

BLUEMED

Activity 3.2

State-of-the-art analysis and benchmarking in MED Underwater
Museums and Diving Parks

Deliverable 3.2.3

Methodology and content development on 'Underwater Natural
and Cultural Routes in the Mediterranean' thematic and temporal
map

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Abbreviations

UM	Underwater Museum
DP	Diving Park
UCH	Underwater Cultural Heritage
UNCHR	Underwater Natural and Cultural Heritage Routes

Foreword

The aim of the deliverable *Methodology and content development on 'Underwater Natural and Cultural Routes in the Mediterranean' thematic and temporal map* is to develop the methodology and identify the content needed to create thematic temporal maps that would include underwater paths of natural and cultural interest in Mediterranean destinations.

According to BLUEMED's project proposal, during Activity 3.2 it is expected that a state-of-the-art analysis of underwater museums and diving parks will be provided. This analysis is based on data gathered from underwater sites across the Mediterranean, and worldwide, the 4 identified pilot sites and similar sites in Associate Partners' countries, related projects, published studies, papers and it is presented in Del 3.2.1.

Based on D3.2.1, in the current deliverable, selection criteria for the creation of UCH routes will be determined and relevant content for MED UCH sites will be gathered to be included in thematic and temporal maps in the web-based platform, which is going to be developed at a later stage during BLUEMED project. The proposed methodology involves initially, the preparation of a Guideline document, which will be used during the development of the BLUEMED platform. Following these guidelines will secure the inclusion of the successful archaeological sites across the Mediterranean, the EU and worldwide as well as the pilot sites' areas in the proposed maps.

For this reason, emphasis is primarily given to A3.2 deliverables, through detail reference to them, to clarify the desirable content for BLUEMED's platform. Then, focus is given to the 7 Guideline steps of this deliverable's methodology which are listed and individually explained for more clarity.

The 'Underwater Natural and Cultural Heritage Routes in the Mediterranean' platform, that will be developed, aims to ensure the participation of variable stakeholders in the BLUEMED network and the interaction among Management authorities of MPAs, UMs, Diving Parks, Tourism Operators, Local Authorities and Local Economic Actors, and to ensure maximum promotion and networking of underwater natural and cultural heritage sites.

Therefore, this deliverable will have as output the selection criteria for the creation of UCH routes and the collection of the relevant content for the 4 BLUEMED pilot sites. Moreover, available information will be reported for the visitable UCH sites, not exhausted though, that will be included in the thematic and temporal map in the 'Underwater Natural and Cultural Heritage Routes' (UNCHR) web-based platform of the project.

1. Cultural Heritage: Does it *really* matter?

Cultural Heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values. Cultural Heritage is often expressed as either Intangible or Tangible Cultural Heritage (ICOMOS, 2002).

Cultural heritage is a wide concept made up of countless 'items' large and small; we can see it in the buildings, townscapes, and of course in archaeological remains. Culture can be perceived through natural sources as well: the agriculture and landscapes associated with it. It is preserved through books, artifacts, objects, pictures, photographs, art, and oral tradition. Cultural heritage is in the food we consume, the clothes we wear, the religions we follow, and the skills we learn¹.

The Heritage Cycle diagram gives us an idea how we can make the past part of our future (Simon Thurley, 2005).

¹ <http://www.cultivatingculture.com/2013/04/05/the-importance-of-cultural-heritage/>

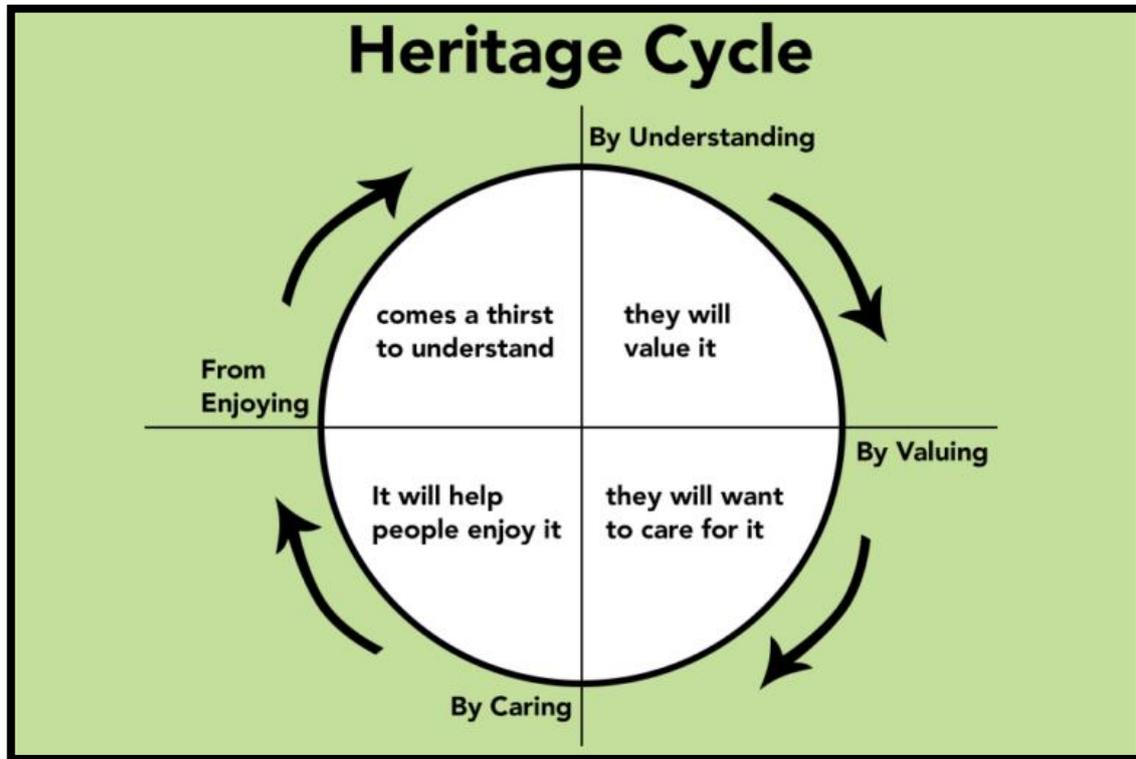


Figure 1: A graphic of the Heritage Cycle originally developed by cultureindevelopment.nl.

The Heritage Cycle explains the process of finding and incorporating culture into people's lives. It begins with understanding the culture, because only when we understand the importance and meaning of it then may we begin to value it. From there, we can learn to care for a culture and eventually enjoy it. With more enjoyment, we will want to learn and understand more—and so the circle goes on and on.

The preservation of heritage is an important undertaking as the underwater cultural heritage is an integral part of the cultural heritage of humanity and a particularly important element in the history of peoples, nations, and their relations with each other concerning their common heritage. It is so significant that the United Nations in November 1945 set up a subsidiary responsible for this purpose called the **United Nations Educational, Scientific and Cultural Organization (UNESCO)**. The UNESCO Convention on the Protection of the Underwater Cultural Heritage, adopted in 2001, is intended to enable States to better protect their submerged cultural heritage. The Convention sets

out basic principles for the protection of underwater cultural heritage; provides a detailed State cooperation system and widely recognized practical rules for the treatment and research of underwater cultural heritage. The Convention consists of a main text and an annex, which sets out the "Rules for activities directed at underwater cultural heritage"². One of the main principles is that ***in Situ Preservation*** is the first option. The *in situ* preservation of underwater cultural heritage (meaning in its original location on the seafloor) should be the first option before allowing or engaging in any further activities. The recovery of objects may, however, be authorized for making a significant contribution to the protection or knowledge of underwater cultural heritage.

It must be stressed that the protection of the underwater heritage does not prohibit access to it; but instead, it controls activities so that it is not put at risk from undisciplined investigations or actions (English Heritage, 2010). So, priority is the preservation of ancient monuments in, on or under the seabed; and then promoting the public's enjoyment and enhance their knowledge of monuments in, on or under the seabed. Therefore, tourism presents notable opportunities for safeguarding the world's rich cultural heritage, since the revenue it generates can be channeled back into initiatives to aid its long-term survival³.

Thus, the aim is to protect/preserve and promote the underwater natural and cultural heritage of locations in the Mediterranean, in order not only to help coastal and island economies prosper by tourism development, but also to protect the underwater assets and the marine ecosystem of the Mediterranean.

² <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention/>

³ World Tourism Organization (2012e) *Tourism and Intangible Cultural Heritage*. Madrid: UNWTO

2. Methodology

The 7-Step Guidelines

- **Step 1: Identify the overall objective of platform**
- **Step 2: Look for the general targets aimed to be achieved**
- **Step 3: Specify the main target groups and platform users**
- **Step 4: Determine selection criteria**
- **Step 5: The selected sites**
- **Step 6: Collection of content for Mediterranean Underwater Natural and Cultural Heritage sites**
- **Step 7: Create thematic and temporal maps based on the above**

Step 1: The overall Objective of Platform

The “Underwater Natural and Cultural Heritage Routes” platform would be created with an overall objective the unified tourism promotion of the underwater natural and cultural heritage sites that can be visited of the Mediterranean Sea. Subsequently, it would aim to support the networking and cooperation of all the Mediterranean stakeholders and facilitate the transfer and capitalization of the activities and deliverables developed in the BLUEMED project.

Step 2: The General Targets aimed to be achieved

Based on an architectural design model, the main elements of the BLUEMED UNCHR web-platform service will be developed using FI-WARE Generic Enablers and the web-platform will include cloud-based repositories and components, as well.

The service will offer a content-rich **interactive map** with locations of Underwater Cultural

and Natural Heritage in the Mediterranean, supporting visitors to construct thematic itineraries with criteria such as theme, locality and age of UCH. Furthermore, several Points of Interest & Service (PoIS) will be included, such as diving centres, tour operators, accommodation choices, nearby restaurants etc. for the project's pilot sites.

In order to meet the replicability and transferability requirements of the whole BLUEMED project, the display and exploitation of the multimedia content will be free to museums in the Mediterranean region and beyond. Moreover, the possibility will be explored to integrate it with BLUEMED project platform provided by Programme.

Step 3: Specify the main target groups and platform users

The aim of this section is to identify the main groups that can directly or indirectly affect or be affected by the creation and usage of the UNCHR maps. The main target groups and users of the web-platform, and consequently of the maps, could be classified in the following distinctive categories:

1. **Public Authorities and Policy makers** such as Ministries, Municipalities, Regional bodies, Ephorates of Antiquities. Apparently, all the above are interested in the protection, preservation and enhancement of the underwater cultural heritage under their responsibility, directly acting for the benefits of the citizens. From the management of the heritage, national governments/authorities could realize social and economic benefits, as well as spread the cultural knowledge and develop the tourism sector.
2. **Local and regional economic actors;** such as diving centers, hotels, restaurants and companies involved in the maritime tourism. Culture has been repeatedly highlighted as an important contributor to sustainable development and more

specifically in 2013, the UN Resolution on Culture and Sustainable Development (68/233) acknowledged the contribution of culture to **inclusive economic development**. This is the case since cultural heritage, sustainable cultural tourism and cultural infrastructure are **sources of income and job creation** at the community level, consequently improving living conditions and fostering community-based economic growth, and contribute to empowering individuals⁴.

3. **Local communities.** Locals are the communities geographically located near an underwater cultural site. Assessing their point of view is a complicated issue; firstly, underwater cultural sites situated far from the coast may not have a local population of reference considering that they are not physically located within the community, secondly, considering that each society is composed by several groups, identifying a common perspective for the local population calls for an oversimplification (for instance, the interests of local fishermen could be way different from those of hotel owners and restaurant managers). Moreover, sociological, cultural and economic factors formulate opposite reactions in different populations; the local population of an urban center or island with an already developed tourism sector could react differently from the local population of an isolated island where the main source of income is fishing. Therefore, within the same group are enrolled several diverging forces that act having different intentions such as: the protection of underwater sites which have a spiritual or symbolic value; the safeguarding of the local style of life; the protection of local economic industries (fishing, port activities, etc.); the development of a sustainable tourism sector; the preservation for the locals to access and enjoy a site. Regardless of the different interests pursued, making aware and involving the local population in the process of management of the underwater cultural heritage

⁴ Special Thematic Debate of the United Nations General Assembly “Culture and sustainable development in the post 2015 development agenda”, 5 May 2014 Trusteeship Council, United Nations Headquarters, New York

is a key aspect: the shared benefits generated by the planned management should be explained to the locals and eventual protests should be timely considered. The local population can provide an additional support to the protection, promotion and economic sustainability of an underwater cultural site.

4. **Relevant Stakeholders** related for example to tourism and diving, such as diving centres, tour operators, hotels etc.

5. All kinds of **mass media** such as relevant web sites, social pages, journals, newspapers and TV channels related to archaeology, scuba diving, tourism, etc.

6. **General (non-diving) public**: travelers, schools, scholars, archaeology enthusiasts, etc. The public is interested in having access to and gain information about the underwater cultural heritage, bearing in mind its importance and recreational/educational purpose. The members of this group are mainly non-divers, therefore an in-situ preservation policy could strongly restrict their accessibility to the underwater sites, unless the sites are managed as underwater museums or are organized to provide snorkeling experiences, visits through glass bottom boats, provision of 3D visualization of the sea bottom or other similar solutions.

7. **Divers**: This is a group interested in the recreational and the educational functions of the underwater cultural heritage. For divers, the preservation in situ is not a barrier, but on the contrary, an opportunity. Since the beauty and the historic value of every site are the most appealing aspects for this group, its primary

interests are accessibility and knowledge. What is more, educated and trained (certified) divers can support underwater archaeologists in the localization and protection of the underwater cultural sites. Furthermore, the members of this group, acting as donors or visitors paying a fee/ticket, can contribute to the financial sustainability of the development and operation of underwater archaeological museums, parks and trails.

8. **Universities / research institutions and Underwater archaeologists:** underwater archaeologists aim to investigate the underwater cultural sites to extract and interpret data about past human behaviors and events. By publishing the results of their research and analyses, they spread the knowledge on the underwater cultural heritage both on academic and public level. Moreover, as the experts of the sector, they are primarily involved in the decision-making process regarding the management (protection and enhancement) of these sites. Furthermore, universities and research institutions are focused on the analysis of underwater artifacts and structures having historical, archaeological, research, spiritual, artistic and symbolic value. The studies conducted by these institutes can spread the knowledge, both at academic and public level, on the underwater cultural heritage. Moreover, some of these centers are directly engaged in the sectorial formation process through the organization of educational programs in underwater and maritime archaeology. Finally, research centers of chemistry and restoration may be directly involved in the conservation and protection of waterlogged goods and corroded artifacts.

Step 4: Determine selection criteria

The visitors of the web-platform will be able to create their own underwater natural and cultural itineraries by selecting specific criteria that the selected sites will be tagged with.

a. Location of the site

In the web-platform there will be a map of the Mediterranean where the user will be able to see all the selected UNCH sites pinpointed (). The user will be able to zoom in the map and see the site(s) he/she is interested in and then by clicking in the pin all relevant information will appear. In this way, the user will have all the information he needs to create his own route to discover the natural and cultural ‘treasures’ in the sea of the Mediterranean. Thus, the user of the platform will be able to create his own route in the part of the Mediterranean he wants to visit, and then select the sites in that area he would like to discover.

b. Age relevance of the underwater heritage

- Prehistoric period: until the 4th century BC
- Ancient period: from the 4th century BC to the 7th century AD
- Medieval period: 8th century to the 15th century
- Modern Age period: 16th century – 2nd World War

c. Thematic of the underwater site:

Submerged landscapes. A substantial amount of prehistoric and historic evidence of the life of our ancestors is now submerged. This underwater heritage is a very important source of information about the first human civilizations, human origins, but also about climate change and its impact. These remains tell us about the interaction of our ancestors with their environment, and as we face the rise of sea levels once more, this heritage can help us place our current challenges into a chronological context⁵. Examples in this category might be: submerged forests, megalithic tombs, trackways, stone alignments, etc.

Wrecks. Approximately 3 million shipwrecks are spread across ocean floors around the planet. A shipwreck is evidence for the trade and cultural dialogue between people. What is more, it also works as a time capsule, providing a complete snapshot of the life on board at the time of sinking⁶. In this category belong both shipwrecks and plane wrecks.

Ruins, Submerged Caves and Wells. The remains of countless ancient buildings and settlements are now submerged underwater. Some remains are testimony to subsiding soil, others to the results of earthquakes, flooding, landslides or erosion. Underwater cultural heritage also encompasses artefacts and traces of ancient human life preserved in flooded caves, which either have always been submerged or have been flooded by the rise of the sea⁷. Examples in this category are submerged landscapes – houses, remains of settlements, etc.

Traces of marine exploitation, fish-traps and fences, ports. Humankind has, since ancient times, lived close to the sea, rivers and lakes. The remains of ports, bridges and fishing

⁵ <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/underwater-cultural-heritage/submerged-landscapes/>

⁶ <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/underwater-cultural-heritage/wrecks/>

⁷ <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/underwater-cultural-heritage/ruins-caves-and-wells/>

installations are testimony of this close connection⁸.

d. Offered Activities in the 4 BLUEMED pilot sites

- Is it a -divers only- site?
- Can someone visit the site by snorkeling?
- Can someone visit the site by glass-bottom boats?
- Are guided underwater tours offered in this site?
- Is there a land-based museum or Knowledge Awareness Centre nearby which offers information on the site and exhibits findings?

e. Opening period: Full year or seasonal

f. Points of Interest & Service (PoIS) for the BLUEMED pilot sites

Diving Centers, Restaurants, Accommodation, Hospitals, Airports nearby, Other cultural sites (inland) nearby

Step 5: The selected sites

In this deliverable, the heritage sites for which all available information will be gathered and uploaded in the web-platform (content, photos, accommodation choices, diving centres nearby, etc.) are the 4 pilot sites of the project; namely the Underwater Archaeological Park of Baiae and the MPA of Capo Rizzuto in Italy; Underwater Museums of Western Pagasitikos/Sporades in Greece; and the Cavtat Underwater Archaeological

⁸ <http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/underwater-cultural-heritage/traces-of-marine-exploitation/>

Sites in Croatia. The reason for choosing only these 4 sites to extent our research and data collection is that these are the sites that the BLUEMED project is dealing with and the creation of such an extended database for every visitable UM and DP is not in the scope of this project.

However, an effort was made to create a table containing all the sites that will be available in the “Underwater Natural and Cultural Heritage Routes” web platform. The sites are labeled according to the above mentioned selection criteria, namely their location, age of cultural heritage, thematic, activities etc. to achieve a unified presentation and promotion of underwater assets.

The categorization is essential, as a first step, in order to put a tag in each UNCH site that can be part of the route the user of the web-platform would like to discover and potentially follow / visit. So, the labels assist users to select and create their ‘wishlist’ according to their interests. Furthermore, it is useful to create such a platform where the majority of underwater trails, museums and diving parks is available for all interested stakeholders in order for them to get familiar with the underwater heritage and learn about the wrecks.

Moreover, this whole process will definitely give a boost to and meet the overall objective of the Program; the simultaneous protection and promotion of the underwater cultural and natural heritage, since people will be able to learn and read about these ‘treasures’ at their ease and realize the importance of acknowledging and promoting them for tourism purposes.

The table with all the UNCH sites, due to its size, could not be included in this document and is a separate one in Excel form. The categorization of the sites in the excel table was made by taking into account all available information provided in the BLUEMED deliverable ‘D3.2.1 State-of-the-art analysis of Underwater Museums and Diving Parks’.

Step 6: Collection of content for Mediterranean Underwater Natural and Cultural Heritage sites

The content needed to gather for the BLUEMED pilot sites in order to create the routes and tag the sites according to the aforementioned criteria is as follows:

1. Archaeological content of the site (what's the story behind the site, what is it that divers see)
2. Photos / Photomosaic
3. Videos
4. Contact information
5. Instructions to reach the site
6. Accommodation choices
7. Diving centres
8. What can a non-diving visitor do

Step 7: Create thematic and temporal maps based on the above

The last step is the creation of the thematic and temporal maps, having all the above-mentioned information available. These maps will be available at the web-based 'Underwater Natural and Cultural Routes in the Mediterranean' platform. This platform, will be a service that will offer content-rich interactive maps with locations of Underwater Cultural and Natural Heritage in the Mediterranean, supporting visitors to plan their own

thematic itinerary with relevance of; age of the site, underwater content, offered activities, seasonality etc. Moreover, regarding the visited Underwater Museums and Diving Parks (except the pilot sites), the partners will examine the possibility of local responsible Managing Authorities to be able to upload content in order to support and promote the heritage site under their responsibility. Nevertheless, this is a suggestion and on a later stage partners will determine whether this is feasible or not.

The actual design and development of the web-platform is the outcome of an upcoming activity; the A3.8 'Design and development of 'Underwater Natural and Cultural Heritage Routes' (UNCHR) web-based platform'.

3. References

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