the finder. The law also stipulates penalties for not reporting discoveries. NRMCH may investigate an area if there is enough evidence that the site may be found.²⁷⁰ By 2019, NRMCH had excavated over a dozen shipwrecks in the country, mainly from the 10th to 14th centuries.²⁷¹

The artifacts raised from the sea, including the hull remains, are stored at the conservation lab at NRMCH. Until recently, most of the hull remains had been completely excavated and conserved using Polyethylene Glycol (PEG).²⁷² This strategy has some drawbacks. The wood from the Shinan shipwreck mentioned above, a Chinese vessel made with an ample supply of iron nails, began to show some problems as iron sulfide reacted with the PEG.²⁷³ Korea was fortunate because their traditional vessels did not use iron fasteners, solely relying on wooden joinery.²⁷⁴ Thus, there has been no damage by PEG reacting with iron and causing the degradation of wood. Until recently, a complete excavation of a site, with all hull remains, was the norm in Korea, but, in recent years, large wooden remains, such as hull components, have been left in situ after careful recording.²⁷⁵ NRMCH, located at Mokpo-city, houses a collection of vessels excavated from both the south and southwestern Korean coasts. In the past decade, well-preserved vessels have been

²⁷⁰ Moon 2016.

²⁷¹ NRMCH 2016.

²⁷² Shina and Kim 2014.

²⁷³ See Kim 2019 for Shinan ship, and Almkvist 2019 for *Vasa*.

²⁷⁴ Sasaki 2015.

²⁷⁵ NRMCH 2016.

being discovered in the Taeon area, including the Taeon Treasure Ship and a series of ships around Mado Island.²⁷⁶ A new National Taeon Maritime Museum, equipped with a research facility, opened at Taeon in December 2018.²⁷⁷

The Netherlands

The Dutch Cultural Heritage Agency (RCE), under the Ministry of Culture, is the agency in charge of maintaining the national archaeological site database, establishing quality standards, and dealing with all issues pertaining to permission for development projects. The RCE can conduct archaeological research on sites outside of local controlled areas and on national monuments.²⁷⁸ When construction is to take place, the developer must apply for a permit. This results in an evaluation of the development's impact on the cultural heritage site. When officials determine that a site may be harmed by the construction, it orders an archaeological excavation. This is directed by a contract archaeology firm, following the standards set by the RCE.²⁷⁹

In the Netherlands, there is no specific law to protect UCH, but all underwater sites are protected through general heritage laws, primarily by the 1988 Monuments and Historic Buildings Act. It is stated in the law that all objects created by man, which have scientific, cultural, or artistic value and are older than 50 years, are eligible for protection.²⁸⁰ This policy followed a public outcry against the sale of artifacts from the VOC, the Dutch East India trading company vessel, recovered by looters and treasure hunters outside Dutch waters.

Dutch policy did not result from the initiative of archaeologists or policymakers

²⁷⁶ NRIMCH 2016.

²⁷⁷ See NRIMCH Website for details http://www.seamuse.go.kr/seamuseweb/main/Index.do?mn=EN_01#

²⁷⁸ See RCE Website for details <https://www.cultureelerfgoed.nl/domeinen/archeologie>

²⁷⁹ European Archaeological Council 2016b.

²⁸⁰ Frigerio 2013, 285.

advocating for the protection of such sites. In 1988, a system was created to manage the underwater sites beyond the municipal boundaries. All developers who plan to conduct offshore development, including laying pipelines, dredging, or any other underwater work, must secure a permit and file a mitigation plan. Dutch waters are extremely rich in the number and diversity of its shipwrecks. As a result, the focus in recent years has been on developing standard methods for in situ preservation of sites and overall management of UCH.²⁸¹

The RCE is involved in international research as well, focusing on countries with strong historical ties with the Netherlands, including Indonesia, Sri Lanka, and Japan.²⁸² It is part of a broader research project on all types of shared or mutual heritage, organized through the Ministry of Culture. There are over 300 VOC shipwrecks in the world, but the focus is not only on those wrecks. The RCE has set one of its main goals on the capacity building of all involved partners, including the host country. This came through the realization that, in international exchanges, all countries involved should be equally represented.²⁸³ This mutual heritage research is composed of many small projects on various topics. For example, a study conducted in Japan identified a large collection of shared heritage sites.²⁸⁴

Sweden

When discussing the history of underwater archaeology in Sweden, it is impossible not to start with the royal warship *Vasa*, which sunk in 1628 immediately after its launch. It is the symbolic find in the fields of underwater and maritime archaeology. The hull was found in nearly perfect condition (96% preserved) due to the underwater environment in Stockholm Bay, with low

²⁸¹ Manders 2017.

²⁸² Manders 2010.

²⁸³ See Shared Heritage Program for details. <https://english.cultureelerfgoed.nl/topics/shared-cultural-heritage>

²⁸⁴ Klos and Derksen 2016.

dissolved oxygen and low salinity, as well as the absence of shipworms.²⁸⁵

For all its challenges, the desire to reveal this tangible part of Swedish history generated great public interest. *Vasa* was raised in 1961. It was conserved using PEG, continuously sprayed for 17 years with a sprinkler system especially conceived and installed.²⁸⁶ With an overall length of 69 m and a height of 52 m, *Vasa* is preserved in a seven-story high museum, which was built around the vessel, and where a vast collection of artifacts from the wreck is displayed. Since opening in the 1990s, the *Vasa* Museum is one of the most visited museums in Northern Europe.²⁸⁷ Most of the visitors are from other countries, and the museum is contributing to the city's economic growth.²⁸⁸

The 1988 Heritage Conservation Act is the primary law protecting UCH in Sweden. All shipwrecks older than 100 years of age are protected as national monuments.²⁸⁹ In certain circumstances a single isolated item may be excluded from this protection, any object or collection of objects from a wreck is subject to the law. All chance discoveries must be reported to the police or the coastguard. The database for underwater sites is managed by the National Maritime Museum. Over 1,000,000 sites on land are registered, and more than 8,000 underwater sites are recorded. Among the registered underwater sites, approximately 3,200 sites are listed as protected under the Heritage Conservation Act. Recreational divers have access to most shipwreck sites, except for a few, especially fragile situations. However, they are not allowed to touch anything.²⁹⁰ UCH sites are managed locally, following the same rules applied to archaeological sites on land.

The national government designates historic sites, but local municipalities are

²⁸⁵ Björdal and Nilsson 2008, 862.

²⁸⁶ Hocker 2011.

²⁸⁷ *Vasa* Museum 2019.

²⁸⁸ Frigerio 2013, 208-212.

²⁸⁹ Heiðarsson 2013, 21.

²⁹⁰ Frigerio 2013, 211.

responsible for their day-to-day management, such as corresponding with developers for eventual mitigation plans. When a development project is planned, a survey is required for all areas with a high probability of harboring archaeological sites, based on historical records and site location models. The expenses for the survey, excavation, and conservation are paid by the developers. The conservation processes must be completed within one year from the excavation. The National Maritime Museum (the *Vasa* Museum is part of the organization) acts as an advisor for the management of Sweden's UCH. The actual fieldwork is conducted by museums or private companies approved by County Administrative Boards.²⁹¹

United States of America

It is estimated that over 50,000 shipwrecks are located in the U.S. waters, and perhaps 5,000 of them could be considered historically significant and warrant protection.²⁹² One of the most famous vessels is the USS *Monitor*, the Civil War-era metal-plated battleship; it became the first protected warship designated as a National Historic Monument in 1975.²⁹³ Another famous vessel being protected is the USS *Arizona*, sunk during the Japanese attack on Pearl Harbor, in Hawaii. The National Park Service is entrusted with the care of the vessel and of monitoring the site.²⁹⁴ Universities, such as West Florida University, East Carolina University, and Texas A & M University, provide Masters and Ph.D. level courses related to underwater and maritime archaeology.

There are several laws that affect how the U.S. government protects cultural heritage sites, but the National Historic Preservation Act of 1966 is the driving force for federal, as well as state,

²⁹¹ Heidarsson 2013, 22.

²⁹² Workman 2008, 4.

²⁹³ See NOAA Maritime Sanctuaries Home Page for details. <https://sanctuaries.noaa.gov/>

²⁹⁴ See National Park Service: Pearl Harbor. <https://www.nps.gov/valr/index.htm>

protection of cultural heritage sites. Any time development is planned on national or state lands, federal or state funds are allocated to a project, or development permission is sought through public agencies, the proposed area must be studied to prevent the destruction of any cultural heritage sites that may be present. The agencies allowing for the development are responsible for the protection of heritage sites. Various agencies in both federal and state governments have established units that conduct surveys and excavations. In this system, sites on federal and state-owned lands are protected, but there is little a government can do to protect sites on privately owned lands.²⁹⁵

Although rivers, lakes, and oceans are state or federally owned, the management of UCH falls into the hands of multiple agencies, and sometimes it is difficult to determine who is responsible, or who will be the custodian for UCH in any given area. The legal framework protecting UCH in the U.S. appears complex and lacks cohesion at first glance. The National Park Service, under the Ministry of the Interior, is responsible for protecting cultural heritage located in the National Parks. The Park Service also supervises agencies responsible for protecting cultural properties found on national and state-owned lands.²⁹⁶

The Bureau of Ocean Energy Management, also under the Ministry of the Interior, is in charge of marine resources development, including extraction of undersea oil and offshore wind power. The Bureau must respond when development may cause harm to the cultural heritage.²⁹⁷ The National Oceanic and Atmospheric Administration (NOAA), under the Ministry of Commerce, holds maritime sanctuaries under its jurisdiction. Marine related resources, including archaeological resources, are subject to conservation. Also, the Naval History and Heritage Command's Underwater Archaeology Branch is responsible for archiving and overseeing the

²⁹⁵ Catsambis et al. 2011, 80.

²⁹⁶ See NPS Submerged Resources Center for details. <https://www.nps.gov/orgs/1635/index.htm>

²⁹⁷ See the Bureau of Ocean Energy Management Historic Preservation Activities for details. <https://www.boem.gov/Historic-Preservation/>

historical and archaeological resources related to the U.S. Navy. Even some state agency officials are hard-pressed to offer correct advice regarding jurisdiction within their own states.²⁹⁸

Three laws, The National Marine Sanctuaries Act (NMSA), the Sunken Military Craft Act (SMAC), and the Abandoned Shipwrecks Act (ASA) will be discussed below in more detail to illustrate the U.S. management system of its UCH.

The NMSA was enacted in 1972. It designated National Marine Sanctuaries as areas set aside for protecting the marine environment.²⁹⁹ The nation's first Sanctuary was created to protect the wreck of USS *Monitor*, mentioned above.³⁰⁰ NOAA is in charge of sanctuaries, protecting "maritime heritage resources," which are defined as "any shipwreck or other site or object that is of archaeological, historical, or cultural significance found in, on, or under the seabed of the marine environment of the U.S."³⁰¹

The SMCA was enacted in 2004. It declares sovereign immunity to state-owned watercraft and mandates the U.S. government to investigate and protect all sunken naval vessels and aircraft. The Act also declares that the passage of time will not extinguish the title of sunken state watercraft belonging to either the U.S. or any foreign state.³⁰²

The ASA specifically addresses the management of the national UCH, but it is vague and surrounded by concerns. First, the Act does not provide a clear definition of the term "abandoned."³⁰³ Second, the ASA only covers historic shipwrecks within the territorial sea. There is no mention of protection for other types of UCH, and the Act has no authority beyond the

²⁹⁸ Workman 2008, 55.

²⁹⁹ Elia 2000, 48.

³⁰⁰ Scott-Ireton 2005, 57.

³⁰¹ Catsambis et al. 2011, 120.

³⁰² Catsambis et al. 2011, 57.

³⁰³ Catsambis et al. 2011, 171.

territorial sea.³⁰⁴ Moreover, the ASA gave each state the autonomy to develop its own policies regarding historic shipwrecks.³⁰⁵

Some states have addressed their submerged cultural resources specifically by creating a state underwater archaeology office, while other states decided to include their UCH in general cultural heritage legislation.³⁰⁶ The excavation of *La Belle* shipwreck in Texas, the *Queens Ann's Revenge* in North Carolina, and the Confederate submarine *Hunley*, in South Carolina, are some of the examples of state-led research projects. Furthermore, several inland states, such as Missouri and Oklahoma, have conducted archaeological investigations of shipwrecks. The Texas Antiquities Code, enacted in 1969, was crafted in direct response to the looting of the 16th-century Spanish shipwreck on state-owned submerged lands off Padre Island. It is one of the earliest such statutes in the nation, predating any national legislation concerning UCH.³⁰⁷

Summary

Every country has different management frames for understanding, mitigating, protecting, and promoting its UCH. There appears to be no right practice, but each country has created a system that best fits its unique situations. In general, management policies for land sites are extended to underwater sites. Some support is given by the central government, usually in the areas outside local jurisdiction, or directed at special or important projects. Some countries, such as Korea and France, appear to have implemented policies requiring a stronger involvement of the central government, while other countries, such as the U.S., appear to prefer more regional control of their UCH. In some countries, UCH policies seem to have been triggered by one famous

³⁰⁴ Elia 2000, 43.

³⁰⁵ Workman 2008, 7.

³⁰⁶ Catsambis et al. 2011, 179.

³⁰⁷ Catsambis et al. 2011, 236.

discovery, which led to the development of the field of underwater archaeology, as seen with *Vasa* in Sweden and the Shinan Shipwreck in Korea. However, countries such as France, or the U.S., developed UCH study and protection strategies without any major trigger, except for the realization that history lies beneath their waters.

CHAPTER VI CONDUCTING ARCHAEOLOGICAL RESEARCH IN JAPAN

Introduction

This chapter discusses the reasons for the limited development of underwater archaeological research in Japan, and what needs to be done to protect the nation's submerged historic sites. The JACA Guideline, published by the JACA Committee, deals directly with these issues.³⁰⁸ The report provides an outline of what the Japanese archaeological community must do to preserve the country's UCH. The main part of this chapter describes the content of this report. First, the concerns regarding the protection of UCH in Japan will be illustrated, followed by the legal documents related to the protection of UCH and the archaeological management system of the country. After providing the data necessary for an understanding of these points, the JACA Guideline will be described and detailed.

Concerns Regarding Protection of UCH

It is difficult to determine why the field of underwater archaeology was not developed in Japan. The lack of rules for accidental finds, and the lack of mandatory surveys, before starting dredging works or other construction projects on water, certainly adds to the problem. Moreover, the lack of public interest or awareness is a matter of great concern; if people knew more about the existence and importance of underwater archaeological sites, they would voice their apprehensions about the destruction of their cultural history.

³⁰⁸ JACA 2017b.

However, the real culprit may be the Japanese system of archaeological management, which likely prevented the growth of underwater archaeology. The country's heritage management is based on the principle of a decentralized system, in which all aspects of maritime history, even the cost of conservation, are the responsibility of the local municipal government.

Management system

The Act on Protection of Cultural Properties regulates all archaeological excavations in Japan. JACA sets the rules and guidelines for site management, and, in most cases, the local Board of Education is responsible for managing local sites. Each municipality is responsible for maintaining a database of known sites. Once a site is listed, any developer seeking to build within or around a classified (known) site must pay for the excavation.³⁰⁹ The local authority decides which sites are to be listed, and some municipalities take a step further by conducting land surveys preemptively.

There are a few universities with programs in archaeology, but academic research on the subject in Japan accounts for a little more than 5% of the total number of excavation projects in the country.³¹⁰ There are a few public archaeology firms, but they mainly work on projects in large cities. Their archaeological projects also must follow the standards set by JACA.³¹¹ The number of archaeological sites excavated - around 8,000 sites per year - may be surprising to many.³¹² Although many of the sites are small, the number of artifacts recovered from these sites

³⁰⁹ Kakiuchi 2014.

³¹⁰ JACA 2017a.

³¹¹ JACA published a standard or excavation method booklet for the archaeological site supervisor to follow; See JACA 2013, 2010a, and 2010b.

³¹² JACA 2017a.

accumulates quickly. Many of the municipalities are struggling to complete the analysis of the astronomical amount of data that have been gathered.

Still, excavations take place each year in Japan, while the budget and the number of specialists involved with heritage management has been shrinking.³¹³ In this situation, research tends to focus on detailed artifact analysis, a field in which Japanese archaeologists are among the best in the world. Another problem is that the cost of conservation of artifacts must be borne by the local municipalities. The developer only pays for the cost of excavation and initial artifact processing and treatment at the site; when an excavation is completed, all responsibilities go to the local government. Most Prefectures have a conservation center where artifacts are treated and curated. Some cities have their own conservation laboratories. The cost of conservation of a large collection of artifacts may be too great for some small municipalities to bear. The knowledge of conserving waterlogged items does not easily transfer to other municipalities when everything is completed within a local municipal level.

Lack of Information and interest

The word “underwater” does not appear in the heritage laws, but it does appear in a legal document, authorized by the secretary of cultural properties protection office (today’s JACA) dated 1954.³¹⁴ The document was distributed to all Prefectures at the time as an addendum to the Act on Protection of Cultural Properties. It notes that objects of ancient origin found below the water should be considered Buried Cultural Properties, and not as salvaged items. However, it appears that no further actions on this matter were taken, and the existence of the document was

³¹³ JACA 2017a.

³¹⁴ JACA 2017b.

almost forgotten. This situation translates to the lack of interest in UCH among the cultural property officers and the general public. The legal framework to protect UCH has been in place for more than 60 years, but the protection was only on paper, and no action was taken.

The study of UCH still has to reach a wider audience. There are only a few publications featuring underwater and maritime archaeology in Japan, and there is a lack of written information in the Japanese language regarding the subject. The public at large simply does not know that archaeological sites exist underwater. In addition, a somewhat skewed and outdated image of the field still persists. Not many people in Japan think that underwater sites are common; they believe that shipwrecks and submerged sites are rare, and finding those sites is extremely expensive and difficult, if not impossible. The information the Japanese hear about the subject primarily concerns national projects conducted in China and Korea, led by their national institutes, together with the stories of raising *Vasa* and *Mary Rose*. Furthermore, since it is certain that there are no jobs for a student with a marine archaeology degree in hand, the study of underwater archaeology cannot yet be considered a career of choice in Japan.

What Destroys UCH

The two main categories of causes for the destruction of UCH in Japan are the forces of nature and human impact. Japan is visited often by typhoons; strong winds and waves are known to change the shoreline, destroying many sites. This is the same for many parts of the world, and it is not the main reason for Japan's failure to find underwater archaeological sites. Japan is located along an active volcanic zone, and tsunamis may have caused some destruction of coastal sites. On the other hand, tsunamis and earthquakes may cause massive landslides, which may actually protect submerged sites, or uncover those previously buried.

Construction can have negative effects on underwater archaeological sites in several forms. Land reclamation projects, harbor renovations, dredging operations, laying of pipelines and cables, off-shore wind-farms, and extraction of natural resources may destroy underwater sites. For example, large-scale development took place along the Japanese coast, especially in urban areas, throughout the 1960s and 1980s. Most of the land reclamation projects were conducted without the assessment of archaeological resources. Magnetometer surveys for finding unexploded ordinance had been conducted for a few large-scale development projects, but there was no report of archaeological remains. The only place where extensive survey work was conducted prior to land reclamation was in the Shiga Prefecture, along the shores of Lake Biwa. Fishing activities, such as trawling, may have caused damages to archaeological sites in the area. There are sporadic reports of finds of ancient ceramics and artifacts underwater throughout Japan, and it is likely that many sites have been destroyed.³¹⁵

Treasure hunting has been a concern for many parts of the world. However, Japan has seen very little of these activities. So the problem is not about large-scale treasure hunting activities, but about small-scale destruction of possible UCH sites. Antique markets do exist in Japan, and porcelain and other items raised from the sea are being sold. In the past, antique dealers have been known to go around fishing communities, asking to buy items raised from the sea. People at Takashima, in the Nagasaki Prefecture, have told the author about dealers who used to come to the island. Furthermore, one can find artifacts raised from the sea being sold at online auction sites. Currently, there is no way of regulating such market activities.

³¹⁵ ARIUA 2013

Related Documents and Acts

The current system of Cultural Properties management ultimately derives from the Act on Protection of Cultural Properties. However, the day-today management of heritage sites is related directly to the JACA document, the so-called Heisei Year 10 Report.³¹⁶ This document was distributed to all municipalities as a manual or guideline for managing archaeological sites. The document has no legal power, so perhaps it may be called a protocol.³¹⁷ To understand the current archaeological management system in Japan, it is necessary to understand this report. In addition to the Heisei Year 10 Report, some laws may be related indirectly to underwater sites and should be taken into consideration when dealing with them. These laws are related to fishing, mining, as well as to salvaging lost items from the sea.

The Heisei Year 10 Report

As mentioned above, this report became the basis for cultural property officers' procedures. The report is summarized below. The basic principles and standards for assessment, mitigation, conservation, storage (archive), and public utilization are discussed separately.

Basic Principle: A buried cultural property is a common (or shared) property of the citizens, but, at the same time, it is a heritage deeply rooted in a particular locality, its history, and culture. These cultural properties are an important component of the heritage of the local community. Based on this idea, the properties should be conserved and enjoyed by the community. The document further states that the National Government (JACA), Prefecture, city, and local municipal offices, all should actively assess and register monuments and sites, improve

³¹⁶ JACA 1998.

³¹⁷ The Heisei Year 10 Report (JACA 1998) is JACA protocol, or letter to all municipal offices in the country. Another document, JACA 2004, is considered a standard guideline for archaeological excavation in Japan. In this Dissertation, Heisei Year 10 Report refers to both of these documents.

management strategies, and develop better methodologies for research on buried cultural properties.

Prior to the start of any development that may impact buried cultural properties, the importance of protecting the site should be explained to involved parties. Those stakeholders should understand the significance of the properties, and any activities that involve the area's buried heritage must be conducted with the cooperation of all parties. The excavation must take place with the cooperation of all municipal offices and departments involved in the development plan.

It often is difficult to locate the extent of a site accurately. Moreover, the nature of the site will vary significantly from location to location. For these reasons, there are occasions where standards for excavation and research may not apply. Despite this difficulty, it is necessary to set practical standards and conduct research so that the public may understand the benefit of UCH and the project may enjoy the authorities' support. Activities directed towards cultural properties should be conducted with wider public backing. In order to achieve this, the public must be informed of the steps taken to protect the site. Authorities also should publish reports, and promote the dissemination of the findings and results.

Assessment: Assessing cultural properties in an area is the first and the most important step in heritage management. Even when a possible site exists and is known locally or by a researcher, it will not be protected against construction, or any other form of human impact, until it is registered as a known site. According to Articles 93 and 94 of the Act on Protection of Cultural Properties, the municipal officials can discuss possible mitigation plans with the developers if the area being developed is within or near a registered site. In other words, a site must be recorded and registered, with the extent of the site clearly marked. It is the job of the municipal office to assess,

record, and inform the public - and to the developers - where the registered sites are located. Each municipal office can decide how to inform the public. Some municipalities utilize GIS and the Internet to inform the public, while other municipalities may rely on paper-based maps.

Mitigation: When a registered site is located within the area where development is to take place, the developers may make changes in the construction plan so as not to harm the existing sites. They can also decide to excavate, if necessary. A consensus must be reached between the developer and the municipal office. Once there is agreement, it is difficult to change the construction plan. When a site is discovered during construction, the municipal office usually is blamed for not accurately informing the public (in this case, the developer) regarding a possible site. It, therefore, is important to make an accurate assessment of any known site, and the responsibility is upon the municipal office.

A developer and the municipal office may agree to excavate a site, and the cost of the excavation must be paid by the developer. Local and central governments do provide some financial support to development projects, especially for individual housing renovation projects. The excavation must follow standards set by JACA and the local government. Local municipal rules determine who will excavate the site. Some cities use archaeological firms to conduct excavations, while others have official archaeologists to conduct all excavation works in their area of jurisdiction. When an archaeological firm is selected to excavate a site, the municipal office is still responsible for the project to be completed following the general standards.

Conservation and storage (archive): The local municipality is the primary caretaker of archaeological remains, and is responsible for the conservation process and storage of artifacts. The developer only pays for the initial on-site conservation, and, once all materials are handed to the local office, the care and storage becomes a municipal responsibility. Some large cities have

their own conservation centers, but the Prefectures usually have a conservation center. This means that the cost for the conservation may be divided between the local government and the Prefectural government. There are several private conservation laboratories in Japan. Artifacts that require specialized treatment may be sent to such laboratories.

Public Use: The principle that local government is the custodian of archaeological sites is also applied to the ways in which sites may be utilized for public benefit. Artifacts are usually stored locally, and there are many small local museums across Japan. The budget must come from a local source, but often Prefectures support the museums. Heritage tourism is becoming popular, and some municipalities are hoping to increase tourists' interest and enjoy their contribution to the local economy. However, there are many small museums that need to update their displays and facilities but have no budget for renovation.

Related Legislation

The Fisheries Act and The Fisheries Resources Protection Act: The Fisheries Act regulates the fishing industry in Japan.³¹⁸ Fishing rights are given to certain fishing cooperatives, and these are regarded as exclusive rights to exercise a certain type of fishing within a defined distance from the shore. The fishery rights are licensed through the governor of the Prefecture. The fishing cooperatives may make a claim against the disturbance of the right. The rights, however, do not grant exclusive access to the fishing ground, but rather protect the right to exercise certain types of fishing within the designated area. It is, therefore, possible to conduct other activities within an exclusive fishing area.

³¹⁸ Act No. 267 of 1949

The Fishery Resources Protection Act was designed to protect the fisheries' resources and to contribute to the development of fishing activities.³¹⁹ The Prefecture has the authority to regulate and prescribe restrictions. It may regulate dredging, construction, or other similar activities in its jurisdiction. A person or an organization that intends to implement a project that affects the fishery resources must obtain permission from the Prefectural governor. Any activities that may discourage the growth of fish, seagrass, or any marine creatures considered fishery resources, may be regulated. There is no list of possible prohibited activities, but each instance is considered case by case. An excavation (or removal of soil) may, in some rare cases, require permission under the Act.

It is necessary to consult with the fishing cooperatives and the department in charge of fisheries at each Prefecture before conducting an excavation or a survey. If the fishing cooperative finds that the research activities are interfering with fishing in the area, the cooperative may ask for compensation for the losses. There always is a possibility that the fishing cooperative may not allow a project to take place, even though access to the fishing ground is not prohibited. If such an issue occurs, a Prefectural governor must be called to resolve the case. Because it is best to avoid such procedures, it is highly recommended that the local Board of Education organize meetings with all fishery cooperatives, explain the activities being conducted, and justify them based on the importance of the heritage being studied or protected.

The Mining Act: The Mining Act was established to set a basis for mining natural resources without harming the welfare of the people and society.³²⁰ The right to collect and acquire minerals is regarded as a mining right, which is a separate right from the land ownership. In 2011,

³¹⁹ Act No. 313 of 1954

³²⁰ Japanese Law No.289 of 1952.

the law was extended to include the mining activities conducted on the seafloor. Those who intend to look for mineral resources must ask for permission from the Minister of Economy, Trade and Industry.

It is to be noted that the regulations were enacted to restrict the form of the action and not the purpose of the action. In other words, an archaeological exploration that takes the form of a mining excavation may require a permit. Restricted actions include earth extraction, electromagnetic surveys, and intensive sample collection. If the excavation entails only the extraction of surface material, and only over a limited area, this law most likely will not apply. However, if the survey is extensive, or if core samplings require the use of large equipment, the project may require a mining permit, following all standing regulations. One positive note of this law is that, in Article 100 Section 3, there is a provision that the planned exploration should not damage nor hinder the protection of cultural properties. This act was written concerning mining activities on land, but the same principle should apply for mining under the seabed.

The Water Relief Act: The Water Relief Act is a law that outlines procedures for municipalities when encountering a vessel in distress and lost cargo at sea.³²¹ This is the Japanese version of the salvage law. It describes the processes and compensations for rescued ships and salvaged cargo. There was a need to codify various practices regarding how to deal with a ship in peril. The purpose of the act is to put the lost cargo back in the line of commerce and is not intended for ancient cargoes.

In the past, it was customary for local residents to salvage and claim ownership rights to items found at sea. The law made it necessary for the finders to report the items to an authority. When a shipwreck is found, it is necessary to determine, case by case, if the Water Relief Act

³²¹ Japanese Law No. 95 of 1888.

applies. If a possible Cultural Property is discovered, the finder must go to the nearest police station, and the chief of police must determine if the discovered object is a lost personal item or if it is a cultural property. As described above, it is important to educate the police regarding the possibility that some of the lost cargo may be of ancient origin. If the chief of police determines that the act should apply, the artifacts may be sold legally.

There may be cases in which the Water Relief Act may apply, even for artifacts more than 100 years old, for example, when the discovery involves a vessel with a foreign flag. Usually, Buried Cultural Properties are considered a local affair, and the excavated items will be the property of the state, requiring an export license when they are sent out of the country. As this is incompatible with the property rights of the country of origin, JACA alone cannot decide how the objects should be dispersed. The state of origin should be contacted, asking how the lost property should be managed. If the property rights are claimed by the flag state, the excavation project may be conducted, but the items should be kept and perhaps returned to the state of origin, following the Water Relief Act. When the flag state wishes to relinquish the right of ownership, the recovered items may become the property of Japan.

The Committee and the JACA Guideline

As mentioned above, the JACA Guideline, published by the JACA Committee, is the master document containing guidelines that will be the basis for the management of UCH. The five procedures - assessment, announcement, mitigation, preservation, and utilization - are discussed, followed by a description of the responsibilities of the governments at local, Prefectural, and national levels.

Principles: The JACA Committee focused on two main areas pertaining to the study and the protection of underwater sites. The first priority is given to advocating the significance of underwater sites, their relevance to the local communities, and to Japanese history as a whole. JACA states that public awareness of the significance of underwater sites should be promoted.

The second priority is the necessity to provide a clear and easy path to understand the standards and procedures for underwater sites' management. Based on this, JACA states the purpose of the Report is to: 1) create the guidelines for a reconnaissance, survey, and assessment; 2) establish a balance between development, research, and conservation; 3) use archaeological sites for public outreach; and 4) clarify the procedures and responsibilities of the national, government, Prefectures, and local municipal authorities. The report also states that Japan should actively seek information about how other countries are managing their UCH, and establish methods and guidelines of management that reflect international standards, combined with Japanese tradition. The JACA Guideline establishes eight important topics to be addressed:

- 1) The excavation, recording, and recovery of artifacts must be conducted by qualified divers, and facilities/equipment must be prepared for the purpose of managing UCH;
- 2) The safety of divers is one of the most important aspects of an operation;
- 3) Cultural Property managers must understand that the cost and timeframe for conducting a project underwater is greater than that of similar operations on land;
- 4) Because organic remains usually are well preserved when compared to the sites on land, there will be more artifacts that require conservation. In addition, some of the large items, such as hull remains, may require a specific treatment plan;
- 5) Composite artifacts, including hull remains with metal nails, may require specialized conservation techniques;

- 6) For the area of the sea where authority is not claimed by any nearby municipalities, all involved municipalities should discuss and agree on how to manage the particular site;
- 7) Several related regulations, other than the Act on Protection of Cultural Properties, may apply when conducting a research underwater; and
- 8) When discovering a vessel of foreign origin, negotiations must be made with the flag state; the ownership of the wreck and cargo has to be established before research may take place.

Assessment: The Heisei Year 10 Report states that the local Board of Education should be responsible for searching, assessing, and registering the buried cultural properties. In cases in which the local municipalities do not have a well-established plan to manage archaeological sites, the Prefecture's Board of Education should provide logistical and technical support, until the system and organization mature.

The Board of Education should strive to create a clear picture of the archaeological resources in its jurisdictional area, through the continuous upgrade of the existing archaeological site map. Prospective surveys and new information from all related projects should be included in the archaeological database. When the existence of a new site is suspected, a survey should be conducted to identify and assess its existence. When a new site is discovered, the local Board of Education, together with the Prefecture's Board of Education, must make a decision regarding the area to be registered and protected. The registered area should be based on empirical evidence and previous research. The results from new research should always be uploaded into the local archaeological database and reflected in the site map. The public should have access to updated information.

A basic and important task of the local government is registering, assessing, and publishing information about the site. The local Board of Education should always be on the

lookout for possible new sites and should collect information about the discoveries made by the fishermen and the public. Local government also is expected to promote the study of historical materials for possible wreck events or the existence of other types of submerged sites. When the presence of an underwater archaeological site is suggested in the historical records, the nature of the site should be assessed, and the survey location should be narrowed to the smallest possible area. For example, in a site such as a harbor, which has a component on land and underwater, a prospective survey on land may give a lead to the area extended seawards. Also, in an area where the water visibility is clear, a site may be identified from land or from a boat. A careful study of marine charts and bathometric data also may help identify a possible site.

Finding an underwater site, without any previous clues, is extremely difficult, but usually there is some information available from historical records, fishing communities, divers, and developers. The Board of Education should create an archive of historical records regarding possible shipwreck events and references of submergence or tsunami damages. Locations of possible shipwreck sites should be marked on the site map.

Perhaps the most reliable information for the possible location of a submerged site comes from the stakeholders, such as fishery cooperatives and local dive shops. There should be a straightforward system for reporting finds from the sea. It is commonly understood that, when an item is raised from the sea, the finding should be reported to a local police officer or to the coast guard and to be processed as lost property. However, when a historical artifact is raised from the sea, it can be considered to be buried cultural property, and, as such, it should not be reported as lost property. The decision to consider whether an artifact is lost property of an individual, or shared heritage, falls upon the police office. It is advised that the Board of Education explain the

importance of UCH to the office in charge of the community; the Board of Education also should encourage the police to contact the Board if they have any questions regarding an item.

It also is important to reach out to local communities about the importance of UCH, to encourage the reporting of a possible site or a chance discovery. It may be necessary for the Board of Education to visit the local marine-related industries and communities to explain the benefit of protecting the local underwater legacy. Development projects over water often are extensive, sometimes stretching over several municipalities. For such projects, there must be cooperation among municipalities and the Prefecture's Board of Education. Local Boards of Education should build a strong relationship with the neighboring municipalities, share information, and perhaps conduct joint reconnaissance surveys encompassing large areas.

Registering/Creating Site Map: The map of protected sites should be made available to the public permanently, and periodic updates should be announced. In general, the extent of each site should be clearly marked on the map. There should be periodic activities aimed at making the public better understand the extent and importance of a site. Considering that the purpose of the map is to inform the public about the existence of archaeological sites, the sites may be shown as dots, rather than as an area delimited by a line, in order to avoid ambiguity when planning a development. Furthermore, a possible location of a wreck site from historical records may be illustrated, even if a site cannot be located by conducting a remote sensing survey. The location of chance discoveries of artifacts also may be marked on the map. Any information that may help the public to view a possible underwater site also should be made available. The local authority may devise a new way to mark a possible site if it is believed that this would help the public to understand its location better.

Age Criteria for Protection: The Heisei Year 10 Report states that in principle, sites older than the Early Modern Era (around the year 1600) must be registered for protection, while sites after the 17th century should be considered for protection if the site is important for the local community. Sites from the Modern Era (mainly from the Meiji period) may be considered for protection if they are essential for the understanding of the local community.

It can be assumed that many of the underwater archaeological sites still to be discovered in Japan postdate the 1600s. Some of them are vessels of foreign origin. Historical sources can identify the detailed history of commerce and inter-regional relationships and are considered highly valuable resources for the study of the past. The importance of underwater sites, especially shipwrecks, should be assessed with inter-regional, or international perspectives in mind and not solely based on the significance for the local community to which a site belongs.

Mitigation of UCH Sites: The Heisei Year 10 Report mentions that the success of heritage management policies is achieved through the cooperation of the public, or stakeholders of the land where the site is located. For public works, it is paramount to establish a strong link between the different departments responsible for planning. For private development projects, the Board of Education should intervene at the earliest stage, preferably when the construction plan is first known. If the nature of the archaeological remains in the area being developed is not clear from the assessment survey, it is necessary to conduct additional prospective surveys and test trench excavations. All meetings between the developers and the Board of Education should be recorded. The final agreement should be made into a contract with a detailed project plan including the time frame and budget.

To avoid a breach of contract, the Board of Education should make the best use of the result of its surveys; the initial assessment of sites is thus critical to avoid unwanted costs. New

survey and site recording techniques should be used to increase knowledge of underwater sites. It is particularly important to communicate as often as possible with the developer and all the stakeholders during the project to ensure that there are no misunderstandings. When construction is planned within a protected area, the developer must consult with the Board of Education. The Heisei Year 10 Report recommends that the procedures for mitigation be defined and implemented in a timely manner.

The stakeholders of the underwater sites often are related to harbor and coast developments. This means that the municipality should strive to create stronger ties with the interested departments, such as port authorities, fishing industries, marine authorities, and departments responsible for dredging and reclamation projects. The Board of Education should contact these offices and explain the importance of protecting underwater sites, as well as their responsibilities in the process. They also should open communication channels and check the procedures when a site is discovered or when construction is being planned. As with the case of archaeological sites on land, unnecessary excavation of the site should be avoided, and developers should be encouraged to protect the site in situ. It sometimes is difficult to find an archaeological site underwater, and it is important that the developers understand the need to supervise their work with watchful eyes, even after the permit is given for the development.

The Excavation: When recording a site due to construction, the developer should pay for the cost of the operation. Several considerations have to be made in deciding whether to excavate a site. Since few municipal officers have experience in underwater excavation techniques and procedures, the majority of the underwater work should be conducted by hired professional divers. However, the local officers should be able to see the site, through diving - even for short visits - or through video, and make the excavation plan based on that evidence. A few municipalities have

experienced diver-archaeologists, and perhaps it is a good idea to involve public archaeological groups and universities in order to develop capacities in the country. The Board of Education should strive to collect information regarding field methods for underwater archaeology and be prepared to plan an excavation.

Because there are no official standards or guidelines for excavating underwater sites, JACA is planning to create a set of guidelines and training programs for research on underwater sites. Japanese universities should be encouraged to develop courses that teach the subject, thereby fostering interest in the study of the country's underwater heritage.

Conservation: The cost of conservation is borne by the municipality; it is the responsibility of the local community to ensure the survival of its heritage. The municipality can contract private conservation laboratories for the actual work. When a site is left in situ, a monitoring plan should be in place, checking for possible degradation of the artifacts and features over time.

Once artifacts are raised from the seabed, conservation must follow the internationally established standards for waterlogged or wetland sites. Extra care should be taken because the materials may be more fragile than finds from a land site. Artifacts from marine sites may require specialized skills, and it may be necessary to use a conservation laboratory with trained personnel, prepared for the job in hand.

Japan has not had the experience of raising a complete hull from an underwater archaeological site, but this has been done in other countries, which suggests that this solution is viable. The hull must be carefully excavated, conserved, and the information from the research must be shared widely with the public through effective means, such as exhibitions and publications. In some of these projects, the public has shown a great interest in and willingness to support the effort. These projects have effectively contributed to the enrichment of society. Despite

the fact that there is a possibility of raising a hull, a local municipality cannot fund its conservation; this requires a national budget. A completely different site management system may be needed when attempting to raise a hull.

The methods for protecting sites in situ can be studied from research conducted worldwide. To prevent the erosion and the spread of artifacts, sites may be covered by sediment and protected with netting. For sites containing organic materials, it is important not to expose the artifacts. These sites should be fully covered to a sufficient depth, and with protective sheets, such as geotextile materials, to prevent the loss of sediment. They should be monitored, and their status should be updated. Depending on the results of the monitoring, it might be necessary to change preservation techniques. Even for the sites that are protected in situ, limited excavation should be conducted, and, at the same time, researchers should be considering the methods for protecting such sites. It is highly advisable that the results of this research be shared among the municipalities to enhance the knowledge of how to protect underwater sites effectively. The Takashima underwater site in Japan has experienced success in situ preservation and monitoring. The information that saved this site should be shared with other municipalities.

Public use of the heritage: One of the missions of the local Board of Education is to promote the use of the area's heritage for the benefit of the public. The heritage should be shared by the communities maintaining the integrity of artifacts and sites. The public use of archaeological remains may take many forms. These include access to the site itself, the exhibition of artifacts at a museum, and the publication of the results of the research in scholarly or popular publications.

As discussed above, one reason for the apparent lack of interest in underwater archaeology in Japan is that the people are not well informed about underwater sites. The dissemination of research results is essential for the future of the field. There are various ways to

broadcast the importance of protecting underwater sites and the historical research they produce, including public lectures, exhibitions of artifacts and results, and posters (on paper and online).

Access to the facilities is critical. This can be accomplished through tours of conservation centers, diving tours, and observation of the site from a boat, the shore, or through virtual representations. In addition to these activities, releasing information through public media is an important means to educate the public at large. With broader public support, it will be easier to negotiate a mitigation plan with the stakeholders. It is important that municipal officers remember that the preservation and protection of the underwater sites is their key responsibility, and the promotion of the cultural heritage must not undermine this principle.

Responsibilities of the National, Prefectural, and Local Governments

The responsibilities of the National, Prefectural, and local governments in regard to UCH are outlined in the JACA Guideline. The day-to-day management of UCH is performed by the local government, and it will create a protection system that best fits local needs. However, it will take some time for the municipality to create this system because most of the municipalities have little experience dealing with underwater sites. There are not many trained diver archaeologists in Japan, and certainly not enough to fill the needs of all the cities.

Some archaeological sites, such as wrecks of foreign origin, cannot be managed through local municipal offices alone. Local Prefectural and national government offices will have different roles to play, and all the parties should strive to create a better system of managing these finite resources. For example, beginning in the 1960s, when the current system of archaeological site management began to develop, JACA, together with the Nara National Research Institute for Cultural Properties, supported local municipalities by providing workshops or training programs.

A similar supporting program should be created for managing underwater sites. The national government must provide some financial support for local municipalities and should be instrumental in organizing programs for professional development.

Local Government

The local government or municipal Board of Education should be the first department to be consulted when dealing with UCH issues. The surveys for site identification and maintenance of archaeological site databases should be kept locally. The construction companies should make arrangements through the local municipal offices when planning for development. The initial conservation should also be planned and executed locally. The most important task is to create a reliable and comprehensive site map and database for underwater sites. The initial step in creating this map is gathering previous research. Local fishing cooperatives and other maritime related industries may know the locations of possible sites; they may know some anomalies underwater without being aware that the anomalies may be of great historical significance. Inquiries made to the local stakeholders are always helpful. This information should be gathered and the data analyzed at the local level. Usually, many of waterfront development projects are managed at the Prefectural level. Therefore, it is important for the local municipality to be in regular communication with the Prefectural government. Local governments must also create a system for reporting chance discoveries and promote a better understanding of the importance of UCH by establishing public education programs.

Prefectural Government

Although Prefectural governments are not the primary caretakers, the Prefectural Board of

Education plays an important role in protecting UCH. Prefectures should support the local governments by providing technical advice, as well as financial support. In development projects that cross municipal boundaries, the Prefectural government becomes the location of the primary management office. The Prefectural government must decide on the impact of the work, whether a site should be preserved in situ or excavated, and what type of research must be carried out to supply information for an exhibition. These are just some of their responsibilities. Final decisions should be reached, with the developers, stakeholders, and local municipalities agreeing on the outcome. Prefectural governments should also be responsible for the communication between JACA and the local stakeholders, acting as a bridge between the local community and the central authority.

Prefectural governments must create and disseminate clear guidelines and sets of procedures for maintaining the balance between the interests of developers and local municipalities. The responsibilities should not be confused as a list of short-term goals, but all programs and rules should be set with long-term goals in mind. The priority of Prefectural governments is to promote a better understanding of the nature of a region's underwater archaeological heritage and to generate the public's awareness of UCH. To do so, it is recommended that they create a position for an underwater heritage officer.

Central Government

The central government should gather information regarding international development and global trends in the field of underwater archaeology. The central government should establish clear directives for the Prefectural and local municipalities to follow. To facilitate and improve research methods, the government should support and encourage research on this subject. The

government should secure funding to support the municipalities in need, and to help them improve the management models to finance research or mitigation projects.

When an important discovery is made, the central government should be ready to facilitate its registration as a national heritage site. The knowledge gained at the local Board of Education level must be transmitted to other local municipalities, and the information regarding international standards also should be made available to them. Finally, the government should direct the creation of training programs and help by placing underwater archaeological officers in municipalities in need. In the near future, the national government should create a center or a department for underwater archaeological research.

CHAPTER VII CONCLUSIONS

Summary of the Studies

Research on UCH in Japan started in the early 20th century, but the field did not grow rapidly. In the 1970s and 1980s, the need to ensure that construction projects did not damage the country's historical legacy appears to have propelled some growth in the field of underwater archaeology. However, underwater excavation remained a minor sub-field of archaeology, and little professional development took place. Following the management pattern of land archaeology, the protection of Japan's UCH became the responsibility of local municipalities.

JACA was aware of the existence of underwater sites and the need to protect them but did little to establish a system, or a set of guidelines, for municipal officers to follow. After the 1990s, several groups became active in UCH research, but still, there was no competent authority for the protection of UCH. The discovery of the Mongol wrecks at the Takashima Underwater Site sparked interest in managing the country's UCH. The JACA Committee was created and published its Guideline in 2017. JACA has plans to publish a manual for activities directed towards UCH in the next few years.

As shown in this dissertation, it is important to know the scope and historical context of UCH in Japan before beginning any research on the topic. For this purpose, the author created a database of known UCH sites, categorized by age, type, location, and current status. Close to 600 UCH sites have been identified in Japan, but the collected data show large variations in number and kind of sites from region to region. The regional differences mainly are due to the level of interest by the local municipal officers.

The majority of the registered UCH sites are prehistoric submerged-settlement sites located inland. Maritime sites, such as shipwrecks along the coast, still are rare. Many of the inland sites that have been registered were excavated due to lakefront development projects. This situation reflects the fact that the need for surveys is not yet recognized in the country. Many of the sites are found accidentally on construction locations, and thus are excavated unscientifically, often by archaeologists without any special training.

As an island nation, Japan must have thousands of shipwreck sites waiting to be discovered. However, there has been little study on assessing the potential of this particular type of UCH site. To find the missing shipwrecks, the researcher compiled marine disaster records and municipal records from all the Prefectures in the country. Following this effort, future research must be conducted, but a detailed study of sites must be conducted by scholars with knowledge of local historical sources.

This study included close to 6,000 entries. Again, the data appear to show some regional differences in the number of local vessels and ship types, but differences reflect which records were kept and compiled by the municipal officer responsible for the local archive. The majority of the records are from the Edo period, but some are much older because the municipalities have kept records for more than 1,000 years. Foreign trade peaked in the 18th century across Japan. The 19th century, corresponding to the time when European powers approached Japan, was a time of decline in maritime trade.

While considering various topics regarding Japan's UCH, the researcher looked at the ways in which other countries around the world are managing their UCH. Seven countries were selected as case studies. In general, their management frameworks for underwater sites are similar and/or show no difference from the system of managing sites on land. Usually, there is a competent

authority in the central government, which provides some technical support and establishes guidelines. Korea and France have a strong central authority, while the U.S. appears to have little central control regarding the management of their UCH. The management of UCH in the international context can be a complex matter, but the 2001 UNESCO Convention provides a solution that was accepted by many countries.

Japan created a decentralized, but highly effective, management model for the protection of the buried cultural properties on the land. However, the system is not easily applicable to underwater sites. The reasons for the lack of such development are not completely clear. In the last five years, the JACA Committee, using some of the data in this dissertation, published a set of guidelines recommending that the central government, Prefectural governments, and local municipalities work together to create a better system for managing Japan's UCH. The management system proposed is reasonable, inclusive, functional, and based on the management model for land archaeological sites. Building awareness about Japan's Underwater Cultural Heritage and creating local archaeological maps and databases of on-land and underwater sites are the first steps to take in implementing this policy.

Concluding Remarks

Despite a long history of interest in underwater relics, the Japanese archaeological community has largely been indifferent to the necessity of establishing a management system for the study, preservation, and dissemination of the country's UCH. This dissertation covers the history of underwater archaeological research, its current status in Japan, the available maritime accident records, as well as the systems of UCH management around the world. Based on this, the research suggests that the best management plan for Japan's UCH is one in which the main tasks are conducted by municipal cultural officers at a local level, just like they do with the land sites.

JACA's responsibility will be to establish policy guidelines and to provide advice to municipalities, as well as to check the overall management plan. The municipal archaeologists will manage the underwater sites, according to the principles set by JACA. Their main task will be to register new sites and, perhaps, to organize surveys and excavations with the help of avocational underwater archaeological groups or private companies. Small-scale excavations may be conducted through networks of professional and private archaeologists.

As this scheme is only a proposal and not a complete plan, the details regarding how to incorporate the non-archaeological community and other stakeholders into the overall heritage system have not been fully considered. A sudden change in the Japanese archaeological community may not be possible, but the author believes this study will instigate more interest and in-depth studies of Japan's unique and priceless underwater heritage.

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APPENDIX A

TIMELINE OF JAPANESE HISTORY

Paleolithic Era (PL)	? - 16,000 B.P.	
Jomon Era (JO)	14,000 BCE to 300 BCE	
Yayoi Period (Ya)	300 BCE - 300 CE	Proto-Historic Era
Kofun Period (Ko)	300-538 C.E	
Asuka Period (As)	538-710 CE	
Nara Period (Na)	710-794 CE	
Heian Peiriod (He)	794-1185 CE	
Kamakura Period (Ka)	1185-1336 CE	Middle Age Era
Muromachi Period (Mu)	1336-1573 CE	
Azuchi-Momoyama Period (Am)	1573-1603 CE	
Edo Period (Ed)	1603-1868 CE	Early Modern Era
Meiji Period (Me)	1868-1912 CE	Modern Era
Taisho Period (Ta)	1912-1926 CE	
Showa (Sa)	1926-1989 CE	
Ainu Period (Ai)	7 th cent CE-1868	in Hokkaido
Gusuku Period (Gu)	11-16 th cent CE	in Ryukyus

APPENDIX B
SITE INFORMATION

Name of the Sites, Descriptions, and Japanese Names

Site ID	Name of the Site (English)	Description	Site Name in Japanese
HOKKAIDO			
1	<i>Kaiyo-Maru</i> Wreck Site	Tokugawa Bakufu's Battle ship, purchased from the Netherlands. Excavated and artifacts conserved. Hull is preserved in situ.	開陽丸
2	Abashiri Lake Bottom Site	Stone tools and pottery found.	網走湖底
3	Kaminokuni Haror Site	Mainly Edo period ceramics found in a port.	上ノ国漁港遺跡
4	<i>Kanrin-Maru</i> Wreck Site	Survey is currently being conducted, but no hull has been found.	咸臨丸（未確認）
5	Matsumae Town Beach Collection	Large concentration of porcelain from Kyushu found along the shore.	松前町海岸採集品
6	Mori Pier Site	Pier posts from the Meiji era, preserved in situ.	森棧橋跡(史跡)
7	<i>Choyo Maru</i> Wreck Site	Tokugawa Bakufu's battleship. Artifacts raised, and hull buried for land reclamation.	朝陽丸
8	Asari Hama Granite Rocks	A large number of non-local rocks found along the beach.	あさり浜花崗岩
9	Nozuke Site and Banya Site	Submerged trading port.	野付通行屋跡・番屋跡遺跡
10	Yanagisaki No.3 Site	Found by local high school students, but the exact location has been lost since.	柳崎3遺跡（通称厚沢部川河口遺跡）
11	Kitamae Sen Wreck Site	Possible shipwreck reported in 1920s; perhaps a wreck of the Kitamae trade ship.	北前船遺跡
12	Onuma Lake Bottom Site	Stone tools and pottery found.	大沼湖岸遺跡（仮称）
13	Numanohashi Logboat	Logboat found underwater.	沼ノ端丸木舟遺跡
14	Kashiwara Logboat	Logboat found underwater.	柏原丸木舟遺跡
15	Kyu-Abira River Logboat	Logboat found underwater.	旧安平川丸木舟遺跡
16	Shibunotunai Lake Bottom East Site		シブノツナイ湖底東遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
17	Shibunotunai Lake Bottom West Site		シブノツナイ湖底西遺跡
18	Tommap River Site		トマップ川沖湖底遺跡
19	Ukimido Site		浮見堂遺跡
20	Akke Lake Logboat	Logboat found underwater.	厚岸湖底遺跡
21	Kotan Beach Site		古潭浜遺跡
22	Touro Lake Bottom Site		塘路湖底遺跡
23	Komuke Lake Front Site	Early Jomon Pottery found.	コムケ湖岸遺跡
24	Kushiro Paleolithic Find	Paleolithic tools found offshore.	釧路沖 旧石器発見地
AOMORI PREFECTURE			
25	Wakinosawa Oki Find	Ceramics caught in fishnets.	脇野沢沖
26	Tosaminato Site	Partially submerged extensive harbor town.	十三湊遺跡
27	Jomon Swamp Site	Pottery found.	縄文沼遺跡
28	Ashino Lake Bottom Site		芦野湖遺跡
29	Kodomari Oki Site	Paleolithic tools found offshore.	小泊沖遺跡
30	Chogo Oki Site	Paleolithic tools found offshore.	長後沖遺跡
31	Ashino Tanabatano Site	Pottery found.	芦野七夕野遺跡
32	Sunazawa Site	Pottery found.	砂沢遺跡
IWATE PREFECTURE			
33	Boshin War Naval Battle Site	Battleship Takao, lost during the Boshin War in 1869.	戊辰海戦古戦場
34	Tosen-Jyo Site	Pier posts and foundation found.	渡船場遺跡
35	Goro Swamp Site	Pottery found.	五郎沼遺跡 (比爪館跡遺跡)

Site ID	Name of the Site (English)	Description	Site Name in Japanese
MIYAGI PREFECTURE			
36	Bagyu Swamp Site	Ceramics found.	馬牛沼遺跡
37	Kasashima River Site	Pottery, and possible oar found.	笠島川遺跡
AKITA PREFECTURE			
No Data/Site			
YAMAGATA PREFECTURE			
38	Tobishima Oki Site	Ceramics found.	飛島沖
39	Kuromori Site	Pottery found.	黒森遺跡
FUKUSHIMA PREFECTURE			
40	Lake Hibara Submerged Village Site	A village submerged due to volcanic eruption changing the river course.	桧原湖水没村
41	Mt. Azuma Hakuho Temple Site	A village submerged due to volcanic eruption changing the river course.	吾妻山白鳳寺跡
42	Hibara Shukuba Site	A village submerged due to volcanic eruption changing the river course.	桧原宿場跡
43	Sanjo Gata Lake Bottom Site	Pottery and ceramics found.	三城潟湖底遺跡/三城潟沖湖底遺跡
44	Iriehama Lake Bottom Site	Pottery, mortar, and other artifacts found.	入江浜湖底遺跡
45	Matsubashihama Lake Bottom Site	Pottery and stone tools found.	松橋浜湖底遺跡
46	Ushinumakawa Lake Bottom Site		牛沼川・口湖底遺跡
47	Ainame Oki Lake Bottom Site	Pottery found.	相名目沖湖底遺跡
48	Kanisawahama Lake Bottom Site	Pottery, stone tools, and jade objects found.	蟹沢浜遺跡/蟹沢浜湖底遺跡
49	Nagahama Lake Bottom Site	Ceramics found.	長浜遺跡/長浜湖底遺跡
50	Okido Kiln Site	At least four kilns identified underwater.	大木戸窯跡群

Site ID	Name of the Site (English)	Description	Site Name in Japanese
IBARAKI PREFECTURE			
51	Sharihana Beach Site	Very little Information; possible wooden hull reported?	舎利浜海岸
52	Kitaura Oki Site	A report of possible shipwreck?	北浦沖
53	KaidoChifune jizo Site	Shipwreck reported and a monument has been built near the site on land.	海道地船越 地蔵・沈没船
TOCHIGI PREFECTURE			
54	Nasusosui Site	Industrial heritage site; underground water-duct built in the Meiji period.	那須疏水
GUNMA PREFECTURE			
55	Shimonyunakayama Site		下丹生中山 I 遺跡
56	Minumaookami Site	Bronze Mirror collected.	ミヌマオカミ遺跡
SAITAMA PREFECTURE			
No Data/Site			
CHIBA PREFECTURE			
57	Tateyama Okinoshima Site	Whale bones, stone tools, and pottery found from the shore to sea floor. Partially submered settlement.	館山沖ノ島 遺跡
58	Okitsu Beach Site	A few thousands ceramic fragments found along the beach. The majority of the finds are poreclain from Kyushu (early Imari ware) probably carried on Kitamae Trade Ships, and traveling southward towards Edo.	興津海浜遺 跡
59	Hermann Shipwreck Site	A U.S. built paddle wheel steamer, <i>Herman</i> , wrecked during a storm carrying troops. Located and recorded.	ハーマン号
60	San Francisco (1609) Shipwreck Site	Manila Galleon <i>San Francisco</i> , wrecked in 1609. A possible stone canon ball found. Currently survey project being conducted.	サン・フラ ンシスコ号 (未確認)
61	Sakaenoura Beach Site	Possibly two sites found together. Ceramics eroded out from possible shipwrecks found on top of submerged site with Jomon Pottery.	栄ノ浦海岸
62	Kuriyama River Sites	Logboat found underwater.	栗山川流域 遺跡群
63	Futtu Cape Site	Ceramics and a gold bell collected. Stories of possible shipwrecks are known from the area.	富津岬沖

Site ID	Name of the Site (English)	Description	Site Name in Japanese
64	Sengoku Vessel Site	A vessel carrying stones for Edo castle has been salvaged in the 1930s.	石材運搬千石船
65	Kaiho No.1 Site	Man-made island for defensive purpose (canon platform).	第一海堡
66	Kaiho No.2 Site	Man-made island for defensive purpose (canon platform).	第二海堡
TOKYO			
67	Inokashira Lake Site	Paleolithic tools and Pottery found in a lake. Perhaps eroded and washed from a nearby land site?	井の頭池遺跡群
68	Shinagawa Odaiba Sites	Man-made island for placing cannons for defense (canon platform).	品川お台場第3号/第6号
69	Kozhu Island Oki Site	Iron grapnel anchor and other artifacts raised. Surveyed in the 1990s.	神津島沖海底遺跡
70	<i>Dai Ni Iyo Maru</i> Wreck Site	A possible wreck of <i>Iyo-Maru</i> , wrecked in 1705. A local diver reported a finding.	第2伊予丸沈没地
71	Gold Koban Salvaged Point	Gold Koban (Japanese oval gold coin) found in the 1950s. Part of a cargo from a vessel wrecked in 1603, 1705, or 1737, according to historical records.	小判出土地
72	Okada Harbor	Houses and vessels washed away during the Genroku Earthquake (1703). Artifacts were raised in the past.	岡田港
KANAGAWA PREFECTURE			
73	Ishibashi Oki Site	Several large cut stones which were going to be used for Edo castle can be found at the sea bottom and along the beach.	石橋沖海底遺跡 (石丁場跡)
74	Zaimokuza Beach Site	Ceramics from the Kamakura period found on the beach near Wakae-Jima site. Some Yayoi Pottery fragments are also found.	材木座海岸
75	Mito Beach Site	Several large rocks, believe to be on the way to be used for the Edo Castle, found on the beach.	三戸海岸
76	Izu Stone Site	A large pile of rocks, perhaps a ballast pile or rocks to be used for castle wall, found underwater.	伊豆石
77	Yokohama Harbor Area	Harbor complex built in the early Meiji period. Pier, dock, and some section of the port preserved (and reconstructed) for the public to view.	横浜港周辺 (象の鼻・棧橋・台場)
78	Wakae-jima Site	Stone wall harbor structure built during the Kamakura period; one of the oldest such structure in the country, and the first Registered National Historic Site (in 1968) partially submerged.	和賀江島遺跡
79	Ashino Lake Bottom Site	Ceramics found from the lake bottom.	芦ノ湖底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
80	Nebukawa Train Station Site	Train station platform submerged during the Great Kaneto earthquake in 1923.	根布川プラットフォーム
81	Kaiho No.3 Site	Man-made island for defensive purposes. Destroyed during the Great Kaneto Earthquake in 1925. Now utilized for the public to view.	第3海堡
82	<i>Haya-Maru</i> Wreck Site	Part of a hull found and partially raised during the early Showa period. Hull may be still underwater.	早丸
83	USS Oneida Wreck Site	Found and partially raised in the early Showa period. Hull and most of the artifacts still underwater.	オネイダ号
NIIGATA PREFECTURE			
84	Izumozaki Oki Taraba Site	Chinese ceramics, Karatsu ceramics, and other artifacts were raised. Known site since the Meiji period.	出雲崎沖タラバ (寺泊)
85	Kakudahama Oki Site	A collection of items raised. Shogoro Tsuboi has conducted a research.	角田浜沖
86	Arahama Oki Site		荒浜沖海底遺跡
87	Shiuya Oki Site		椎谷沖海底
88	Nadatchi Underwater Site	A collection of ceramics found in the late 1950s.	名立海底遺跡 (タラバ)
89	Shironohana Site	Pottery fragments found.	城の鼻遺跡
90	Torisaki Site	Pottery and ceramics found.	鳥崎遺跡
TOYAMA PREFECTURE			
91	Himihama	Pottery found.	比美浜遺跡
92	Yokata Oki Site	A possible stone quarry site. The shore line has moved 700 m inland due to erosion.	四方漁港沖引き上げ品
93	Karashima Site	Part of a shrine complex has submerged.	唐島遺跡
94	Abugashima Site	Part of a shrine complex has submerged.	虻ガ島遺跡
95	Uozu Submerged Ancient Forrest	Submerged and petrified forrest dating 2,000 B.P.	魚津・神通川沖埋没林
ISHIKAWA PREFECTURE			
96	Wajima Oki Shipwreck Site	Mainly ceramics remains raised.	輪島沖沈没船？

Site ID	Name of the Site (English)	Description	Site Name in Japanese
97	Shibayama Lagoon Midden Site	Pottery, stone tools, and sea shells found; possible midden.	柴山潟底(水底)貝塚
98	Shibayama Midden Site	Pottery found from submerged midden site.	柴山水底貝塚
99	Suzu Oki Site	Ceramics found. Multibeam survey conducted but no wreck has been identified.	珠洲市沖海底 (姫島礁など)
100	Fukuura Harbor	Ceramics found. Preliminary survey conducted.	福浦港
101	Ansei Gold Koban Salvaged Point	Gold Koban found in the past.	安政小判引き揚げ地
102	Unknown Shipwreck Site	Possible wooden hull reported, unidentifiable. Little information available.	沈没船
FUKUI PREFECTURE			
103	Yashirohama Site	Wood Statue (of Buddha?) wrapped in cloth found during a dredging project.	小浜市矢代浜
104	Gentatsuse Site	Known locally as a place to find a collection of ceramics. Several shipwrecks may be present?	玄達瀬
105	Mikuni Harbor Groynes	Industrial heritage site. Harbor structure left in situ.	三国港 (旧阪井港) 突堤
106	Kitahori Midden Site	Human remains found within partially submerged midden.	北堀貝塚
YAMANASHI PREFECTURE			
107	Yamanaka Lake Bottom Site	Stone wall identified. Thought to be submerged with the eruption of the nearby mountain took place in 937?	山中湖底遺跡
108	Motosu Lake Bottom Site	Ceramic fragments found.	本栖湖底遺跡
NAGANO PREFECTURE			
109	Sone Lake Bottom Site	The Nation's first scientifically investigated underwater archaeological site. Paleolithic tools found underwater. Believed to be a gradually submerged site.	曾根遺跡
110	Nojiri Lake Bottom Site	Research originally conducted in the 1960s. Stone tools and wood remains found.	野尻湖底遺跡
111	Nojiri Lake Sugikubo Site	Research conducted in 1955. Found one of the oldest Paleolithic tools in Japan.	野尻湖杉久保遺跡
112	Nojiri Lake Tachigahana Site	Submerged site. One of the only site that shows Naumann elephant and human coexisted in Japan.	野尻湖立ヶ鼻遺跡
113	Oike Minami Site	Stone tools, and pottery fragments found.	大池南遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
114	Ebisumahara Site	Stone tools found.	エビスマ原遺跡
115	Kawanishikita Site	Stone tools found.	川西北遺跡
116	Kumanba Site	Pottery and various stone tools found.	クマンバ遺跡
117	Shirahama I Site	Pottery found.	白浜 I 遺跡
118	Shirahama II Site	Pottery found.	白浜 II 遺跡
119	Shirahama III Site	Stone tools and pottery found.	白浜 III 遺跡
120	Ikkenya Site	Pottery found.	一軒家遺跡
121	Ienoshita Site	Pottery and stone tools found.	家の下遺跡
122	Sasanannba Site	Stone tools found.	ササナンバ遺跡
123	Aoki I Site	Stone tools found.	青木 I 遺跡
124	Aoki II Site	Wide variety of stone tools, pottery, and ceramics found.	青木 II 遺跡
125	Aoki III Site	Stone tools found.	青木 III 遺跡
126	Kizaki Lake Bottom Site	Pottery and stone tools found.	木崎湖底遺跡
GIFU PREFECTURE			
127	Fujikake Submerged Site	Pottery found on a river bank.	藤掛水没遺跡 (木曾川中洲)
SHIZUOKA PREFECTURE			
128	Niel-gou Shipwreck Site	A French vessel wrecked in 1874. The vessel was carrying Japanese National Treasures exhibited at Paris Expo. Hull has been identified and surveyed. It is registered as a known and protected site.	(伝) ニール号沈没地点
129	Muragushi Beach Oki Site	Pottery found.	村櫛海水浴場沖遺跡
130	Benten Island Site	Pottery and stone tools found.	弁天島遺跡
131	Futo Stone Quarry Site	Large stones for building castle found underwater. The site located off shore from the quarry site on land.	富戸石丁場群

Site ID	Name of the Site (English)	Description	Site Name in Japanese
132	Chojagahara A Site	Ceramic remains found, and the site is well preserved.	長者ヶ原 A 遺跡
133	Chojagahara B Site	Stone tools and pottery found.	長者ヶ原 B 遺跡
134	Yoshina Kiln Site	Pottery found from a possible submerged kiln site.	吉名古窯跡
135	Tsuboi Town Hamana Lake Bottom Site	Ceramics found.	坪井町浜名湖底遺跡
136	Fukiage Kita Site	Pottery found.	吹上北遺跡
137	Nishi Hamana-Bridge Kita Site	Ceramics found.	西浜名橋北遺跡
138	Araibenten Oki Site	Stone tools and pottery found.	新居弁天沖遺跡
139	Zeze Site	Stone and bone tools found.	ゼゼラ遺跡
140	Sutemo Site	Stone and bone tools found.	ステモ遺跡
141	Hatsushima Shipwreck Site	Hull remains found intact. The vessel was carrying roof tiles with Tokugawa's clan mark inscribed. ARIUA are currently conducting recording of the site.	初島沖沈没船
142	Doutaka Site	Pottery and fishing tools found.	洞高遺跡
143	Higashitometa Underwater Site	Possible submerged site found during harbor renovation.	東留田海中遺跡
144	Nagisaen Site	Pottery found.	渚園遺跡
145	Ougonzaki Park Beach Site	Possible shipping port for castle stones.	黄金崎公園ビーチ沖
146	Mera Koura Beach Site	Concentration of ceramic fragments on a beach, perhaps eroded from a shipwreck.	妻良・子浦海岸遺物散布地
147	Frigate <i>Diana</i> Shipwreck Site	Russian Frigate <i>Diana</i> wrecked in 1854. An anchor has been found and raised.	ディアナ号沈没地点 (未確認)
148	Atami Oki Site	Possible stone anchors and piles of stones found.	熱海沖海底遺跡 (未確認)
149	Sakume Submerged Site	Survey conducted to locate a submerged village, but yet to be identified.	佐久米沖の浜名湖湖底遺跡 (未確認)

Site ID	Name of the Site (English)	Description	Site Name in Japanese
150	Futo Stone Wreck Site	A Large pile of rocks and wooden remains were once seen by divers, but now lost.	富戸沖石積み船（未確定）
AICHI PREFECTURE			
151	Yasaku River Site	Submerged forest around 3,000 B.P., and a well from the 15 th century has been found.	矢作河川床遺跡
152	Stone Quarry Site	Large stone for constructing Nagoya castle wall has been found.	矢穴石・石切り場
153	Ishigaki Mooring Stones	Mooring posts placed off shore are said to be visible. Legend of a temple swallowed by Tsunami is also known in the area.	石垣沖の千石船係留石柱
154	Narumi Underwater Site	Bronze ritual objects has been collected at sea.	鳴海海底（遺跡）
155	Hazu Cape Underwater Site	Pottery found.	羽豆岬海中遺跡
156	Yamazaki Site	Pottery, stone tools, wood remains found.	山崎遺跡
157	Ikeshita Site	Pottery found.	池下遺跡
158	Kurotani A Site	Pottery, and stone tools found.	黒谷 A 遺跡
MIE PREFECTURE			
159	Taino Island Site	Divers located a site? Very little information available.	鍋島(タイのしま) 伝説
160	Jiro-Rokuro Site	Stone tools found along the beach.	次郎六郎遺跡
161	Komidoumae Site	Stone tools found long the beach.	小御堂前遺跡
162	Osaki Site	Stone tools found along the beach.	大崎遺跡
SHIGA PREFECTURE			
163	Yogo Lake Bottom Site		余呉湖底遺跡
164	Shiozu Harbor	Part of submerged temple foundation.	塩津港遺跡
165	Katayama Lake Bottom Site		片山湖底遺跡
166	Mukoyama Site		向山遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
167	Teragaura Site	Stone tools and pottery found.	寺ヶ浦遺跡
168	Tsuzuraosaki Lake Bottom Site	Found during the Taisho period. The site located at 70 m deep. Many complete pottery and ceramic wares found.	葛籠尾崎湖底遺跡
169	Morokawa A Lake Bottom Site		諸川湖底 A 遺跡
170	Asozu Sengen Site	A legend of a submerged land nearby.	阿曾津千軒遺跡
171	Kido Site		木戸遺跡
172	Ogamihama Site	Logboat and wood remains found.	尾上浜遺跡
173	Ogami Casle Site		尾上城遺跡
174	Yogo Rivr Mouth Site	Petrified submerged forrest found.	余呉川河口遺跡
175	Ogami Site		尾上遺跡
176	Imanishi Lake Front Site		今西湖岸遺跡
177	Enshoji Lake Bottom Site	Oar and other wooden remains found.	延勝寺湖底遺跡
178	Hayasaki Site		早崎遺跡
179	Chikubu Island Site	A legend of a submerged land. Also, it is an ancient ritual (offering) site.	竹生島遺跡
180	Sagami Lake Bottom Site		相模湖底遺跡
181	Nishihama Sengen Site	A part of submerged village. Cemetery site identified. Submerged due to the earthquake in 1586 or earlier.	西浜千軒遺跡
182	Nagahama Castle Site	The wooden posts (foundation) of Nagahama castle. Submerged during the earthquake in 1819?	長浜城遺跡
183	Toyo Park Beach Site	Eroded materials deposited in the lake.	豊公園湖岸遺跡
184	Hirakata Beach Site	Pottery found.	平方湖岸遺跡
185	Shimosaka Oki Site		下坂沖遺跡
186	Shimosakahama Site	A legend of a submerged village.	下坂浜湖岸遺跡
187	Tsutsikawa Lake Bottom Site	Ceramics found.	土川湖底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
188	Asatsumaminato Site		朝妻湊跡遺跡
189	Asatsuma Lake Bottom Site	An ancient well has been located underwater.	朝妻沖湖底遺跡
190	Chikuma Lake Front Site		筑摩湖岸遺跡
191	Agatsumamikuriya Site		朝妻御厨遺跡
192	Irie Beach Front Site		入江小学校前湖岸遺跡
193	Naoe Sengen Site	A legend of a submered village.	尚江千軒遺跡
194	Iso Lake Bottom Site		磯湖底遺跡
195	Iso Lake Front Site	Cemetery Stones and pottery found.	磯湖岸遺跡
196	Irienai Site	Logboat and various artifacts found; a possible submerged village.	入江内湖遺跡
197	Irienai Nishino Site		入江内湖西野遺跡
198	Yaguragawa Site		矢倉川遺跡
199	Isozaki Site		磯崎遺跡
200	Matsubara Oki Site		松原沖遺跡
201	Matsubaranai Lake Ajiroguchi Site		松原内湖網代口遺跡
202	Matsubaranai Lake Koya Site		松原内湖小屋遺跡
203	Matsubaranai Lake Kuchi Site	Logboat and submerged site found.	松原内湖口遺跡
204	Takeshima Site	Pottery, metal objects, and other types of artifacts found.	多景島遺跡
205	Sonenuma Site		曾根沼遺跡
206	Kurimidezaike Site		栗見出在家遺跡
207	Dainakanoko Higashi Site	Pottery found.	大中の湖東遺跡
208	Jyoutou A Site		城東 A 遺跡
209	Jyoutou B Site		城東 B 遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
210	Shishibana B Site		獅子鼻 B 遺跡
211	Ryugasaki A Site	A submerged settlement site with storage pits and other features.	竜ヶ崎 A 遺跡
212	Bentenjima Site	A submerged village.	弁天島遺跡
213	Dainaka Minami Lake Site	A part of submerged village.	国史大中の湖南遺跡
214	Ashkari Site		芦刈遺跡
215	Kawanishi Site		川西遺跡
216	Shiraou Site		白王遺跡
217	Kiritooshi Site		切通遺跡
218	Okishimaakabana Site		沖島赤鼻遺跡
219	Okishimaakabana Lake Bottom Site		沖島赤鼻湖底遺跡
220	Okishima Lake Bottom Site		沖島湖底遺跡
221	Miyagahama Lake Bottom Site		宮ヶ浜湖底遺跡
222	Chomeiji Lake Bottom Site	Pottery, and a logboat found.	長命寺湖底遺跡
223	Oofusa Lake Front Site		大房湖岸遺跡
224	Maki Lake Front Site		牧湖岸遺跡
225	Suikai B Site	A logboat found underwater.	水荃 B 遺跡
226	Suikai C Site	A logboat found underwater.	水荃 C 遺跡
227	Shinbatake Lake Bottom Site		新畑湖岸遺跡
228	Sahae Lake Bottom Site		佐波江湖岸遺跡
229	Hino Rivr Mouth Site		日野川河口
230	Nodanuma Site	A logboat found underwater.	野田沼遺跡
231	Kihama Lake Bottom Site		木浜湖底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
232	Akanoi Bay Site	A submerged burial site.	赤野井湾遺跡
233	Akanoihama Site		赤野井浜遺跡
234	Ozuhama Site		小津浜遺跡
235	Karasumazaki Site	A submerged land. Burials, jade workshop, and other features identified.	烏丸崎遺跡
236	Tsudae Lake Bottom Site	A submerged village with storage pits found.	津田江湖底遺跡
237	Tsudae Iseki		津田江遺跡
238	Shina Lake Bottom Site	A submerged burial site.	志那湖底遺跡
239	Shichijoura Site		七条浦遺跡
240	Kitayamada Lake Bottom Site		北山田湖底遺跡
241	Kitagaya Site		北萱遺跡
242	Yabase Lake Bottom Site		矢橋湖底遺跡
243	Yabase Harbor		矢橋港遺跡
244	Ooe Lake Bottom Site	Pottery found.	大江湖底遺跡
245	Awazu-midden Site	One of the most extensive midden site in the nation. Found layers of sea shells and organic materials.	粟津湖底遺跡
246	Karahashi Site	Foundation of a historic bridge.	唐橋遺跡
247	Hotarudani Site	Pottery found.	螢谷遺跡
248	Ishiyama Site	Midden site.	石山遺跡
249	Seta River Bottom Site		瀬田川川床
250	Zeze Lake Bottom Site	Pottery found.	膳所湖底遺跡
251	Zeze Castle Site	Stone wall structure of a partially castle.	膳所城遺跡
252	Ootsu Castle Site	Partially submerged castle site.	大津城遺跡
253	Karasaki Site	Pottery found.	唐崎遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
254	Sakamoto Castle Site	Ceramics and stone tools found.	坂本城跡遺跡
255	Imakatata Site		今堅田遺跡
256	Kita Komatsu Lake Front Site		北小松湖岸遺跡
257	Shiragami Daimyoin Site	Stone Structures found underwater.	白鬚大明神遺跡
258	Oomizo Lake Bottom Site	Submerged forest found.	大溝湖底遺跡
259	Haginohama Minami Site		萩之浜南遺跡
260	Haginohama Kita Site		萩之浜北遺跡
261	Nagatahama Site		永田浜遺跡
262	Mitsuya Sengen Historic Site	Stone structures partially submerged, and can be seen from the surface. Said to be part of a village destroyed during the earthquake in 1662?	伝三矢千軒遺跡
263	Mitsuya Sengen Site	A legend of a submerged village.	三ッ矢千軒遺跡
264	Shirahama Site		白浜遺跡
265	Fujie Sengen Site	A legend of a submerged village.	藤江千軒遺跡
266	Genjihama Site		源氏浜遺跡
267	Sotogahama Site		外ヶ浜遺跡
268	Fukamizohama Site		深溝浜遺跡
269	Fukamizo Site		深溝遺跡
270	Hariehama Site	Submerged settlement site; found evidence of liquefaction.	針江浜遺跡
271	Morihama Site	Pottery found.	森浜遺跡
272	Kizu Site		木津遺跡
273	Hamawakehama Site		浜分浜遺跡
274	Nishihama Site		西浜遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
275	Taishi Site	Pottery found.	太子遺跡
276	Yamanoshita Site	Pottery found.	山ノ下遺跡
277	Yotsugi Site	Pottery found.	世継遺跡
278	Kitafunemachi Site	Pottery, roof tiles, and stone statues found.	北船町遺跡
KYOTO PREFECTURE			
279	Hakoishihama Site	Coins from the Chinese Xin (9-23 CE) found at the beach. Part of the site extends towards the sea. Pottery, jade, and other artifacts found.	史跡函石浜遺物包含地
280	Urashima Shallows	Yayoi pottery raised from the sea.	浦島の瀬
OSAKA PREFECTURE			
281	Kitoragawa Site	Pottery, stone tools, and some porcelain fragments found.	鬼虎川遺跡
282	Daiho Site	Submerged settlement with pit holes and houses.	大保遺跡
283	Misakimachi Oki Site	Same as Wakayama Okinoshima Site. Ceramics and various artifacts reported.	岬町沖合 (和歌山イカ場)
HYOGO PREFECTURE			
284	Kitancho Oki Shipwreck Site	Close to 200 Sue bowls raised from the sea. Site has been destroyed by fishnets?	北淡町沖沈没船
285	Uozuminotomari Site	Large wood structures found at possible ancient river mouth. Perhaps an ancient harbor site?	魚住泊遺跡
286	Murotsu Harbor	Harbor structures found underwater.	室津港
287	Wasen Mooring Point	A concentration of mooring posts, pits, and other harbor facilities preserved in situ along the shore.	和船係留地 (港湾遺跡)
288	Harimamachi Oki Site	Fishermen reported various ceramics found in nets	播磨町沖合
289	Awaji Island East Beach Shipwreck	Fishermen reported various ceramics found in nets and also found along the shore.	淡路島東海岸 (沈没船?)
290	Akashi Matsue Oki Shipwreck	Ceramics raised from a possible shipwreck?	明石市松江沖 (沈没船?)

Site ID	Name of the Site (English)	Description	Site Name in Japanese
NARA PREFECTURE			
No Data/Site			
WAKAYAMA PREFECTURE			
291	Wakayama Okinoshima Underwater Site	Ceramics caught in nets. Known since the Edo period. Perhaps two shipwrecks may be present.	沖ノ島北方海底遺跡
292	<i>Ertugrul</i> Shipwreck Site	A Turkish Wooden Frigate wrecked during the storm in 1890. An International team has excavated the site and artifacts are being conserved locally.	エルトゥールル号
293	Nachi Katsuura Harbor	A possible Harbor Site? Detailed not known.	那智勝浦湾港施設?
294	Kinokawa Bronze Bell Find	An ancient Bronze Bell found.	紀の川銅鐸出土地
295	Arimoto Bronze Bell Find	A Bronze bell and a few ceramic fragment found.	有本銅鐸出土地
TOTTORI PREFECTURE			
296	Nishinada Site	Concentration of pottery and animal bones found during a construction project.	西灘遺跡
297	Kitanada Site	The site was discovered during dredging, and a large collection of artifacts were collected and analyzed.	北灘遺跡
298	Koyamaike Lake Bottom Site	A site found at the shore of an ancient lagoon. Stone tools, pottery, and a logboat found.	湖山池湖底遺跡
SHIMANE PREFECTURE			
299	Yunotsu Harbor (Okidomari) Site	One of the harbors of Iwami Silver Mine. Mooring facilities found.	温泉津湾内(沖泊)
300	Yunotsu Harbor (Nakanose Oki) Site	One of the harbors of Iwami Silver Mine. Cut stones, roof tiles, and other artifacts found.	温泉津沖(立鳥瀬・中ノ瀬沖)
301	Tomonoura (Iwami Silver Mine) Site	Oldest section of one of the harbors of Iwami Silver Mine. Site has been surveyed by divers, but no artifacts identified.	鞆の浦(石見銀山)
302	Fukuura Underwater Site	Pottery and bone tools found while dredging a harbor.	福浦海底遺跡
303	<i>Irtysk</i> (Russo-Japanese War) Shipwreck	A part of the Russian Baltic fleet from the Battle of Tsushima in 1905.	イルティッシュ号
304	Ushirodani Iseki		後谷遺跡
305	Shinji Lake Bottom Site		宍道湖底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
306	Ikenoshiri Site	Artifacts scattered along the beach.	池の尻遺跡 (含霊塔下遺跡)
307	Hamada Oki Site	Chinese ceramic bowls were raised, but the majority of them are now lost.	浜田沖
308	Kamoshima Underwater Site	Mirrors and other artifacts found. Said to be a village submerged by the earthquake in 1026.	中須沖遺跡 鴨島海底遺跡
309	Nakasu (West/East) Site	Stone wall extending 20 m in length. Ceramics from Southwest Asia found.	中須(西・東)遺跡
310	Naumann Elephant Task Find	Naumann Elephant task found off shore.	ナウマンゾウ 牙温泉津沖
311	Tatechou Site	Stone tools found.	タテチョウ遺跡
312	Fukutomi Lake Front Site	Stone tools found.	福富湖岸
313	Torigasaki Site	Stone tools found.	鳥ヶ崎遺跡
OKAYAMA PREFECTURE			
314	Kakuijima Sengen Site	Pottery and ceramics found. A structure identified? A site of a harbor? Not enough information available.	鹿久居島千軒遺跡
315	Houden Kugui Oki Site	A large number of ceramics, large storage jars, and other items found. A possible shipwreck site?	宝伝・久々井沖
316	Ootobishima Site	Located on a sandbar. Found a mirror, a bronze bell, and other ritual items. Perhaps a ceremonial site.	大飛島遺跡
317	Ishima Oki Finds	Reports of ceramics being raised from the sea.	井島沖 海揚がり品
318	Oodomari Site	A possible submerged (mythical) land? Not enough information available.	王泊遺跡
319	Takashima Site	Concentration of ritual bronze items raised from the sea.	高島遺跡
320	Taniyama Kiln Site	Submerged stone wall located underwater, perhaps a harbor structure.	谷山窯跡
321	Kamakura Period Shipwreck Site	A collection of pottery and ceramics found and there is a rumor of shipwreck among the fishermen.	鎌倉時代沈没船?
322	Kurotsuchi Harbor	Pottery found while dredging a harbor.	黒土遺跡・黒土港内
323	Todaiji Temple Roof Tile Finds	Roof tiles for Todaiji-temple has been found.	吉井川・東大寺瓦
324	Kakuijima Paleolithic Site	Stone tools found. Possible extension of a site on land, or perhaps a secondary deposit.	鹿久居島の旧石器遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
325	Shimoyamada Kajigahana Site	Excavated on shore. Several stone tools found.	下山田梶ヶ鼻遺跡
HIROSHIMA PREFECTURE			
326	<i>Iroha-Mar</i> u Shipwreck Site	Identified as Ryoma Sakamoto's Vessel. A vessel purchased from U.K.	沈没船（19世紀のイギリス船）埋没地点遺跡
327	Tomonoura Harbor	The town has preserved the maritime landscape of a harbor area, using them as a historic site for visitors.	鞆の浦港
328	Mitarai Site	Breakwater, lighthouse and other harbor structure preserved.	御手洗
329	Kusado Sengen Machi Site	Located on river bottom. Excavation began in the 1960s. Extensive collection of wood remains preserved; called a Pompei of Japan.	草戸千軒町遺跡
330	Sakishima Toho Underwater Site		佐木島東方海底遺跡
331	Shimomurohama Site	Stone tools found on a beach.	下室浜遺跡
332	Okiura Site	Stone tools found on a beach.	沖浦遺跡
333	Tadanomicho Oki Point	Naumann Elephant bones found off shore.	忠海町沖
YAMAGUCHI PREFECTURE			
334	Kuroshimahama Site	Pottery found during a harbor renovation.	黒島浜遺跡
335	Minogahama Site	Artifacts related to salt production found.	美濃ヶ浜遺跡
336	Tokiwaik Site		常盤池遺跡
337	Shimoninai Oki Shipwreck Site	A large collection of Hizen porcelain raised in the 1920s.	下荷内沖沈没船(推定)
338	Hahirajima Oki Site	Ceramics raised from the sea.	柱島沖
339	Kamono Site Inoue Underwater Site	Ceramics raised from the sea.	鴨野遺跡・伊上海中遺跡
340	Hamazaki Site	Several submerged sites expected to be found due to land subsidence.	尾国遺跡・浜崎遺跡
341	Sea of Japan Naumann Elephant Find Point	Naumann Elephant tusk found off shore.	ナウマンゾウ牙萩沖日本海

Site ID	Name of the Site (English)	Description	Site Name in Japanese
TOKUSHIMA PREFECTURE			
342	<i>Shouhou-Maru</i> Shipwreck Point	Japanese built Western wooden Warship lost during a battle. Location has not been identified.	翔鳳丸沈没地点（翔鳳丸）
343	Fukura Sengen Site	Reports of stone monuments raised in the past. Folklore of sunken village exist in the area.	福良千軒伝承地
344	Okameiso Submerged Site	Record of land swallowed by water during the Ansei Earthquake (1855).	お亀磯 水没村伝承
345	Konaruto Strait Underwater Site	Stone tools found scattered in a large area.	小鳴門海峡海底遺跡
KAGAWA PREFECTURE			
346	Mizunoko Iwa Site	A possible shipwreck without a hull remain. More than 200 ceramics excavated. One of the earliest excavated site underwater.	水の子岩
347	Aji Oki Point	Local ceramics raised from the sea.	庵治沖
348	Naoshima Oki Point	Local ceramics raised from the sea.	直島沖
349	Naoshima Hayasaki Oki Site	Imported ceramics found. Perhaps a shipwreck?	直島早崎沖
350	Houdoujiike Site	Building (temple) foundation in a lake.	宝幢寺池
351	Nou Cape Oki Site	A wide collection of artifacts reported from the sea.	及生岬沖
352	Shodo Island Underwater Site	Large stones for building Osaka castle wall has been found underwater near the quarry site.	大坂城石垣石丁場跡（小豆島周辺）
353	Clay Brick Shipwreck Site	A hull carrying bricks has been found. Believed to be a relatively recent shipwreck, perhaps the Meiji or the Taisho periods. There is a plan to use a site as an underwater park.	レンガ積載船
354	Enoura Oki Find Point	A pile of large variety of Yayoi pottery found.	江之浦沖弥生土器
EHIME PREFECTURE			
355	Kumaguchi Minato Site	Stone tools and pottery found along the beach.	熊口港遺跡
356	Nachi-gun Underwater Sites	Not enough Info available, but there is a series of underwater and beach front sites.	越智郡の水 中遺跡～吉 海町大突間 島遺跡、上 浦町萩ノ岡 II 遺跡等

Site ID	Name of the Site (English)	Description	Site Name in Japanese
357	Minokoshi Ato Iseki	Breakwater and harbor structures located underwater, extends over 100 m off shore.	古波止遺跡 (みのこし跡)
358	Shimodamizu Harbor	Pottery, stone tools, roof tiles, and various types of artifacts found. A rumor of submerged stone wall in the area.	下田水港遺跡
359	Daimyoujingawa Oki Site	Pottery found while dredging.	大明神川沖遺跡
360	Oosuminohana Site	A fortress of Murakami Pirate. A large stock of ceramics was once seen by a fisherman. Not enough Information available.	大角鼻沖
361	Miyakubo Underwater Sites	Believed to be a stronghold of Murakami Pirate. Arifacts from sea are being reported occasionally.	宮窪周辺・村上水軍関連(?)海あがり品
362	Ushima Site	A submerged stone wall found off shore.	鵜島
363	Namikata Jomon Site	A complete Jomon Pottery found.	波方縄文遺跡
364	Karatsuzaki Oki Site	An extensive collection of ceramics found. Fisherman using octopus to collect complete jars.	唐津崎沖 (蛸釣陶器)
365	Mizusaki Site	Pottery found on shore and underwater. First underwater excavation at the Prefecture in 1955.	水崎遺跡
366	Washigasu Underwater Site		鷺ヶ巣海底遺跡
367	Tsugura Minato Site		津倉港遺跡
368	Michikajima Underwater Site		見近島海底遺跡
369	Amazaki Castle Wall	Stone Walls and harbor structures.	甘崎城沖 (石垣)
370	Uoshima Minato Site	Found a site while dredging a harbor.	魚島港
371	Oatebashima Oki Site	A concentration of ceramics raised from the sea.	大館場島沖
KOCHI PREFECTURE			
372	Shimonokae Oki Site	A diver found close to 2000 coins. A wood plank was also found.	下ノ加江沖遺跡
373	Tsumeshiro Beach Site	Submerged harbor structure? Stone structures found. Submerged due to the earthquake in 1707 or 1854?	爪白ビーチ沖
374	Tojima Site	A site extends from the beach to the sea floor.	戸島遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
375	Hakuho Earthquake Submerged Village	A number of submerged villages known from the earthquake in 684.	白鳳地震水没伝承
FUKUOKA PREFECTURE			
376	Aishima Underwater Site	Close to 100 roof tiles found underwater. If a hull is identified, it will be the oldest shipwreck in Japan. Surveyed by KNM.	相島海底遺跡
377	Eboshi Rock Shipwreck Site	A fisherman has raised imported high-quality ceramics from China.	中世交易船推定遺跡
378	Medieval Shipwreck Site	A wooden hull was identified when salvaging a modern wreck nearby. ARIUA conducted a survey but was not able to identify the site.	中世交易船
379	Genkai Island Site	Several concentration of ceramics. Diving survey conducted. At least two shipwrecks may be located nearby.	玄界島 タケノシタ遺跡
380	Okagaki Beach Site	A few hundred complete Hizen porcelain found on shore.	三里松原海岸 (岡垣浜)
381	Ashiya Underwater Site	A local diver found a concentration of Hizen porcelain. No hull identified.	芦屋沖海底遺跡
382	Imazu Underwater Site		今津海底遺跡
383	Okitsushima Site	Possible stone wall structure found between two islands. Some ceramics found.	沖津島遺跡
384	Karadomari Site	Bronze ceremonial artifacts collected.	唐泊遺跡
SAGA PREFECTURE			
385	Nishi Karatsu Underwater Site	A large collection of artifacts found during dredging. Artifacts collected and analyzed. This is the earliest underwater site discovered in the Prefecture.	西唐津海底遺跡
386	Ikejiri Underwater Site	Ceramics found.	池尻海底遺跡
387	Akamatsu Beach Site	A large collection of artifacts found along the beach.	赤松海岸遺跡
388	Nanatsugama Underwater Site	Two different types of sites may be present. An ancient ritual/offering site, and the Early Modern Era shipwreck. Part of Ceramic cargo found.	七ツ釜海底遺跡
389	Miatsu Naval Base Site	Industrial Heritage Site. Nation's first dry-dock from the mid-19 th century.	三重津海軍所跡
390	Hato Cape Stone Anchors	At least six anchor stocks identified.	波戸岬西岸海底碇石集積地

Site ID	Name of the Site (English)	Description	Site Name in Japanese
NAGASAKI PREFECTURE			
391	Okita Site	Pottery found.	沖田遺跡
392	Okinoshima Site		沖ノ島遺跡
393	Senrigahama Site	Korean ceramics and stone tools found.	千里ヶ浜遺跡
394	Tanegota Site		種子田遺跡
395	Kawachi Harbor	The main port of Hirado Island before the current Hirado harbor became the official harbor town. Chinese, Korean, and the Dutch used this port.	川内港内遺跡
396	Hirado Harbor	One of the trading ports before the Dejima became a designated port. VOC and the English warehouse were located	平戸港内遺跡
397	Chosen Ido Site	Possible ancient submerged settlement site extending occupation for over thousands of years. Trade ceramics from the continent has been found close to the surface. A well said to have been used by tributary mission to China located on land nearby.	朝鮮井戸海岸
398	Ohama Site	Site known since the Taisho period. Stone tools, pottery, and human bones found.	大浜遺跡
399	Nish Kato Site	Stone tools and Korean pottery found.	西加藤遺跡
400	Meotoishi Site	Stone tools found. Important site for comparing early stone tool types between Korea and Japan.	夫婦石遺跡
401	Toujin Shallows	Legend of Chinese ships using the area in the past. Collected imported ceramics.	唐人瀬 (未確認)
402	Kanjiga Castle Oki Site	Located off the possible Wako's fort. Some ceramics found?	勘次ヶ城跡 沖 (未確認)
403	Douzaki Site	Microlithic and Pottery found.	堂崎遺跡
404	Douzaki Site	Pottery, sea shells, bones, and other artifacts found.	堂崎遺跡
405	Oitabe Cave Site	Found inside a cave on an uninhabited small island.	大板部洞窟
406	Kouko Midden Site	Pottery, sea shells, animal bones found.	江湖貝塚
407	Takashima Kozaki Site	The Mongol Invasion wreck site. Two nearly intact hull of Chinese vessel found and preserved in situ.	鷹島海底遺跡 (史跡鷹島神崎遺跡)
408	Maegata Bay Underwater Site	Chinese stone anchors, imported ceramics found.	前方湾海底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
409	Yamami Oki Underwater Site	Artifacts mainly from Thailand found. An isolated lead ingot was also found.	山見沖海底遺跡
410	Nagiri Site	Stone tools and pottery found.	名切遺跡
411	Oyanagi Site	Pottery found.	大柳遺跡
412	Matsuzaki Site	Stone tools, Pottery, ceramics, coins, and various artifacts found. Site recorded during harbor renovation.	松崎遺跡
413	Mitarai Site	Stone tools found.	御手洗遺跡
414	Kushiya Mirume Site	Pottery, and wooden artifacts found.	串山ミルメ浦遺跡
415	Tatsunoshima Site	Pottery found.	辰ノ島遺跡
416	Utagaura Site		歌が浦遺跡
417	Itanosaki Site		板ノ崎遺跡
418	Sejirishima Site		瀬尻島北・南遺跡
419	Kurosaki Site		黒崎遺跡
420	Mukae Site		迎遺跡
421	Shimozato Site		関里遺跡
422	Kudarimatsu Site		下り松遺跡
423	Ishida Site		石田遺跡
424	Kamaga Site	Pottery found.	蒲河遺跡
425	Sukawa Lagoon Site		須川海中干潟遺跡
426	Kaimori Site	Stone tools and pottery found.	貝森遺跡
427	Iyoshigaura Site		以善ヶ浦遺跡
428	Okita Underwater Site	Artifacts from washed into river re-deposited at the river-mouth.	沖田海中遺跡
429	Houki Site		宝亀遺跡
430	Sotetsugaura Site	Stone tools and pottery found.	蘇鉄ヶ浦遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
431	Sukusahama Site		須草浜遺跡
432	Magaribana Site		曲り鼻遺跡
433	Ofunagura Site	Industrial Heritage Site. Shipyard/dock built during the Edo period.	大村藩お船蔵跡
434	Mieshitamachi Site	Stone tools and pottery are found along the beach.	三会下町遺跡
435	Tawaragaura Ofunae Site	Dockyard constructed during the Edo period.	高後崎藩所の御船江・跡 俵ヶ浦御船江跡
436	Shobugawa Site		菖蒲川遺跡
437	Magari Underwater Site		曲海底遺跡
438	Mogi Harbor	A large collection of Hizen and Karatsu ceramics found. Preliminary investigation was made.	茂木港外遺跡
439	Kitaura Beach Site		北浦海岸遺跡
440	Hama Underwater Site		浜海中遺跡
441	Arikawa Harbor	Pottery and stone tools found.	有川港海中遺跡
KUMAMOTO PREFECTURE			
442	Narukozaki Site	Stone tools and ceramics found.	鳴子崎遺跡
443	Eboshi Mine Site	Industrial Heritage Site. A coal mine under the sea. Entrance can be seen above water	烏帽子坑跡
444	Shiinokizaki Site	Pottery and stone tools found.	椎ノ木崎遺跡
445	Minami Furusato Site	Pottery and ceramics found.	南古郷遺跡
446	Karuwajima Underwater Site	Concentration of pottery found inside a lagoon.	カルワ島海底遺跡
447	Yanagi Midden Site	Pottery and stone tools found.	柳貝塚遺跡
448	Hageshima Site	Artifacts from mixed age found. Pottery, ceramics, roof tiles, and other remains found.	禿島遺跡
449	Kushi Site	Ceramics found.	串遺跡
450	Hiiden Sanbank Site	Pottery, stone tools and bone tools were collected by local residents.	ヒイデン洲遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
451	Hiroki Site	Stone coffin burial found underwater.	広木遺跡
OITA PREFECTURE			
452	Hisamitsujima	A legend of a village submerged by a major earthquake.	久光島
453	Uryujima Site	An island submerged by a major earthquake. Exact location of the site has not been identified.	瓜生島
MIYAZAKI PREFECTURE			
No Data/Site			
KAGOSHIMA PREFECTURE			
454	Kurakizaki Underwater Site	A large collection of Chinese ceramics found. Limited excavation conducted, and KNM has surveyed the site.	倉木崎海底遺跡
455	Bounotsu Kushiura Site	Ceramics and possible wooden remains reported. Sonar survey conducted	坊津町久志浦
456	Bounotsu Machi Site	Stone anchor stocks, ceramics, and various artifacts identified. Located near the traditional harbor town.	坊津町
457	Fukiagehama Site	More than 3,000 Hizen porcelain fragments found along the beach.	吹上浜
458	Tomari Beach Site	Ceramics found.	泊海岸（泊浜）
459	Sekibune Rudder	Some wooden remains, including a rudder post has been found. Conserved and being displayed locally	大型関船・舵身木
460	Minaminohama Harbor	Hizen porcelain and other ceramic fragments found.	南之浜港湾内
461	San Harbor	Imported ceramics found. Japanese style anchor stones has been located.	山港沖
462	Omonawa Harbor	Iron grapnel anchors, and some ceramics found. Brief survey conducted.	面縄港湾内
463	Ushijihama Oki Site	Canadian shipwreck in 1890.	ウシジ浜沖海底遺跡
OKINAWA PREFECTURE			
464	Kattura Midden Site	Midden Site found at a river mouth.	カトゥラ貝塚
465	Ginama Underwater Site	<i>Benareth</i> (U.K.) Shipwreck in 1872.	宜名真沖海底遺跡
466	<i>Emmons</i> Shipwreck	U.S. WWII Wreck. Now utilized as a diving Site.	エモンズ
467	Ukibarujima Oki Site	Unidentified Wreck. Glass and Ceramic collected by local divers.	南浮原島沖海底遺跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
468	Indian Oak Shipwreck Site	Indian Oak (U.K.) shipwreck in 1840.	インディアン・オーク号の座礁地
469	Maja Underwater Site	Unidentified Wreck. Hull fragments found by local divers.	真謝沖海底遺跡
470	Yabiji Underwater Site No.1	Providence (U.K.) shipwreck in 1879.	八重干瀬海底遺跡群第1地点 (英国船プロビデンス号)
471	Yoshino Beach Site	A wreck of a U.K. vessel, carryinh Foundation Stones	吉野海岸沖海底遺跡
472	Sekiseishoko Underwater Site No.3	Ceramics were collected, and hull remains were found by local divers.	石西礁湖海底遺跡群第3地点
473	Takada Beach Site (<i>Van Bosse</i>)	<i>Van Bosse</i> (Dutch) shipwreck in 1857. Surveyed by KNM and the site being monitored by a local dive shop.	高田海岸沖海底遺跡
474	Nagura Shitadaru Site	Large quantity of ceramics found.	名蔵シタダル遺跡
475	Yarabu Oki Underwater Site	Anchors and ceramics found by local divers.	屋良部沖海底遺跡
476	Nohojima Nishi Beach Site	Ceramics found.	野甫島西海岸遺物散布地
477	Uchihana Beach Site	Ceramics found.	内花海岸遺物散布地
478	Moromi Beach Site	Silver cash found.	諸見海岸遺物散布地
479	Usa Beach Site	Blocks of stone and ceramics found.	宇佐浜海岸遺物散布地
480	Jyashiki Beach Site	Blocks of stone and ceramics found.	謝敷海岸遺物散布地
481	Toubaru Beach Site	Pottery, ceramins, and other artifacts found.	桃原海岸遺物散布地
482	Kijyoka Becah Site	Stone tools found.	喜如嘉海岸遺物散布地
483	Uehara Beach Site	Ceramics found.	上原海岸遺物散布地
484	Minnajima Underwater Site	Ceramics found.	水納島沖海底遺跡
485	Waji Beach Ceramic Site	Ceramics found.	湧出海岸陶磁器散布地

Site ID	Name of the Site (English)	Description	Site Name in Japanese
486	Kayou Beach Site	Ceramics found.	嘉陽海岸遺物散布地
487	Matsuda Beach Site	Stone tools, pottery, and ceramics found along the beach.	松田海岸遺物散布地
488	Yabuchi Cave Site	Shell tools and stone tools found.	ヤブチ洞穴前遺物散布地
489	Kanehama Site	Silver cash and a few artifacts found.	鉄浜遺物散布地
490	Nakanohama Site	Ceramics found.	ナカノ浜海底遺跡
491	Oha Underwater Site	Ceramics found.	東奥武海底遺跡
492	Yabiji Underwater Site No.2	Ceramics found.	八重干瀬海底遺跡群第2地点
493	Yabiji Underwater Site No.3	Ceramics found.	八重干瀬海底遺跡群第3地点
494	Kurimajima Underwater Site	Ceramics found.	来間島沖海底遺跡
495	Sawadanohama Site	Ceramics found.	佐和田の浜遺物散布地
496	Toguchinohama Site	Ceramics found.	渡口の浜遺物散布地
497	Yonehara Beach Site	Ceramics found.	米原海岸遺物散布地
498	Teraihara Nishi Site	Stone tools and ceramics found scattered.	テライ原西海岸遺物散布地
499	Nohojima Kita Beach Site	Ceramics found	野甫島北海岸遺物散布地
500	Gushikawajima Kita Beach Site	Ceramics found.	具志川島北海岸遺物散布地
501	Izena Gusuku Underwater Site	Ceramics found.	伊是名グスク周辺遺物散布地
502	Okugawa River Mouth Site	Ceramics found.	奥川河口遺物散布地
503	Kansazaniku Underwater Site	Ceramics found.	カンサガニク海底遺物散布地

Site ID	Name of the Site (English)	Description	Site Name in Japanese
504	Imadomari Beach Underwater Site	Ceramics found.	今泊海岸陶磁器散布地
505	Sesojima Underwater	Ceramics found.	瀬底島沖海底遺跡
506	Ara Beach Ancient Port Site	Ceramics found.	アラ浜の古港・遺物散布地
507	Kohenzoko Harbor	Scattered ceramics fragments found.	湖辺底港遺物散布地
508	Jimun Beach Site	Anchor Stones and ceramics found.	ジムン海岸遺物散布地
509	Mae Rivermouth Site	Ceramics found.	前川河口遺物散布地
510	Hija Rivermouth Site	Some silver coins and ceramics found.	比謝川河口遺物散布地
511	Miya Gusuku Harbor	Ceramics found.	宮城港周辺遺物散布地
512	Gushi River Gusuku Beach Site	Ceramics found.	具志川グスク海岸遺物散布地
513	Naha Harbor	Ceramics found.	那覇港
514	Tonakijima Historic Harbor	Ceramics found.	渡名喜島の古港・遺物散布地
515	Agonoura Underwater Site	Ceramics found.	阿護の浦海底遺跡
516	Maja Harbor	Ceramics found.	真謝港遺物散布地
517	Ohara Stone Quarry Site		大原の石切場跡
518	Kitahara Stone Quarry Site		北原の石切場跡
519	Shirase Rivermouth Site	Ceramics found.	白瀬川河口遺物散布地
520	Onazaki Historic Harbor	Ceramics found.	おな崎の古港遺物散布地
521	Yonaha Bay Site	Ceramics found.	与那覇湾遺物散布地
522	Nagatamanohama Site	Ceramics found.	長山の浜遺物散布地
523	Ara Beach Site	Ceramics found.	安良海岸遺物散布地

Site ID	Name of the Site (English)	Description	Site Name in Japanese
524	Ihara Bay Site	Ceramics found.	伊原間湾遺物散布地
525	Komisekizaki Site	Ceramics found.	古見赤石崎遺物散布地
526	Sonai Maedomari Underwater Site	Ceramics found.	祖納マエドマリ沖海底遺跡
527	Nishinohama Site	Ceramics found.	西の浜遺物散布地
528	Miyara Bay Underwater Site	Ceramics and pottery found.	宮良湾海底遺跡
529	Sumiyabaru Site	Stone tools and pottery found.	墨屋原遺跡
530	Ireibaru E Site	Pottery, ceramics, and shell products found.	伊礼原 E 遺跡
531	Gushi River North Fish Weir	Fish Weir.	具志川島北海岸の魚垣跡
532	Uchihana Stone Quarry	Stone quarry site.	内花海岸の石切場跡
533	Yanahajima Stone Quarry	Stone quarry site.	屋那覇島の石切場跡
534	Oku Stone Quarry	Stone quarry site.	奥の採石場
535	Jyashiki Beach Stone Quarry	Stone quarry site.	謝敷海岸の石切場跡
536	Kijyoka Beach Stone Quarry	Stone quarry site.	喜如嘉海岸の石切場跡
537	Miya Gusuku Salt Pr	Salt production site	宮城の塩田跡
538	Tsuha Beach Stone Quarry	Stone quarry site	津波海岸の石切場跡
539	Ufudo Beach Stone Quarry	Stone quarry site.	大堂原海岸の石切場跡
540	Wakugawa Yaganna Island Salt Productio Site	Salt production site.	湧川ヤガンナ島の塩田跡
541	Nakaoitsugisarahama Stone Quarry Site	Stone quarry site.	仲尾次伊佐良浜の石切場跡
542	Imadomari Beach Stone Quarry Site	Stone quarry site.	今泊海岸の石切場跡
543	Masuya Site		マースヤー跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
544	Sesoko Island Stone Quarry Site	Stone quarry site.	瀬底島トラバーチンの石切場跡
545	Minnajima Stone Quarry Site	Stone quarry site.	水納島南海岸の石切場跡
546	Serakaki Stone Quarry Site	Stone quarry site.	瀬良垣の石切場跡
547	Toubukuro River Stone Quarry Site	Stone quarry site.	当袋川河口の石切場跡
548	Tobukurogawa Site	Ceramics found.	当袋川河口遺物散布地
549	Minami Onna Stone Quarry Site	Stone quarry site.	南恩納の石切場跡
550	Maeda Stone Quarry Site	Stone quarry site.	真栄田の石切場跡
551	Zanpa Stone Quarry Site	Stone quarry site.	残波の石切場跡
552	Toya Stone Quarry Site	Stone quarry site.	都屋の石切場跡
553	Sobe Stone Quarry Site	Stone quarry site.	楚辺の石切場跡
554	Naha Port Site	Ceramics found.	那覇港
555	Obujima Stone Quarry Site	Stone quarry site.	奥武島南海岸の石切場跡
556	Yuhi River Stone Quarry	Stone quarry site.	雄樋川河口の石切場跡
557	Anzera Beach Fish Weir	Fish Weir.	アンゼーラ浜の魚垣跡
558	Funakoshiharu Stone Quarry	Stone quarry site.	船越原の石切場跡
559	Kume Island Shimajiri Fish Weir	Fish Weir.	久米島島尻の魚垣跡
560	Hiyajyo Fish Weir	Fish Weir.	比屋定の魚垣跡
561	Ikema Island Fish Weir	Fish Weir.	池間島の魚垣跡
562	Karimata Fish Weir	Fish Weir.	狩俣の魚垣跡
563	Miyakoshimajiri Fish Weir	Fish Weir.	宮古島尻の魚垣跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
564	Oura Bay Fish Weir	Stone quarry site.	大浦湾の石切場跡
565	Takano Beach Stone Quarry Site	Stone quarry site.	高野海岸の石切場跡
566	Yonaha Fish Weir	Fish Weir.	与那覇の魚垣跡
567	Hora Maiba Stone Quarry Site	Stone quarry site.	保良マイバの石切場跡
568	Shimoji Island Fish Weir	Fish Weir.	下地島の魚垣跡
569	Kuninaka Fish Weir	Fish Weir.	国仲の魚垣跡
570	Tamaorizaki Fish Weir	Fish Weir.	玉取崎の魚垣跡
571	Sukoji Beach Fish Weir	Fish Weir.	底地海岸の魚垣跡
572	Miyara Bay Ohama Fish Weir	Fish Weir.	宮良湾大浜の魚垣跡
573	Akayazaki Fish Weir	Fish Weir.	アカヤ崎の魚垣跡
574	Hosozaki Fish Weir	Fish Weir.	細崎の魚垣跡
575	Birumazaki Fish Weir	Fish Weir.	ビルマ崎の魚垣跡
576	Nishimijidaru Fish Weir	Fish Weir.	ニシミジダールの魚垣跡
577	Funaurasura Site		船浦スラ所跡
578	Hatopanari Nakase Fish Weir	Fish Weir.	ハトパナリのナカセの魚垣跡
579	Ikashi Fish Weir	Fish Weir.	ナカシの魚垣跡
580	Indazaki West Fish Weir	Fish Weir.	インダ崎西の魚垣跡
581	Indazaki East Fish Weir	Fish Weir.	インダ崎東の魚垣跡
582	Tomada Fish Weir	Fish Weir.	トマダの魚垣跡
583	Omijya River Fish Weir	Fish Weir.	大見謝川河口付近の魚垣跡

Site ID	Name of the Site (English)	Description	Site Name in Japanese
584	Yutsun River Fish Weir	Fish Weir.	ユツン川河口付近の魚垣跡
585	onera River Fish Weir	Fish Weir.	ホネラ川河口付近の魚垣跡
586	Noharazaki West Fish Weir	Fish Weir.	野原崎西の魚垣跡
587	Nusuku Fish Weir	Fish Weir.	ヌスクの魚垣跡
588	Komi Akaishizaki Fish Weir	Fish Weir.	古見赤石崎の魚垣跡
589	Komi Akaishizaki Sura Site	Fish Weir.	古見赤石崎スラ所跡
590	Mairagawa Fish Weir	Fish Weir.	前良川河口付近の魚垣跡
591	Toira Fish Weir	Fish Weir.	トイラの魚垣跡
592	Nakama River Fish Weir	Fish Weir.	仲間川河口の魚垣跡
593	Ishabuza Fish Weir	Fish Weir.	イシャブザの魚垣跡
594	Hateruma Stone Quarry	Stone Quarry Site.	波照間島北海岸の石切場跡

Status, Type, Location, Age (Time Period) and Reference

Site ID	Name of the Site	Status	Type	Location	Age	Reference
HOKKAIDO						
1	<i>Kaiyo-Maru</i> Wreck Site	Ex	Sh	SS	EE	Site Report 1
2	Abashiri Lake Bottom Site	Ex	Sc	L	JO	ARIUA 2013
3	Kaminokuni Haror Site	Ex	PS	SS	EM	Site Report 2
4	<i>Kanrin-Maru</i> Wreck Site	Un	Sh	S	EE	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
5	Matsumae Town Beach Collection	Co	Sc	I	EM	ARIUA 2013
6	Mori Pier Site	Ex	Ha	NA	ME	ARIUA 2013
7	<i>Choyo Maru</i> Wreck Site	Bu	Sh	I	ME	ARIUA 2013
8	Asari Hama Granite Rocks	Co	Sc	I	UK	ARIUA 2013
9	Nozuke Site and Banya Site	Su	Su	I	EM	Website 1
10	Yanagisaki No.3 Site	Su	Sc	R	JO	Website 2
11	Kitamae Sen Wreck Site	Un	Sh	SS	EM	Heritage List
12	Onuma Lake Bottom Site	Kn	Su	L	JO	Heritage List
13	Numanohashi Logboat	Ex	IF	L	AI	Hokkaido Site Map
14	Kashiwara Logboat	Ex	IF	L	AI	Hokkaido Site Map
15	Kyu-Abira River Logboat	Ex	IF	L	AI	Hokkaido Site Map
16	Shibunotunai Lake Bottom East Site	Ex	Su	L	JO	Hokkaido Site Map
17	Shibunotunai Lake Bottom West Site	Ex	Su	L	AI	Hokkaido Site Map
18	Tommap River Site	Ex	Su	L	UK	Site Database 73294
19	Ukimido Site	Ex	Su	L	JO	Site Database 76642
20	Akke Lake Logboat	Ex	IF	L	AI	Hokkaido Site Map
21	Kotan Beach Site	Su	Su	I	UK	Site Database 74008
22	Touro Lake Bottom Site	Su	Su	L	UK	Site Database 75465
23	Komuke Lake Front Site	Ex	Su	L	JO	JACA 2017b
24	Kushiro Paleolithic Find	Co	IF	D	PL	JPra 2010
AOMORI PREFECTURE						
25	Wakinosawa Oki Find	Co	PS	S	ED	ARIUA 2013
26	Tosaminato Site	Ex	Ha	S	MA-EM	JACA 2017b

Site ID	Name of the Site	Status	Type	Location	Age	Reference
27	Jomon Swamp Site	Ex	Su	P	JO-Ya	Site Database 319290
28	Ashino Lake Bottom Site	Ex	Sc	L	JO	Site Database 318685
29	Kodomari Oki Site	Co	IF	D	PL	Site Database 78178
30	Chogo Oki Site	Co	IF	D	PL	Site Database 42649
31	Ashino Tanabatano Site	Ex	Su	P	JO	JPK 1
32	Sunazawa Site	Ex	Su	P	JO	JPK 1
IWATE PREFECTURE						
33	Boshin War Naval Battle Site	Kn	Sh	S	ME	ARIUA 2013
34	Tosen-Jyo Site	Ex	Ha	R	MA	ARIUA 2013
35	Goro Swamp Site	Ex	Sc	P	He	ARIUA 2013
MIYAGI PREFECTURE						
36	Bagyu Swamp Site	Su	Su	P	Na-EM	Site Database 478705
37	Kasashima River Site	Ex	Sc	R	JO	Site Database 241210
AKITA PREFECTURE						
No Data/Site						
YANAGATA PREFECTURE						
38	Tobishima Oki Site	Co	PS	S	EM	ARIUA 2013
39	Kuromori Site	Ex	Su	R	JO-He	Yamagata Site Map
FUKUSHIMA PREFECTURE						
40	Lake Hibara Submerged Village Site	Kn	Su	L	M	JACA 2017b
41	Mt.Azuma Hakuho Temple Site	Su	Su	L	UK	Site Database 400032
42	Hibara Shukuba Site	Kn	Su	L	M	Site Database 400038
43	Sanjo Gata Lake Bottom Site	Su	Sc	L	JO-PH	Site Database 94134

Site ID	Name of the Site	Status	Type	Location	Age	Reference
44	Iriehama Lake Bottom Site	Su	Sc	L	JO, MA-EM	Site Database 399331
45	Matsubashihama Lake Bottom Site	Su	Sc	L	JO	Site Database 399333
46	Ushinumakawa Lake Bottom Site	Su	Sc	L	UK	Site Database 94140
47	Ainame Oki Lake Bottom Site	Su	Sc	L	JO	Site Database 398998
48	Kanisawahama Lake Bottom Site	Su	Sc	L	JO-Ya	Site Database 94137
49	Nagahama Lake Bottom Site	Su	Sc	L	JO-PH	Site Database 94138
50	Okido Kiln Site	Ex	Su	L	As-Na	JACA 2017b
IBARAKI PREFECTURE						
51	Sharihama Beach Site	Un	PS	SS	UK	ARIUA 2013
52	Kitaura Oki Site	Un	Sh	S	EE	ARIUA 2013
53	KaidoChifune jizo Site	Un	Sh	S	Ed	ARIUA 2013
TOCHIGI PREFECTURE						
54	Nasusosui Site	Su	HS	NA	M	Diver Magazine
GUNMA PREFECTURE						
55	Shimonyunakayama Site	Ex	Su	P	JO, Ko	JACA 2017b
56	Minumaookami Site	Co	IF	P	UK	JACA 2017b
SAITAMA PREFECTURE						
No Data/Site						
CHIBA PREFECTURE						
57	Tateyama Okinoshima Site	Ex	Su	I	JO	JACA 2017b
58	Okitsu Beach Site	Co	PS	I	JO-M	Site Report 3
59	Hermann Shipwreck Site	Su	Sh	S	EE	Inoue 2015

Site ID	Name of the Site	Status	Type	Location	Age	Reference
60	San Francisco (1609) Shipwreck Site	Su	Sh	S	Ed	Kimura 2017
61	Sakaenoura Beach Site	Su	PS	I	JO, M	ARIUA 2013
62	Kuriyama River Sites	Su	Sc	R	JO	JACA 2017b
63	Futtu Cape Site	Co	PS	S	Ed	ARIUA 2013
64	Sengoku Vessel Site	Sa	Sh	S	Ed	ARIUA 2013
65	Kaiho No.1 Site	Kn	HS	NA	Me	Website 3
66	Kaiho No.2 Site	Kn	HS	NA	Me-Ta	Website 3
TOKYO						
67	Inokashira Lake Site	Ex	Sc	L	PL-JO	JACA 2017b
68	Shinagawa Odaiba Sites	Su	HS	NA	EE-Me	Website 3
69	Kozhu Island Oki Site	Su	PS	S	Ed	JACA 2017b
70	<i>Dai Ni Iyo Maru</i> Wreck Site	Un	Sh	S	Ed	ARIUA 2013
71	Gold Koban Salvaged Point	Co	PS	S	Ed	ARIUA 2013
72	Okada Harbor	Co	Su	SS	Ed	ARIUA 2013
KANAGAWA PREFECTURE						
73	Ishibashi Oki Site	Su	PS	I	Ed	ARIUA 2013
74	Zaimokuza Beach Site	Su	Sc	I	Ya-M	ARIUA 2013
75	Mito Beach Site	Su	PS	I	Ed	ARIUA 2013
76	Izu Stone Site	Su	PS	S	Ed	ARIUA 2013
77	Yokohama Harbor Area	Su	Ha	NA	Me	Website 4
78	Wakae-jima Site	Su	Ha	I	Ka	Website 5
79	Ashino Lake Bottom Site	Su	Sc	L	Ka	ARIUA 2013
80	Nebukawa Train Station Site	Kn	HS	SS	Ta	Diver Magazine

Site ID	Name of the Site	Status	Type	Location	Age	Reference
81	Kaiho No.3 Site	Kn	HS	NA	Me	Website 3
82	<i>Haya-Maru</i> Wreck Site	Un	Sh	S	Me	ARIUA 2013
83	USS Oneida Wreck Site	Un	Sh	S	Me	ARIUA 2013
NIIGATA PREFECTURE						
84	Izumozaki Oki Taraba Site	Co	PS	S	Ya, MA- EM	ARIUA 2013
85	Kakudahama Oki Site	Co	Sc	S	MA- EM	ARIUA 2013
86	Arahama Oki Site	Su	Sc	S	Na	Niigata Site Map
87	Shiuya Oki Site	Su	Sc	S	UK	Niigata Site Map
88	Nadatchi Underwater Site	Co	PS	S	Ka-Mu	JPK 1
89	Shironohana Site	Ex	Su	L	Ya	Site Database 62518
90	Torisaki Site	Ex	Su	L	Ya-Ko	Site Database 62524
TOYAMA PREFECTURE						
91	Himihama	Ex	Sc	SS	As-Na	ARIUA 2013
92	Yokata Oki Site	Su	Su	S	Ed	Website 6
93	Karashima Site	Su	Su	I	MA	Toyama Site Map
94	Abugashima Site	Su	Su	I	JO	Toyama Site Map
95	Uozu Submerged Ancient Forrest	Su	Su	S	JO	Website 7
ISHIKAWA PREFECTURE						
96	Wajima Oki Shipwreck Site	Co	PS	D	He, Mu-Ed	ARIUA 2013
97	Shibayama Lagoon Midden Site	Ex	Mi	L	JO	Site Database 66873
98	Shibayama Midden Site	Ex	Mi	L	Ya	Site Database 66876
99	Suzu Oki Site	Su	PS	S	UK	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
100	Fukuura Harbor	Su	Sc	S	EM	ARIUA 2013
101	Ansei Gold Koban Salvaged Point	Co	PS	SS	Ed	JACA 2017b
102	Unknown Shipwreck Site	Kn	PS	S	UK	ARIUA 2013
FUKUI PREFECTURE						
103	Yashirohama Site	Co	IF	SS	MA	ARIUA 2013
104	Gentatsuse Site	Co	PS	S	MA-EM	ARIUA 2013
105	Mikuni Harbor Groynes	Su	HS	NA	Me	Heritage List
106	Kitahori Midden Site	Ex	Mi	I	JO	Site Database 68295
YAMANASHI PREFECTURE						
107	Yamanaka Lake Bottom Site	Su	Su	L	PH-MA	ARIUA 2013
108	Motosu Lake Bottom Site	Su	Sc	L	JO-Ko	Diver Magazine
NAGANO PREFECTURE						
109	Sone Lake Bottom Site	Su	Su	L	PL-JO	Mikami 2016
110	Nojiri Lake Bottom Site	Su	Su	L	PL	JPK 2
111	Nojiri Lake Sugikubo Site	Su	Sc	L	PL	JPK 2
112	Nojiri Lake Tachigahana Site	Su	Su	L	PL	JPK 2
113	Oike Minami Site	Su	Su	L	JO	JACA 2017b
114	Ebisumahara Site	Su	Sc	L	JO	JACA 2017b
115	Kawanishikita Site	Su	Sc	L	JO	JACA 2017b
116	Kumanba Site	Ex	Sc	L	JO	JACA 2017b
117	Shirahama I Site	Ex	Sc	L	JO	JACA 2017b
118	Shirahama II Site	Ex	Sc	L	JO	JACA 2017b
119	Shirahama III Site	Ex	Sc	L	JO	JACA 2017b

Site ID	Name of the Site	Status	Type	Location	Age	Reference
120	Ikkenya Site	Su	Sc	L	JO	JACA 2017b
121	Ienoshita Site	Su	Sc	L	JO	JACA 2017b
122	Sasanannba Site	Su	Sc	L	JO	JACA 2017b
123	Aoki I Site	Su	Sc	L	JO	JACA 2017b
124	Aoki II Site	Su	Sc	L	JO, Ya, MA	JACA 2017b
125	Aoki III Site	Su	Sc	L	JO	JACA 2017b
126	Kizaki Lake Bottom Site	Su	Sc	L	JO	JACA 2017b
GIFU PREFECTURE						
127	Fujikake Submerged Site	Ex	Su	R	Ya	Website 8
SHIZUOKA PREFECTURE						
128	Niel-gou Shipwreck Site	Ex	Sh	S	Me	JACA 2017b
129	Muragushi Beach Oki Site	Su	Sc	I	JO	Shizuoka Site Map
130	Benten Island Site	Ex	Su	I	Ya-Ko	JPK 1
131	Futo Stone Quarry Site	Su	Sc	S	EM	Shizuoka Site Map
132	Chojagahara A Site	Su	Su	L	Ko	Site Database 363625
133	Chojagahara B Site	Su	Su	L	JO-Ya	Shizuoka Site Map
134	Yoshina Kiln Site	Ex	Su	L	He	Shizuoka Site Map
135	Tsuboi Town Hamana Lake Bottom Site	Co	Sc	L	Ya-Ko	Shizuoka Site Map
136	Fukiage Kita Site	Su	Sc	L	Ya	Shizuoka Site Map
137	Nishi Hamana-Bridge Kita Site	Ex	Sc	L	JO-Ko, MA	Site Database 375377
138	Araibenten Oki Site	Ex	Mi	L	JO, MA	Shizuoka Site Map
139	Zezero Site	Ex	Mi	L	JO, MA	Shizuoka Site Map

Site ID	Name of the Site	Status	Type	Location	Age	Reference
140	Sutemo Site	Ex	Mi	L	JO, MA	Shizuoka Site Map
141	Hatsushima Shipwreck Site	Su	Sh	S	Ed	ARIUA 2013
142	Doutaka Site	Ex	Su	I	JO-Ko	Site Database 42464
143	Higashitometa Underwater Site	Ex	Su	S	JO	Site Database 42702
144	Nagisaen Site	Su	Sc	L	JO	Site Database 375153
145	Ougonzaki Park Beach Site	Su	Sc	I	EM-M	Shizuoka Site Map
146	Mera Koura Beach Site	Co	PS	I	EM-M	Shizuoka Site Map
147	Frigate Diana Shipwreck Site	Un	Sh	S	Me	Shizuoka Site Map
148	Atami Oki Site	Co	Sc	S	UK	Shizuoka Site Map
149	Sakume Submerged Site	Un	Su	L	Ka	ARIUA 2013
150	Futo Stone Wreck Site	Un	PS	S	UK	Shizuoka Site Map
AICHI PREFECTURE						
151	Yasaku River Site	Su	Su	R	JO, MA	Diver Magazine
152	Stone Quarry Site	Su	Pr	S	Ed	Ono et al. 2016
153	Ishigaki Mooring Stones	Kn	Ha	SS	EM-M	Ono et al. 2016
154	Narumi Underwater Site	Co	IF	S	PH	Site Database 244032
155	Hazu Cape Underwater Site	Su	Sc	S	JO	Site Database 49188
156	Yamazaki Site	Su	Su	S	Ko-MA	JACA 2017b
157	Ikeshita Site	Su	Sc	S	Ya, Ko	JACA 2017b
158	Kurotani A Site	Su	Sc	S	JO	JACA 2017b
MIE PREFECTURE						
159	Taino Island Site	Co	IF	S	UK	ARIUA 2013
160	Jiro-Rokuro Site	Co	Sc	I	PL	JPRA 2010

Site ID	Name of the Site	Status	Type	Location	Age	Reference
161	Komidoumae Site	Co	Sc	I	PL	JPRA 2010
SHIGA PREFECTURE						
162	Osaki Site	Co	Sc	I	PL	JPRA 2010
163	Yogo Lake Bottom Site	Su	Su	L	JO	Lake Biwa Report
164	Shiozu Harbor	Su	Ha	L	Mu	Lake Biwa Report
165	Katayama Lake Bottom Site	Su	Sc	L	Ko	Lake Biwa Report
166	Mukoyama Site	Su	Su	L	MA-EM	Lake Biwa Report
167	Teragaura Site	Su	Su	L	UK	Lake Biwa Report
168	Tsuzuraosaki Lake Bottom Site	Su	Sc	L	JO-He	Lake Biwa Report
169	Morokawa A Lake Bottom Site	Su	Sc	L	JO	Lake Biwa Report
170	Asozu Sengen Site	Su	Su	L	MA-EM	JACA 2017b
171	Kido Site	Su	Ha	L	EM	Lake Biwa Report
172	Ogamihama Site	Ex	Sc	L	JO-He	Lake Biwa Report
173	Ogami Casle Site	Su	HS	L	MA	Lake Biwa Report
174	Yogo Rivr Mouth Site	Su	Sc	L	JO-He	Lake Biwa Report
175	Ogami Site	Ex	Sc	L	Ya-He	Lake Biwa Report
176	Imanishi Lake Front Site	Ex	Sc	L	JO-He	Lake Biwa Report
177	Enshoji Lake Bottom Site	Ex	Sc	L	JO-He	Lake Biwa Report
178	Hayasaki Site	Ex	Su	L	JO-Ya	Lake Biwa Report
179	Chikubu Island Site	Su	Su	L	PH-MA	Lake Biwa Report
180	Sagami Lake Bottom Site	Ex	Su	L	Ya-MA	Lake Biwa Report
181	Nishihama Sengen Site	Ex	Su	L	MA-EM	Lake Biwa Report
182	Nagahama Castle Site	Ex	HS	L	EM	Diver Magazine

Site ID	Name of the Site	Status	Type	Location	Age	Reference
183	Toyo Park Beach Site	Ex	Su	L	Ya, EM	Lake Biwa Report
184	Hirakata Beach Site	Su	Sc	L	Na-He	Lake Biwa Report
185	Shimosaka Oki Site	Su	Sc	L	UK	Lake Biwa Report
186	Shimosakahama Site	Su	Su	L	Ya-Ko	Lake Biwa Report
187	Tsutsikawa Lake Bottom Site	Su	Sc	L	JO-Ka	Lake Biwa Report
188	Asatsumaminato Site	Su	Sc	L	Na-He	Lake Biwa Report
189	Asatsuma Lake Bottom Site	Su	Sc	L	UK	Lake Biwa Report
190	Chikuma Lake Front Site	Su	Sc	L	Ko-MA	Lake Biwa Report
191	Agatsumamikuriya Site	Su	Su	L	Na-He	Lake Biwa Report
192	Irie Beach Front Site	Su	Sc	L	Ya-MA	Lake Biwa Report
193	Naoe Sengen Site	Ex	Su	L	Ko-MA	Lake Biwa Report
194	Iso Lake Bottom Site	Ex	Su	L	JO	Lake Biwa Report
195	Iso Lake Front Site	Su	Sc	L	Ya-Ko, Mu	Lake Biwa Report
196	Irienai Site	Su	Su	L	JO-He	Lake Biwa Report
197	Irienai Nishino Site	Su	Su	L	Ya-Ko	Lake Biwa Report
198	Yaguragawa Site	Su	Sc	L	JO-He	Lake Biwa Report
199	Isozaki Site	Su	Sc	L	Ko	Lake Biwa Report
200	Matsubara Oki Site	Su	Sc	L	JO	Lake Biwa Report
201	Matsubaranai Lake Ajiroguchi Site	Su	Sc	L	Ko-He	Lake Biwa Report
202	Matsubaranai Lake Koya Site	Su	Sc	L	Ko-He	Lake Biwa Report
203	Matsubaranai Lake Kuchi Site	Su	Sc	L	JO-MA	Lake Biwa Report
204	Takeshima Site	Ex	Sc	L	Ya-Ed	Lake Biwa Report
205	Sonenuma Site	Su	Su	L	He	Lake Biwa Report

Site ID	Name of the Site	Status	Type	Location	Age	Reference
206	Kurimidezaike Site	Su	Sc	L	UK	Lake Biwa Report
207	Dainakanoko Higashi Site	Su	Sc	L	JO	Lake Biwa Report
208	Jyoutou A Site	Su	Sc	L	JO-Ya	Lake Biwa Report
209	Jyoutou B Site	Su	Sc	L	JO-Ya	Lake Biwa Report
210	Shishibana B Site	Su	Su	L	JO-Ya	Lake Biwa Report
211	Ryugasaki A Site	Ex	Su	L	JO	Lake Biwa Report
212	Bentenjima Site	Ex	Su	L	JO	Lake Biwa Report
213	Dainaka Minami Lake Site	Ex	Su	L	JO-He, Mu	Lake Biwa Report
214	Ashkari Site	Su	Sc	L	JO-Ya	Lake Biwa Report
215	Kawanishi Site	Su	Su	L	Ya-He	Lake Biwa Report
216	Shiraou Site	Su	Sc	L	Ya	Lake Biwa Report
217	Kiritooshi Site	Su	Sc	L	JO	Lake Biwa Report
218	Okishimaakabana Site	Co	IF	L	Na	Lake Biwa Report
219	Okishimaakabana Lake Bottom Site	Su	Sc	L	JO-Ya	Lake Biwa Report
220	Okishima Lake Bottom Site	Su	Sc	L	JO-Ya	Lake Biwa Report
221	Miyagahama Lake Bottom Site	Su	Sc	L	PL	Lake Biwa Report
222	Chomeiji Lake Bottom Site	Ex	Sc	L	Jo-Ya	Lake Biwa Report
223	Oofusa Lake Front Site	Ex	Sc	L	JO-Ya	Lake Biwa Report
224	Maki Lake Front Site	Ex	Sc	L	JO-Ya	Lake Biwa Report
225	Suikai B Site	Su	Sc	L	JO	Lake Biwa Report
226	Suikai C Site	Su	Sc	L	JO-Na	Lake Biwa Report
227	Shinbatake Lake Bottom Site	Ex	Sc	L	Ya	Lake Biwa Report
228	Sahae Lake Bottom Site	Ex	Sc	L	Ya-Ko	Lake Biwa Report

Site ID	Name of the Site	Status	Type	Location	Age	Reference
229	Hino Rivr Mouth Site	Su	Sc	L	UK	Lake Biwa Report
230	Nodanuma Site	Ex	Su	L	JO-Ko	Lake Biwa Report
231	Kihama Lake Bottom Site	Co	IF	L	Mu	Lake Biwa Report
232	Akanoi Bay Site	Ex	Su	L	JO-Ko	Lake Biwa Report
233	Akanoihama Site	Su	Su	L	JO-Ya	Lake Biwa Report
234	Ozuhama Site	Ex	Su	L	Ya-Ko	Lake Biwa Report
235	Karasumazaki Site	Ex	Su	L	JO-He	Lake Biwa Report
236	Tsudae Lake Bottom Site	Ex	Sc	L	JO-Ko	Lake Biwa Report
237	Tsudae Iseki	Su	Sc	L	JO-Ya	Lake Biwa Report
238	Shina Lake Bottom Site	Ex	Su	L	JO-Ko	Lake Biwa Report
239	Shichijoura Site	Ex	Sc	L	Ya	Lake Biwa Report
240	Kitayamada Lake Bottom Site	Ex	Sc	L	JO-Ed	Lake Biwa Report
241	Kitagaya Site	Ex	Sc	L	JO-Ka	Lake Biwa Report
242	Yabase Lake Bottom Site	Ex	Sc	L	JO	Lake Biwa Report
243	Yabase Harbor	Ex	Ha	L	Ed	Lake Biwa Report
244	Ooe Lake Bottom Site	Ex	Sc	L	JO-MA	Lake Biwa Report
245	Awazu-midden Site	Ex	Mi	L	JO, Ko	Lake Biwa Report
246	Karahashi Site	Ex	Sc	L	Ya	Lake Biwa Report
247	Hotarudani Site	Ex	Mi	L	JO, MA	Lake Biwa Report
248	Ishiyama Site	Ex	Mi	L	JO	Lake Biwa Report
249	Seta River Bottom Site	Ex	Sc	L	PL	Lake Biwa Report
250	Zeze Lake Bottom Site	Su	Sc	L	Ya	Lake Biwa Report
251	Zeze Castle Site	Kn	HS	L	Ed	Lake Biwa Report

Site ID	Name of the Site	Status	Type	Location	Age	Reference
252	Ootsu Castle Site	Kn	HS	L	AM	Lake Biwa Report
253	Karasaki Site	Ex	Sc	L	Ya	Lake Biwa Report
254	Sakamoto Castle Site	Ex	HS	L	MA-EM	Lake Biwa Report
255	Imakatata Site	Su	HS	L	EM	Lake Biwa Report
256	Kita Komatsu Lake Front Site	Su	Sc	L	He	Lake Biwa Report
257	Shiragami Daimyojin Site	Su	Su	L	UK	Lake Biwa Report
258	Oomizo Lake Bottom Site	Ex	Sc	L	UK	Lake Biwa Report
259	Haginohama Minami Site	Su	Sc	L	Na-He	Lake Biwa Report
260	Haginohama Kita Site	Su	Sc	L	MA-EM	Lake Biwa Report
261	Nagatahama Site	Su	Sc	L	Na-He	Lake Biwa Report
262	Mitsuya Sengen Historic Site	Kn	Su	L	EM	Lake Biwa Report
263	Mitsuya Sengen Site	Ex	Su	L	MA	Lake Biwa Report
264	Shirahama Site	Su	Sc	L	Ko-MA	Lake Biwa Report
265	Fujie Sengen Site	Kn	Su	L	UK	Lake Biwa Report
266	Genjihama Site	Su	Sc	L	UK	Lake Biwa Report
267	Sotogahama Site	Ex	Sc	L	UK	Lake Biwa Report
268	Fukamizohama Site	Ex	Sc	L	Na-He	Lake Biwa Report
269	Fukamizo Site	Ex	Su	L	UL	Lake Biwa Report
270	Hariehama Site	Ex	Su	L	JO-Ya	Lake Biwa Report
271	Morihama Site	Ex	Su	L	Ya-Ko	Lake Biwa Report
272	Kizu Site	Su	Su	L	UK	Lake Biwa Report
273	Hamawakehama Site	Su	Su	L	Ed	Lake Biwa Report
274	Nishihama Site	Ex	Su	L	MA-EM	Site Report 6

Site ID	Name of the Site	Status	Type	Location	Age	Reference
275	Taishi Site	Su	Sc	R	Ya	JACA 2017b
276	Yamanoshita Site	Su	Sc	L	Ya	JACA 2017b
277	Yotsugi Site	Su	Su	L	JO-Ka	JACA 2017b
278	Kitafunemachi Site	Su	Sc	L	UK	JACA 2017b
KYOTO PREFECTURE						
279	Hakoishihama Site	Ex	Su	I	JO-Ya	Kyoto Site Map
280	Urashima Shallows	Co	PS	D	Ya	ARIUA 2013
OSAKA PREFECTURE						
281	Kitoragawa Site	Ex	Su	I	PL-EM	Site Database 345320
282	Daiho Site	Ex	Su	R	Na-MA	Site Database 106117
283	Misakimachi Oki Site	Co	PS	D	PL, MA-EM	Mori 1979
HYOGO PREFECTURE						
284	Kitancho Oki Shipwreck Site	Su	PS	S	PH-MA	ARIUA 2013
285	Uozuminotomari Site	Su	Ha	R	Na-MA	ARIUA 2013
286	Murotsu Harbor	Ex	Ha	NA	EM	ARIUA 2013
287	Wasen Mooring Point	Su	Ha	SS	Ed	ARIUA 2013
288	Harimamachi Oki Site	Co	PS	S	Ya	JACA 2017b
289	Awaji Island East Beach Shipwreck	Co	PS	S	MA-EM	JACA 2017b
290	Akashi Matsue Oki Shipwreck	Co	PS	S	Ka	JACA 2017b
NARA PREFECTURE						
No Data/Site						

Site ID	Name of the Site	Status	Type	Location	Age	Reference
WAKAYAMA PREFECTURE						
291	Wakayama Okinoshima Underwater Site	Co	PS	D	EM-M	Site Report 4
292	Ertugrul Shipwreck Site	Ex	Sh	SS	M	Lledo and Pulak 2008
293	Nachi Katsuura Ha	Kn	Ha	SS	UK	JACA 2017b
294	Kinokawa Bronze Bell Find	Co	IF	R	Ya	Wakayama Site Map
295	Arimoto Bronze Bell Find	Co	IF	R	Ya	Wakayama Site Map
TOTTORI PREFECTURE						
296	Nishinada Site	Co	Sc	I	JO	ARIUA 2013
297	Kitanada Site	Co	Sc	I	JO	ARIUA 2013
298	Koyamaike Lake Bottom Site	Ex	Su	L	JO-Ko	Tottori Site Map
SHIMANE PREFECTURE						
299	Yunotsu Harbor (Okidomari) Site	Su	Ha	S	EM-Ed	ARIUA 2013
300	Yunotsu Harbor (Nakanose Oki) Site	Su	Ha	S	EM-Ed	ARIUA 2013
301	Tomonoura (Iwami Silver Mine) Site	Su	Ha	S	EM	ARIUA 2013
302	Fukuura Underwater Site	Co	Sc	I	JO-Na	Shimane Site Map
303	Irtysh Go (Russo-Japanese War) SHipwreck	Su	Sh	S	M	Website 9
304	Ushirodani Iseki	Su	Sc	L	JO	Shimane Site Map
305	Shinji Lake Bottom Site	Su	Sc	L	JO	Shimane Site Map
306	Ikenoshiri Site	Kn	Sc	I	JO	Shimane Site Map
307	Hamada Oki Site	Co	PS	S	JO	ARIUA 2013
308	Kamoshima Underwater Site	Kn	Su	SS	He	Site Database 198851
309	Nakasu (West/East) Site	Kn	Su	SS	MA	Shimane Site Map
310	Naumann Elephant Task Find	Co	IF	S	PL	Shimane Site Map

Site ID	Name of the Site	Status	Type	Location	Age	Reference
311	Tatechou Site	Ex	Sc	I	PL	JPRA 2010
312	Fukutomi Lake Front Site	Su	Sc	I	PL	JPRA 2010
313	Torigasaki Site	Su	Sc	I	PL	JPRA 2010
OKAYAMA PREFECTURE						
314	Kakuijima Sengen Site	Kn	Su	SS	JO-Ko, MA	ARIUA 2013
315	Houden Kugui Oki Site	Co	PS	S	Mu-Ed	ARIUA 2013
316	Ootobishima Site	Su	Sc	I	Na-He	ARIUA 2013
317	Ishima Oki Finds	Co	PS	S	Ya-Na	ARIUA 2013
318	Oodomari Site	Un	Su	S	PH- MA	ARIUA 2013
319	Takashima Site	Su	Sc	I	JO-Ko	JPK 1
320	Taniyama Kiln Site	Su	Su	R	UK	Site Database 301100
321	Kamakura Period Shipwreck Site	Co	PS	S	Ka	JACA 2017b
322	Kurotsuchi Harbor	Su	Ha	I	JO	ARIUA 2013
323	Todaiji Temple Roof Tile Finds	Co	Sc	R	Ka	ARIUA 2013
324	Kakuijima Paleolithic Site	Su	Sc	SS	PL	JPRA 2010
325	Shimoyamada Kajigahana Site	Ex	Su	SS	PL	JPRA 2010
HIROSHIMA PREFECTURE						
326	<i>Iroha-Mar</i> u Shipwreck Site	Ex	Sh	S	Ed	Site Report 5
327	Tomonoura Harbor	Kn	Ha	I	EM	ARIUA 2013
328	Mitarai Site	Kn	Ha	I	EM	ARIUA 2013
329	Kusado Sengen Machi Site	Ex	Su	R	MA	JPK 2
330	Sakishima Toho Underwater Site	NA	NA	S	UK	Site Database 142479
331	Shimomurohama Sie	Su	Sc	I	PL	JPRA 2010

Site ID	Name of the Site	Status	Type	Location	Age	Reference
332	Okiura Site	Su	Sc	I	PL	JPRA 2010
333	Tadanoumicho Oki Point	Co	IF	S	PL	JACA 2017b
YAMAGUCHI PREFECTURE						
334	Kuroshimahama Site	Ex	Su	I	PL-JO	JPRA 2010
335	Minogahama Site	Ex	Pr	SS	Ya-Ko	JACA 2017b
336	Tokiwaike Site	Su	Sc	P	PL-JO	JACA 2017b
337	Shimoninai Oki Shipwreck Site	Co	PS	S	Ed	ARIUA 2013
338	Hahirajima Oki Site	Co	PS	S	Ko, EM	ARIUA 2013
339	Kamono Site Inoue Underwater Site	Su	Sc	S	UK	Site Database 143091
340	Hamazaki Site	Ex	Su	I	JO	Yamaguchi Site Map
341	Sea of Japan Naumann Elephant Task Find Point	Co	IF	S	PL	Tottori Site Map
TOKUSHIMA PREFECTURE						
342	<i>Shouhou-Maru</i> Shipwreck Point	Kn	Sh	S	Ed	ARIUA 2013
343	Fukura Sengen Site	Un	Su	SS	MA	ARIUA 2013
344	Okameiso Submerged Site	Un	Su	SS	Ed	ARIUA 2013
345	Konaruto Strait Underwater Site	Su	Sc	SS	PL	Site Database 421980
KAGAWA PREFECTURE						
346	Mizunoko Iwa Site	Ex	PS	S	Mu	ARIUA 2013
347	Aji Oki Point	Su	PS	S	Mu	ARIUA 2013
348	Naoshima Oki Point	Co	PS	S	Ed	ARIUA 2013
349	Naoshima Hayasaki Oki Site	Su	PS	S	Ka	ARIUA 2013
350	Houdoujiike Site	Ex	Su	P	PH	ARIUA 2013
351	Nou Cape Oki Site	Co	Sc	S	Ya-He	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
352	Shodo Island Underwater Site	Ex	PS	I	Ed	Site Report 7
353	Clay Brick Shipwreck Site	Su	Sh	S	M	Diver Magazine
354	Enoura Oki Find Point	Co	PS	S	Ya	ARIUA 2013
EHIME PREFECTURE						
355	Kumaguchi Minato Site	Ex	Pr	I	PL-Ko	ARIUA 2013
356	Nachi-gun Underwater Sites	Ex	Su	S	UK	Website 10
357	Minokoshi Ato Iseki	Kn	Ha	S	MA	ARIUA 2013
358	Shimodamizu Harbor	Ex	Ha	I	JO-MA	ARIUA 2013
359	Daimyoujingawa Oki Site	Ex	Su	S	JO	ARIUA 2013
360	Oosuminohana Site	Co	PS	S	MA-EM	ARIUA 2013
361	Miyakubo Underwater Sites	Co	PS	S	Ya-EM	ARIUA 2013
362	Ushima Site	Un	Su	I	EM	ARIUA 2013
363	Namikata Jomon Site	Su	Sc	S	JO	Website 10
364	Karatsuzaki Oki Site	Co	PS	D	EM	ARIUA 2013
365	Mizusaki Site	Ex	Su	I	JO	JPK 1
366	Washigasu Underwater Site	Su	Su	S	Ya	Site Database 147627
367	Tsugura Minato Site	Su	Su	S	JO	Site Database 417230
368	Michikajima Underwater Site	Ex	Su	S	Ya	Site Database 417054
369	Amazaki Castle Wall	Kn	HS	I	EM-M	Website 10
370	Uoshima Minato Site	Ex	Su	SS	Ya	ARIUA 2013
371	Otatebashima Oki Site	Co	PS	S	MA-EM	ARIUA 2013
KOCHI PREFECTURE						
372	Shimonokae Oki Site	Co	Sh	SS	Ed	Kochi Site Map

Site ID	Name of the Site	Status	Type	Location	Age	Reference
373	Tsumeshiro Beach Site	Su	Su	S	EM	ARIUA 2013
374	Tojima Site	Su	Sc	S	Ya, MA	Kochi Site Map
375	Hakuho Earthquake Submerged Village	Un	Su	S	PH	Tanikawa et al. 2016
FUKUOKA PREFECTURE						
376	Aishima Underwater Site	Ex	PS	S	He	KNM 2018
377	Eboshi Rock Shipwreck Site	Co	PS	D	MA	ARIUA 2013
378	Medieval Shipwreck Site	Un	PS	S	MA	ARIUA 2013
379	Genkai Island Site	Su	PS	S	MA, Ed	ARIUA 2013
380	Okagaki Beach Site	Co	PS	S	MA- Me	ARIUA 2013
381	Ashiya Underwater Site	Su	PS	S	Ed	ARIUA 2013
382	Imazu Underwater Site	Su	Sc	SS	UK	Site Database 153529
383	Okitsushima Site	Su	Sc	I	EM	ARIUA 2013
384	Karadomari Site	Co	Sc	S	PH	Site Database 244870
SAGA PREFECTURE						
385	Nishi Karatsu Underwater Site	Ex	Su	S	JO	ARIUA 2013
386	Ikejiri Underwater Site	Su	PS	S	Ed	Site Report
387	Akamatsu Beach Site	Su	Sc	I	JO	Site Report 10
388	Nanatsugama Underwater Site	Su	Sc	S	JO, MA, EM	ARIUA 2013
389	Mietsu Naval Base Site	Ex	Ha	I	Ed-Me	Site Report 9
390	Hato Cape Stone Anchors	Su	PS	S	EM	ARIUA 2013
NAGASAKI PREFECTURE						
391	Okita Site	Su	Sc	SS	JO	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
392	Okinoshima Site	Su	Sc	I	JO	ARIUA 2013
393	Senrigahama Site	Ex	Sc	I	Jo-Ya	ARIUA 2013
394	Tanegota Site	Su	Sc	I	JO	Site Database 255905
395	Kawachi Harbor	Su	Sc	I	Ed	ARIUA 2013
396	Hirado Harbor	Kn	Ha	SS	EM	ARIUA 2013
397	Chosen Ido Site	Su	Sc	SS	PL-JO, MA- EM	ARIUA 2013
398	Ohama Site	Ex	Su	SS	Ya-Ko	ARIUA 2013
399	Nish Kato Site	Ex	Sc	I	JO	ARIUA 2013
400	Meotoishi Site	Ex	Sc	I	JO, Ko	ARIUA 2013
401	Toujin Shallows	Co	PS	S	Ed	Site Database 255224
402	Kanjiga Castle Oki Site	Un	Sh	SS	EM	ARIUA 2013
403	Douzaki Site	Ex	Sc	SS	JO-Ya	Site Database 255238
404	Douzaki Site	Ex	Su	I	JO	ARIUA 2013
405	Oitabe Cave Site	Ex	Mi	Cave	JO	ARIUA 2013
406	Kouko Midden Site	Ex	Mi	I	JO	ARIUA 2013
407	Takashima Kozaki Site	Ex	Sh	S	Ka	ARIUA 2013
408	Maegata Bay Underwater Site	Ex	PS	S	PH- MA	ARIUA 2013
409	Yamami Oki Underwater Site	Ex	PS	S	EM-M	ARIUA 2013
410	Nagiri Site	Ex	Su	SS	PL-JO	ARIUA 2013
411	Oyanagi Site	Su	Sc	SS	JO	ARIUA 2013
412	Matsuzaki Site	Ex	Su	I	PL-JO, MA- EM	Site Database 254473
413	Mitarai Site	Su	Sc	I	Ko	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
414	Kushiyama Mirume Site	Ex	Mi	I	JO-Ya	JACA 2017b
415	Tatsunoshima Site	Su	Sc	S	Ko	ARIUA 2013
416	Utagara Site	Su	Sc	S	JO	ARIUA 2013
417	Itanosaki Site	Su	Sc	S	JO	ARIUA 2013
418	Sejirishima Site	Su	Sc	S	JO	ARIUA 2013
419	Kurosaki Site	Su	Sc	S	JO	ARIUA 2013
420	Mukae Site	Su	Sc	S	JO	ARIUA 2013
421	Shimozato Site	Ex	Sc	S	JO	ARIUA 2013
422	Kudarimatsu Site	Su	Sc	S	JO	ARIUA 2013
423	Ishida Site	Su	Sc	S	JO	Site Database 255240
424	Kamaga Site	Ex	Su	SS	JO	Site Database 220763
425	Sukawa Lagoon Site	Su	Sc	S	Ya	Site Database 255224
426	Kaimori Site	Ex	Sc	S	JO-Ya	Site Database 169789
427	Iyoshigaura Site	Su	Sc	S	JO-Ya	ARIUA 2013
428	Okita Underwater Site	Su	Sc	S	Ya-KO	Site Database 255049
429	Houki Site	Su	Sc	I	JO	Site Database 255906
430	Sotetsugaura Site	Su	Sc	I	PL-JO	Site Database 255643
431	Sukusahama Site	Su	Sc	I	JO-Ya	Site Database 255620
432	Magaribana Site	Su	Su	I	MA	ARIUA 2013
433	Ofunagura Site	Kn	Ha	NA	Ed	ARIUA 2013
434	Mieshitamachi Site	Ex	Sc	S	PL-Ya	Site Database 255035
435	Tawaragaura Ofunae Site	Kn	Ha	NA	Ed	ARIUA 2013
436	Shobugawa Site	Su	Sc	SS	JO	ARIUA 2013

Site ID	Name of the Site	Status	Type	Location	Age	Reference
437	Magari Underwater Site	Su	Sc	SS	JO-KO	ARIUA 2013
438	Mogi Harbor	Ex	PS	S	EM	ARIUA 2013
439	Kitaura Beach Site	Su	Sc	S	JO	Nagasaki Site Map
440	Hama Underwater Site	Su	Sc	SS	JO	Site Database 253989
441	Arikawa Harbor	Su	Sc	S	JO-Ya	Site Database 253988
KUMAMOTO PREFECTURE						
442	Narukozaki Site	Ex	Sc	I	JO, Ko	ARIUA 2013
443	Eboshi Mine Site	Kn	HS	NA	Me	ARIUA 2013
444	Shiinokizaki Site	Ex	Su	S	JO	ARIUA 2013
445	Minami Furusato Site	Su	Sc	I	JO, Ko	ARIUA 2013
446	Karuwajima Underwater Site	Ex	Sc	I	JO	Site Database 173592
447	Yanagi Midden Site	Ex	Mi	I	JO	ARIUA 2013
448	Hageshima Site	Su	Sc	I	JO, MA- EM	ARIUA 2013
449	Kushi Site	Su	Sc	S	JO-Ko	ARIUA 2013
450	Hiiden Sanbank Site	Co	Sc	SS	JO	ARIUA 2013
451	Hiroki Site	Ex	Su	L	JO-Ya	JPK 1
OITA PREFECTURE						
452	Hisamitsujima	Un	Su	S	MA	ARIUA 2013
453	Uryujima Site	Un	Su	S	MA	ARIUA 2013
MIYAZAKI PREFECTURE						
No Data/Site						

Site ID	Name of the Site	Status	Type	Location	Age	Reference
KAGOSHIMA PREFECTURE						
454	Kurakizaki Underwater Site	Ex	Sc	SS	MA	Site Report 8
455	Bounotsu Kushiura Site	Un	PS	S	MA, Ed	ARIUA 2013
456	Bounotsu Machi Site	Su	Sc	S	MA-EM	ARIUA 2013
457	Fukiagehama Site	Su	Sc	S	Ed	ARIUA 2013
458	Tomari Beach Site	Su	Sc	SS	MA-Me	ARIUA 2013
459	Sekibune Rudder	Co	IF	SS	Ed	ARIUA 2013
460	Minaminohama Harbor	Su	Sc	SS	EM	ARIUA 2013
461	San Harbor	Su	Sc	SS	MA-EM	ARIUA 2013
462	Omonawa Harbor	Su	Sc	SS	MA-EM	ARIUA 2013
463	Ushijihama Oki Site	Su	PS	SS	EM	ARIUA 2013
OKINAWA PREFECTURE						
464	Kattura Midden Site	Ex	Mi	R	PH	OPBCPC 2017
465	Ginama Underwater Site	Ex	Sh	S	EM	OPBCPC 2017
466	Emmons Shipwreck	Su	Sh	S	M	OPBCPC 2017
467	Ukibarujima Oki Site	Co	Sh	S	EM	OPBCPC 2017
468	Indian Oak Shipwreck Site	Ex	Sh	SS	EM	OPBCPC 2017
469	Maja Underwater Site	Su	Sh	S	EM?	OPBCPC 2017
470	Yabiji Underwater Site No.1	Ex	Sh	S	EM	OPBCPC 2017
471	Yoshino Beach Site	Su	Sh	S	EM	OPBCPC 2017
472	Sekiseishoko Underwater Site No.3	Co	Sh	S	EM?	OPBCPC 2017
473	Takada Beach Site (Van Bosse)	Su	Sh	S	EM	OPBCPC 2017
474	Nagura Shitadaru Site	Ex	Sc	SS	GU	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
475	Yarabu Oki Underwater Site	Su	Sc	S	EM	OPBCPC 2017
476	Nohojima Nishi Beach Site	Su	Sc	I	GU	OPBCPC 2017
477	Uchihana Beach Site	Su	Sc	I	EM	OPBCPC 2017
478	Moromi Beach Site	Co	IF	I	EM?	OPBCPC 2017
479	Usa Beach Site	Su	Sc	I	EM?	OPBCPC 2017
480	Jyashiki Beach Site	Su	Sc	I	EM?	OPBCPC 2017
481	Toubaru Beach Site	Su	Sc	I	PH, EM	OPBCPC 2017
482	Kijyoka Becah Site	Su	Sc	I	PH?	OPBCPC 2017
483	Uehara Beach Site	Su	Sc	I	EM	OPBCPC 2017
484	Minnajima Underwater Site	Su	Sc	I	GU	OPBCPC 2017
485	Waji Beach Ceramic Site	Su	Sc	I	GU	OPBCPC 2017
486	Kayou Beach Site	Su	Sc	I	EM	OPBCPC 2017
487	Matsuda Beach Site	Su	Sc	I	JO-EM	OPBCPC 2017
488	Yabuchi Cave Site	Su	Sc	I	PH	OPBCPC 2017
489	Kanehama Site	Co	IF	I	EM?	OPBCPC 2017
490	Nakanohama Site	Su	Sc	I	GU	OPBCPC 2017
491	Oha Underwater Site	Su	Sc	I	GU	OPBCPC 2017
492	Yabiji Underwater Site No.2	Su	Sc	I	EM	OPBCPC 2017
493	Yabiji Underwater Site No.3	Su	Sc	I	EM	OPBCPC 2017
494	Kurimajima Underwater Site	Su	Sc	I	GU	OPBCPC 2017
495	Sawadanohama Site	Su	Sc	I	EM	OPBCPC 2017
496	Toguchinohama Site	Su	Sc	I	EM	OPBCPC 2017
497	Yonehara Beach Site	Su	Sc	I	GU	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
498	Teraihara Nishi Site	Su	Ha	I	PH-EM	OPBCPC 2017
499	Nohojima Kita Beach Site	Su	Ha	I	EM	OPBCPC 2017
500	Gushikawajima Kita Beach Site	Su	Ha	I	GU-EM	OPBCPC 2017
501	Izena Gusuku Underwater Site	Su	Ha	I	GU	OPBCPC 2017
502	Okugawa River Mouth Site	Su	Ha	I	EM	OPBCPC 2017
503	Kansazaniku Underwater Site	Su	Ha	I	GU	OPBCPC 2017
504	Imadomari Beach Underwater Site	Su	Ha	I	GU-EM	OPBCPC 2017
505	Sesojojima Underwater	Su	Ha	SS	EM	OPBCPC 2017
506	Ara Beach Ancient Port Site	Su	Ha	I	EM	OPBCPC 2017
507	Kohenzoko Harbor	Su	Ha	I	GU	OPBCPC 2017
508	Jimun Beach Site	Su	Ha	I	EM	OPBCPC 2017
509	Mae Rivermouth Site	Su	Ha	I	EM	OPBCPC 2017
510	Hija Rivermouth Site	Su	Ha	I	EM	OPBCPC 2017
511	Miya Gusuku Harbor	Su	Ha	I	EM	OPBCPC 2017
512	Gushi River Gusuku Beach Site	Su	Ha	I	GU	OPBCPC 2017
513	Naha Harbor	Ex	Ha	I	GU-EM	OPBCPC 2017
514	Tonakijima Historic Harbor	Su	Ha	I	GU-EM	OPBCPC 2017
515	Agonoura Underwater Site	Su	Ha	S	GU-EM	OPBCPC 2017
516	Maja Harbor	Su	Ha	I	GU-EM	OPBCPC 2017
517	Ohara Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
518	Kitahara Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
519	Shirase Rivermouth Site	Su	Ha	I	GU-EM	OPBCPC 2017
520	Onazaki Historic Harbor	Su	Ha	I	EM	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
521	Yonaha Bay Site	Su	Ha	I	GU-EM	OPBCPC 2017
522	Nagatamanohama Site	Su	Ha	I	EM	OPBCPC 2017
523	Ara Beach Site	Su	Ha	I	EM	OPBCPC 2017
524	Ihara Bay Site	Su	Ha	I	GU-EM	OPBCPC 2017
525	Komisekizaki Site	Su	Ha	I	GU-EM	OPBCPC 2017
526	Sonai Maedomari Underwater Site	Su	Ha	I	GU-EM	OPBCPC 2017
527	Nishinohama Site	Su	Ha	I	EM	OPBCPC 2017
528	Miyara Bay Underwater Site	Su	Ha	SS	GU-EM	OPBCPC 2017
529	Sumiyabaru Site	Su	Su	I	PH	Site Database 252669
530	Ireibaru E Site	Su	Mi	I	PH-GU-EM	Site Database 415368
531	Gushi River North Fish Weir	Su	Pr	I	EM	OPBCPC 2017
532	Uchihana Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
533	Yanahajima Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
534	Oku Stone Quarry	Su	Pr	I	M	OPBCPC 2017
535	Jyashiki Beach Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
536	Kijyoka Beach Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
537	Miya Gusuku Salt Pr	Su	Pr	I	EM	OPBCPC 2017
538	Tsuha Beach Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
539	Ufudo Beach Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
540	Wakugawa Yaganna Island Salt Productio Site	Su	Pr	I	EM	OPBCPC 2017
541	Nakaoitsugisarahama Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
542	Imadomari Beach Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
543	Masuya Site	Su	Pr	I	EM	OPBCPC 2017
544	Sesoko Island Stone Quarry Site	Su	Pr	I	M	OPBCPC 2017
545	Minnnajima Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
546	Serakaki Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
547	Toubukuro River Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
548	Tobukurogawa Site	Su	Pr	I	GU	OPBCPC 2017
549	Minami Onna Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
550	Maeda Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
551	Zanpa Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
552	Toya Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
553	Sobe Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
554	Naha Port Site	Su	Ha	I	GU-EM	OPBCPC 2017
555	Obujima Stone Quarry Site	Su	Pr	I	EM	OPBCPC 2017
556	Yuhi River Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
557	Anzera Beach Fish Weir	Su	Pr	I	EM	OPBCPC 2017
558	Funakoshiharu Stone Quarry	Su	Pr	I	EM	OPBCPC 2017
559	Kume Island Shimajiri Fish Weir	Su	Pr	I	EM	OPBCPC 2017
560	Hiyajyo Fish Weir	Su	Pr	I	EM	OPBCPC 2017
561	Ikema Island Fish Weir	Su	Pr	I	EM	OPBCPC 2017
562	Karimata Fish Weir	Su	Pr	I	EM	OPBCPC 2017
563	Miyakoshimajiri Fish Weir	Su	Pr	I	EM	OPBCPC 2017
564	Oura Bay Fish Weir	Su	Pr	I	EM	OPBCPC 2017
565	Takano Beach Stone Quarry Site	Su	Pr	I	M	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
566	Yonaha Fish Weir	Su	Pr	I	EM	OPBCPC 2017
567	Hora Maiba Stone Quarry Site	Su	Pr	I	M	OPBCPC 2017
568	Shimoji Island Fish Weir	Su	Pr	I	EM	OPBCPC 2017
569	Kuninaka Fish Weir	Su	Pr	I	EM	OPBCPC 2017
570	Tamaorizaki Fish Weir	Su	Pr	I	EM	OPBCPC 2017
571	Sukoji Beach Fish Weir	Su	Pr	I	EM	OPBCPC 2017
572	Miyara Bay Ohama Fish Weir	Su	Pr	I	EM	OPBCPC 2017
573	Akayazaki Fish Weir	Su	Pr	I	EM	OPBCPC 2017
574	Hosozaki Fish Weir	Su	Pr	I	EM	OPBCPC 2017
575	Birumazaki Fish Weir	Su	Pr	I	EM	OPBCPC 2017
576	Nishimijidaru Fish Weir	Su	Pr	I	EM	OPBCPC 2017
577	Funaurasura Site	Su	Pr	I	EM	OPBCPC 2017
578	Hatopanari Nakase Fish Weir	Su	Pr	I	EM	OPBCPC 2017
579	Ikashi Fish Weir	Su	Pr	I	EM	OPBCPC 2017
580	Indazaki West Fish Weir	Su	Pr	I	EM	OPBCPC 2017
581	Indazaki East Fish Weir	Su	Pr	I	EM	OPBCPC 2017
582	Tomada Fish Weir	Su	Pr	I	EM	OPBCPC 2017
583	Omijya River Fish Weir	Su	Pr	I	EM	OPBCPC 2017
584	Yutsun River Fish Weir	Su	Pr	I	EM	OPBCPC 2017
585	onera River Fish Weir	Su	Pr	I	EM	OPBCPC 2017
586	Noharazaki West Fish Weir	Su	Pr	I	EM	OPBCPC 2017
587	Nusuku Fish Weir	Su	Pr	I	EM	OPBCPC 2017
588	Komi Akaishizaki Fish Weir	Su	Pr	I	EM	OPBCPC 2017

Site ID	Name of the Site	Status	Type	Location	Age	Reference
589	Komi Akaishizaki Sura Site	Su	Pr	I	EM	OPBCPC 2017
590	Mairagawa Fish Weir	Su	Pr	I	EM	OPBCPC 2017
591	Toira Fish Weir	Su	Pr	I	EM	OPBCPC 2017
592	Nakama River Fish Weir	Su	Pr	I	EM	OPBCPC 2017
593	Ishabuza Fish Weir	Su	Pr	I	EM	OPBCPC 2017
594	Hateruma Stone Quarry	Su	Pr	I	EM	OPBCPC 2017

Status Ex: Excavated Site, Su: Surveyed, Co: Collected, Sa: Salvaged, Un: Unidentified,
Bu: Buried, Known Site: Kn, Not Applicable: NA.

Type Ha: Harbor Site, HS: Historic Site, Mi: Midden Site, Sh: Shipwreck Site,
PS: Possible Shipwreck, Sc: Scattered Site, Su: Submerged Site,
PS: Production Site, IF: Isolated Finds, NA: Not Applicable.

Location Inland Site (L: Lake, R: River, P: Pond, and Cave: Cave), I: Intertidal Site,
SS: Shallow Sea, S: Sea, D: Deep Sea, NA: Not Applicable.

Age PL: Paleolithic Era, JO: Jomon Era, PH: Proto-Historic Era,
MA: Middle Age Era, EM: Early Modern Era, MO: Modern Era, UK: Unknown,
Ya: Yayoi Period, Ko: Kofun Period, As: Asuka Period, Na: Nara Period,
He: Heian Period, Ka: Kamkura Period, Mu: Muromachi Period,
Am: Azuchi-Momoyama Period, Ed: Edo Period, Me: Meiji Period,
Ta: Taisho Period, So: Showa Period, Ai: Ainu Period, Gu: Gusuku Period.

Reference See Below

List of References (for Appendix B)

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