



Underwater Cultural Heritage: Out of Sight, Out of Mind and at Risk

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OUT OF SIGHT, OUT OF MIND. *Tangible and intangible cultural heritage assets located in coastal and near-shore underwater environments are under particular threat due to climate change and its impact on water. These threatened sites and practices have served historically to not only feed and employ large and small coastal communities, but importantly have provided the societal and cultural roots that have helped bond them together. Although it is acknowledged that water environments (in the context of this article “water” is taken to mean oceans, seas and inland waters) function as a major global food source (SDG 2 Zero Hunger), and play a major role as a carbon sink (SDG13 Climate Action), water is also a vehicle for commerce and many other ocean activities labeled “the Blue Economy,” all of which are considered of critical importance. However, the societal consequences of damage and loss to underwater tangible and intangible heritage assets and associated practices should not be underestimated. Threatened by sea level rise, with seas estimated to rise by up to a meter by the end of the century, combined with extreme weather events (Gregory et al. 2022), it is anticipated that there will be significant loss of these assets with social and cultural consequences. In extreme circumstances, the very existence of some coastal communities and Small Island Developing States (SIDS) is also at risk. Therefore, how to value, protect and manage these often “unseen” underwater cultural heritage sites sustainably is of vital social and cultural importance.*



< Fig. 1 Coastal Protection Scheme – south coast of the United Kingdom (Source: Chris Underwood).

Introduction

For millennia water has been a major component in shaping human activity, notably through exploration, exploitation of economic commodities, transportation, commerce, recreation and conflict. Many of the tangible remains of these activities remain on the ocean floor, in seas and in inland waters. UNESCO estimates that there are three million shipwrecks, not all equally significant, combined with extensive submerged prehistoric and historic landscapes and coastal infrastructure such as harbors and structures representing community fishing traditions. Of equal importance is intangible heritage, reflected in memories, beliefs, and social and cultural values and practices, often linked to the tangible evidence mentioned above. The threat to community well-being (SDG 3 Good health and well-being) is in some cases high, although in many cases it is difficult to quantify. An example of loss and damage to both tangible and intangible cultural heritage with associated negative social consequences is a traditional coastal fishing practice that is widespread in Southeast Asia and other places. Sea level rise is particularly threatening the sustainable fishing practice used by small coastal communities that utilize fish weirs (fish traps). These weirs often have stone barriers/walls that rely on the daily tidal movement to allow fish to enter the weir during the incoming tide and trapping the fish as the water recedes.

An exemplary project “Indigenous People, Tra-

ditional Ecological Knowledge, and Climate Change: The Iconic Underwater Cultural Heritage of Stone Weirs,”¹ outlines the consequences. The project is acknowledged by the UN Department of Economic and Social Affairs: Sustainable Development as fulfilling a number of SDG 14 targets:

- 14.1 ...reduce marine pollution...
- 14.2 sustainably manage and protect marine and coastal ecosystems...
- 14.7 increase the economic benefits to small island developing states (SIDS)...
- 14.a increase scientific knowledge, develop research capacity...transfer marine technology...improve ocean health...increase diversity....
- 14.b provide access for small scale artisanal fishers to marine resources by implementing law such as UNCLOS....
- 14.c enhance conservation and sustainable use of the oceans....

The potential consequences include the loss of locally caught fish that contribute to the health of the population by improving cognitive performance, strengthening the immune system, and decreasing child mortality. Ocean acidification and pollutant plastics will reduce biodiversity and threaten the harmonious interaction between humanity and ecosystems at a time when exactly the opposite should be the aim. As fish stocks decline, fisherpersons are forced to consider alternative, more modern fishing practices, resulting in the loss of local and indigenous knowledge, the very foundations of the practice.

1. See the UN Ocean Decade Programme: <https://sdgs.un.org/partnerships/indigenous-people-traditional-ecological-knowledge-and-climate-change-iconic> and “Stone Tidal Weirs, Underwater Cultural Heritage or Not?” by Akifumi Iwabuchi, Tokyo University of Marine Science and Technology in partnership with the University of Guam, Bill Jeffery, Mokpo National University, Yi Hye-Yeon, Chikushi Jogakuen University, Masahito Kamimura, University of the Philippines, Cynthia Neri Zayas, University of Warsaw, Magdalena Nowakowska, University of Dublin, Paul Montgomery, and Nelson Mandela University, Magda Minguzzi. <http://www.themua.org/collections/files/original/1977ceab73ddba402c00d31fb77e7843.pdf> (Accessed 24 November, 2022).

Current Approaches to Preserving and Managing Water Heritage

The predominant international legal instrument that impacts the management of and practice relating to heritage and culture in the ocean, seas and inland waters is the UNESCO Convention on the Protection of the Underwater Cultural Heritage (Paris 2001). Although it is not universally applicable, UNESCO's definition is useful:

Underwater cultural heritage is defined as all traces of human existence of a cultural, historical or archaeological nature which, for at least 100 years, have been partially or totally immersed, periodically or permanently, under the oceans and in lakes and rivers. (UNESCO 2001)

To this can be added the ICOMOS Charter on the Protection and Management of the Underwater Cultural Heritage (Sofia 1996) that provided the founding principles of the 2001 Convention's Annex Rules. In addition, the European Convention on the Protection of the Archaeological Heritage (Valletta 1992), the Protection of Cultural Property in the Event of Armed Conflict (Hague Convention (1954), the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1970), the World Heritage Convention (1972) and the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003). Other legal instruments such as the United Nations Convention on the Law of the Sea (UNCLOS, 1982), International Convention on Salvage (1989) and others not mentioned, can also have relevance. The definition of intangible cultural heritage as used by the 2003 Convention:

means the practices, representations, ex-

pressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development. (UNESCO 2003)

Many countries have heritage and cultural laws at the national and sometimes provincial level that include the protection of underwater cultural heritage sites, but such measures are not universal. The domestic law of the 71 states that have ratified the 2001 UNESCO Convention must be at least compatible with the Convention. The European Convention also referred to as the Valletta or Malta Convention ratified by 44 Council of Europe member states and two non-member states obliges states to carry out a risk assessment of the threat to heritage defined as "structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water." It also obligates commercial developers to undertake this assessment and consequential mitigation at their own cost.



^ Fig. 2 Illustrated by the large quantities of protective stone blocks and aggregate and the large machines used to place the material, national and local authorities are faced with enormous challenges to protect coastal infrastructure (Source: Chris Underwood).

It should be noted that states have stronger jurisdiction and control over marine activities in their territorial waters and it declines toward their Exclusive Economic Zone and beyond.

Current and Future Challenges to this Water System

Water is not only important for the activities mentioned above, it connects humanity. Valuing, protecting and managing underwater cultural heritage sites sustainably is therefore of vital social importance. Politicians and policy makers often remain unaware of the problem, or consider it a low priority or ignore it. Understandably, the focus is primarily inward-looking in mitigating and finding solutions related to the impact of climate change on terrestrial and

coastal infrastructure (fig. 2). Consideration of the impact on this largely unseen underwater heritage is often limited and the absence of planning regulations, or inadequate environmental impact assessments, also constitutes a threat. It is also heritage that remains under the public radar; evidently, the role of the past in being part of the solution is also undervalued (ICOMOS 2022; Gregory et al. 2022).

Prior to contemporary times

clear differences remained with some stakeholders about the utilization and relative importance of underwater cultural heritage, noting other problems. There was a continuing need to dispel stereotypic impressions that it was impossible to undertake science underwater and change the

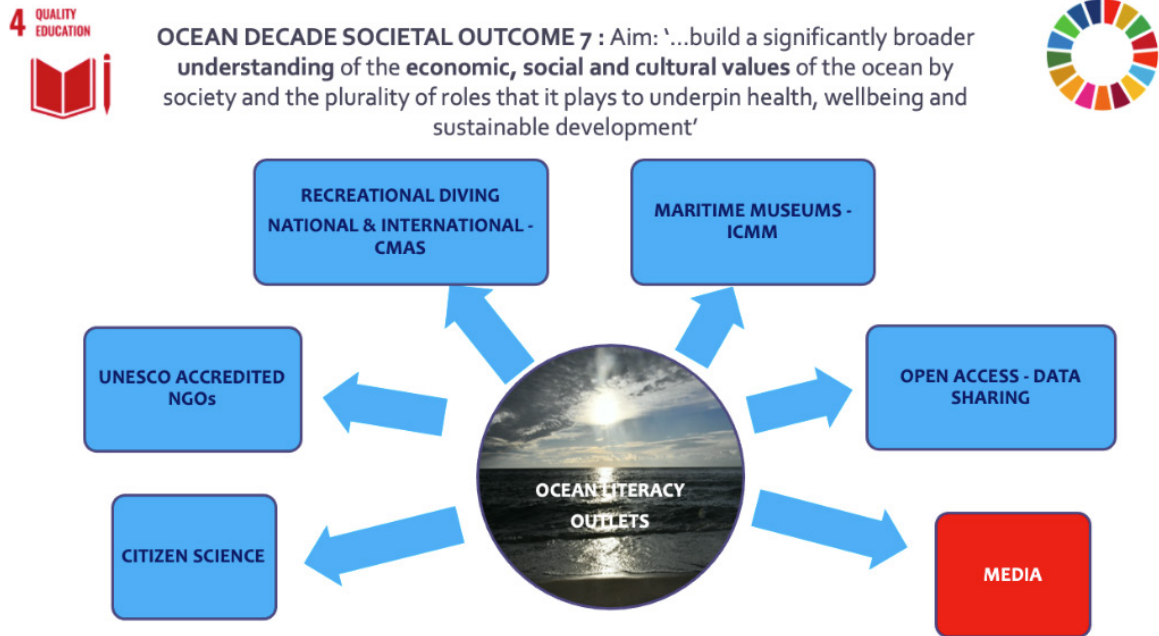


public perception of underwater cultural heritage away from the comic book characterizations and romanticizing often seen in the media. (Underwood 2020)

Today, while these earlier problems have largely been overcome, professional and amateur heritage bodies continue to face the very significant challenge of raising awareness of underwater cultural heritage that is often “out of sight, out of mind.” Another major and related obstacle is competing for funding with more visible terrestrial heritage projects.

Among current concerns and challenges related to climate change, consequences such as rising sea levels which will exacerbate tidal ranges and increase associated current strengths and the impact of ocean acidification and ocean warming cannot be underestimated and should not be ignored. Ocean deoxygenation might offset acidification, but the related science re-

mains inconclusive and has in many instances not been done. The combined impacts, as yet poorly understood (Gregory et al. 2022), are a significant existential threat to the preservation of underwater cultural heritage, particularly, but not exclusively, in coastal or shallow water environments. Greater investment in science is required to fully understand the impacts and remediation. In addition to the natural hazards underwater cultural heritage is at risk from anthropogenic impacts such as increasing commercial salvage for the economic value of pre-nuclear steel, deep sea mineral mining beyond states’ Exclusive Economic Zone (EEZ) where legal oversight decreases. Among other threats is the increasing urbanization and industrialization of coastal zones, with land reclamation projects threatening natural and cultural sites. The race to green economies including windfarms and other ocean-based energy sources without adherence to good management practice can also be a threat to this heritage.



^ Fig. 3 Stakeholders have an essential role in raising public awareness of the cultural, social and economic vales associated with tangible and intangible heritage (Source: Chris Underwood).

SDG 14 Life Below Water, specifically with the associated Decade of Ocean Science for Sustainable Development 2021–2030 (“Decade”) has recognised the need to change humanity’s relationship with the ocean. In response, the Decade’s Societal Goal 7: Inspiring and Engaging Ocean, provides a platform. During the first planning meeting of the “Decade” – Copenhagen 2019 – it was stated that without public support the “Decade” would be unsuccessful.

Societal Goal 7: An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development.

The challenge is to build a significantly broader societal understanding of the economic, social

and cultural values of the ocean and the plurality of roles that it plays to underpin health, wellbeing and sustainable development. As part of finding solutions, public outreach aimed at raising awareness of the importance of underwater cultural heritage has been considered an important component of management practice usually referred to as “Public Archaeology”, to which can be added a growing trend of including intangible heritage values. Motivating stakeholders with experience in public engagement must play a role in raising awareness and promoting natural and cultural citizen science projects – with appropriate standards and oversight – that contribute to open access data portals.

Within the international underwater cultural heritage community there are nongovernmental organizations (NGOs) – some are accredited

partners of the 2001 Convention – that have longstanding public outreach programmes. These include the UK's Nautical Archaeology Society,² and the US Florida Public Archaeology Network,³ both operating since the 1980s and particularly well-known. Other outlets for increasing public awareness include the International Congress of Maritime Museums (ICMM).⁴ Outstanding examples of maritime museums with large visitor numbers include the Vasa⁵ (Sweden) and Mary Rose⁶ (United Kingdom). Additional partners are the recreational diving organizations such as the World Underwater Federation (CMAS),⁷ which has affiliations in over 100 countries and has a strong interest in marine science. Not least, a strong relationship with the media is essential to ensure that the “preservation and value” message is promoted.

Conclusion and Future Approaches

Culture and heritage related to the ocean make significant economic contributions through tourism, marine science and data. And most importantly, they contribute significantly to the well-being of coastal communities. In 2022 life has only just returned to something approaching normality from the Covid-19 pandemic, only to be confronted by a global economic crisis that will also have a dramatic impact on sustainable heritage preservation. In some respects, it is too early to do much more than speculate as to the full range of consequences, however, it is realistic to say that in the short term there will be a significant redirection of government resources normally applied to heritage and

cultural projects to what are considered more important economic priorities. This would see a reduction in public spending on heritage and cuts to grant programs, putting more pressure on private finance and philanthropy to fill funding gaps.

Acknowledgment

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2. Nautical Archaeology Society (UK), <https://www.nauticalarchaeologysociety.org/>.

3. Florida Public Archaeology Network (USA), <https://www.fpan.us/about/overview/>.

4. International Congress of Maritime Museums (ICMM), <https://icmm-maritime.org>.

5. Vasa (Sweden), <https://www.vasamuseet.se>.

6. Mary Rose (United Kingdom), <https://maryrose.org>.

7. World Underwater Federation, <https://www.cmas.org>.

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