

# BLUEMED

## Activity 3.2

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

### Deliverable 3.2.2

Benchmarking Study of successful Underwater Museums and Diving Parks

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## *Foreword*

**Benchmarking:** *A measurement of the quality of an organization's policies, products, programs, strategies, etc. and their comparison with standard measurements, or similar measurements of its peers. The objectives of benchmarking are (1) to determine what and where improvements are called for, (2) to analyze how other organizations achieve their high-performance levels, and (3) to use this information to improve performance<sup>1</sup>.*

The benchmark as a means is used to identify the good practice in a special field or in an organization which can then be adapted to improve operation of other organizations. In general, benchmarking is considered as a systematic tool that allows an organization to determine whether its performance of organizational processes and activities represent its best practices. Benchmarking is a systematic comparison of organizational processes and performance to create new standards and/or to improve procedures.

The benchmarking should answer the following questions:

- *What are benchmark's partners doing that you are not doing?*
- *What can you do to achieve similar and still better results?*

Realization of benchmarking is a very complex process that includes understanding of own organization and performance, and identifying and learning from best practices of other organizations to professionalize own organization, to create new standards in own organization, to improve particular areas and processes in own organization.

Benchmarking models are used to determining how well a business unit, division, organization or corporation is performing compared with other similar organizations. A benchmark is often used for improving communication, professionalizing the organization / processes or for budgetary reasons. Usually performance measures have been compared

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<sup>1</sup> <http://www.businessdictionary.com/definition/benchmarking.html>  
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with previous measures from the same organization at different times. Although this can be a good indication of the rate of improvement within the organization, it could be that although the organization is improving, the competition is improving faster.

Benchmarking is a powerful management tool because it overcomes 'paradigm blindness'. Paradigm blindness can be summed up as the mode of thinking, "the way we do it is the best because this is the way we've always done it" and individuals suffering from paradigm blindness cannot see the pieces that would bring about the most profound alteration or transformation. Benchmarking introduces organizations to new methods, ideas and tools to improve their effectiveness. It helps crack through resistance to change by demonstrating other methods of solving problems than the one currently employed, and demonstrating that they work, because they are being used by others.

## *Implementation Methodology*

Generally, there are four **types** of benchmarking methods<sup>2</sup>:

1. Internal (benchmark within a corporation, for instance between business units)
2. Competitive (benchmark performance or processes with competitors)
3. Functional (benchmark similar processes within an industry)
4. Generic (comparing operations between unrelated industries)

Regarding the methodology to conduct a benchmarking study, typically it is structured in the following way:

- **Identify problematic areas** – Benchmarking can be applied to any business process or function; hence a range of research techniques may be required. They could include informal conversations with customers, employees, or suppliers; exploratory research techniques such as focus groups; in-depth marketing research, quantitative research, surveys, questionnaires, process mapping, quality control variance reports, or financial ratio analysis.
- **Identify other industries that have similar processes**
- **Identify organizations that are leaders in these areas** – Look for the very best in any industry and in any country. Consult customers, suppliers, financial analysts, trade associations, and magazines to determine which companies are worthy of study.
- **Survey companies for measures and practices** – Companies target specific business processes using detailed surveys of measures and practices used to identify business process alternatives and leading companies.

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<sup>2</sup> [http://www.valuebasedmanagement.net/methods\\_benchmarking.html](http://www.valuebasedmanagement.net/methods_benchmarking.html)  
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Programme cofinanced by the European Regional Development Fund

In the Deliverable 3.2.2 'Benchmarking Study of successful Underwater Museums and Diving Parks', the benchmarking conducted will involve the following **steps**:

1. scope definition
2. choose benchmark partner(s)
3. determine measurement methods, units, indicators and data collection method
4. data collection
5. analysis of the results
6. present the conclusions

### *i. Define the scope*

This deliverable will try to conduct a comparative performance study on selected **Underwater Museums (UMs)** and **Diving Parks (DPs)**, chosen based on their success in the area of diving tourism, around the globe in an effort to determine which are the optimal parameters for an UM and a DP to be successful.

### *ii. Benchmark partners*

## **UNDERWATER MUSEUMS & DIVING PARKS – DEFINITIONS**

According to the bibliography, sources regarding law and legislation and an extensive internet search, a single and unified definition of the term ‘Underwater Museum’ and of the term ‘Diving Park’ do not exist since those terms are subject to the legislation of every country. What is more, in many countries the national law does not explicitly mention these terms, as other terms are used as well such as Underwater Trails, Underwater Archaeological Zones, Marine Protected Areas etc.

Therefore, it is evident that the categorization of the underwater cultural / natural heritage based on whether it is an Underwater Museum or a Diving Park is not feasible, since such categorization does not exist in all legal frameworks and it would be rather irrelevant to attempt to create such lists within this deliverable.

In what follows, the Greek, Italian, Croatian, Cypriot and Spanish legislation will be explained regarding the way cultural heritage is classified, namely as Underwater Museums and Diving Parks, or the equivalent terms that are in force. It goes without saying that these specific countries were chosen to clarify the state of the art, since they are the countries of the BLUEMED partners. To this end, we will use the definitions already included in the deliverable D3.2.1 ‘State of the art analysis of Underwater Museums and Diving parks’.

For the implementation of this deliverable, data will be used from underwater sites that are categorized or could fall into the category of Underwater Museums and Diving Parks according to the legislation in the region/country they belong to.

## 1. Greece

The accessible underwater archaeological sites operate as «underwater museums», according to paragraph 1 of article 11 of the Law 3409/2005, as it applies and which refers to «Recreational Diving and other provisions» (A' 273).

Their management and the jurisdiction of conceding rights on them belongs to the Ministry of Culture and Sports, according to the opinion of the competent board.

At the accessible underwater archaeological sites, the following are allowed:

- a) accompanied diving in order for the visitors to survey the sea bottom with or without using self-contained breathing apparatus and reaching the depth of 40 meters maximum,
- b) taking amateur photographs in the framework of guided diving,
- c) conducting survey of the seabed using clear bottom boats according to terms and conditions of the current legislation, and
- d) conducting all kinds of archaeological research/conservation work, for which the decision of the Minister of Culture and Sports is needed, after the opinion of the competent board.

The supervision of the visits at the underwater archaeological sites, including the accompaniment by divers guards of antiquities or divers archaeologists, in the framework of accompanied diving, belongs to the Ephorate of Underwater Antiquities, of the Ministry of Culture and Sports.

## 2. *Italy*

The safeguarding of Underwater Cultural Heritage in Italy follows the same principles adopted for the archaeological heritage underneath the ground that were declared through the UNESCO Convention on the Protection of the Underwater Cultural Heritage (Paris, 2 November 2001), and ratified by the Italian Government through the Law n. 157, 23 October 2009 and became effective in Italy starting from 8 April 2010.

Before 2010, however, the Italian Unified Code on the Protection of Cultural Heritage and Landscape (Law n. 42, 22 January 2004), through its article n. 94, already referred to the UNESCO Convention regarding the safeguarding policy of the underwater archaeological heritage. This Law is the one effective nowadays.

Moreover, Law n. 61 of 8 February 2006, concerning the institution of Marine Protected Areas beyond the territorial sea limit (12 miles off the coastline), states that the protection of marine natural and archaeological/historical heritage, according to the UNESCO Convention guidelines, must be extended between 12 and 24 miles off the national coastline.

From the side of the protection of natural heritage, Framework Law on Protected Areas n. 394 1991 lists the national parks, the regional parks and the other protected areas (land, rivers, lakes and seas) and rules their management and protection policies. Its objectives are:

- the preservation of flora, fauna, habitats, landscapes, geological and paleontological values, hydrogeological and ecological systems;
- the application of management and conservation methodologies aimed at safeguarding anthropologic, archaeological, historical and architectural values;
- the promotion of activities related to education, formation, research, dissemination and compatible leisure.

**In those Laws, there is no traceable definition about ‘Underwater Museums’ and ‘Diving Parks’.**

In the Italian National Laws, there is no traceable definition about ‘Underwater Museum’ and/or ‘Diving Park’: that is why in Italy no UMs and DPs have been institutionally created, even if many UCH sites and diving trails, inside or outside the existing National Parks and Marine Protected Areas (MPAs), could be recognized as such.

Some definitions found in further legislative acts:

Through the Newsletter n. 12059 sent in 15 November 1990, Ministry of Cultural Heritage and Landscape clarified the definition of ‘Archaeological Park’: a protected natural area that hosts monumental evidences and that can thus be recognized as ‘Outdoor Museum’.

This definition fits perfectly with the archaeological areas on the land (Pompeii, Paestum, Temple Valley in Agrigento, Palatinum in Rome, etc.), and possibly for UCH sites also, but the underwater museums or diving parks and trails are never mentioned.

The former Italian Unified Code on the Protection of Cultural Heritage and Landscape (Law n. 490, 29 October 1999), now overcome by the 42/2004 Unified Code, gave an even better definition of ‘Archaeological Park’ (article n. 94).

This concept has been identified as *‘the territorial context distinguished by significant archaeological evidences, living together with historical, landscape and naturalistic values, organized as outdoor museum through thematic itineraries and didactic media’*.

This is so far, the best definition in the Italian legislation, fitting perfectly both on the ground and under the sea, even though it does not clearly refer to UCH sites, and even if overcome by the new 42/2004 law, much more generic and never specifically referring to UCH.

This definition for the first time links together the context (naturalistic, historical,

landscape), the evidences (archaeological sites, buildings or artifacts) and the need of heritage divulgation and cultural dissemination, this last one typical of the traditional indoor museums.

The 'cultural activities', recognized as important as the cultural 'goods', in those years led to the transformation of the overall Italian cultural sector, starting from the Ministry, whose name was changed in 1998 as 'Ministry of Cultural Heritage and Activities'.

Later on, in 2013, the close relationship between correct safeguarding activities and responsible touristic management of the cultural heritage will result in a new definition of the main Italian safeguarding institution: 'Ministry of the Cultural Heritage and Activities and of the Tourism'.

Specific legislation about marine natural and cultural areas:

Framework Law on Protected Areas n. 394/1991 lists the national parks, the regional parks and the other protected areas (land, rivers, lakes and seas) and rules their management and protection policies.

Its objectives are:

- the preservation of flora, fauna, habitats, landscapes, geological and paleontological values, hydrogeological and ecological systems;
- the application of management and conservation methodologies aimed at safeguarding anthropologic, archaeological, historical and architectural values;
- the promotion of activities related to education, formation, research, dissemination and compatible leisure.

Articles 18 and 19 state the institution and the management policy for the Marine Protected Areas.

The National Law gives way to several Regional Laws for the management of MPAs and for the creation of Regional Protected Areas: each Region has its own definitions, policies and management tools.

The UCH artifacts, wrecks and sites are located either inside Marine Protected Areas (MPAs), Marine National Parks and Underwater Parks (where their safeguarding and touristic fruition is managed by Public Authorities according to specific laws and policies), or outside the protected areas, where only Diving Trails are set up, on a private base.

In Italy, as of today there are 27 Marine Protected Areas covering an overall area of 222.000 hectares (<http://www.parks.it/indice/RM/index.php>), two Geo-Marine National Parks (Arcipelago della Maddalena and Arcipelago Toscano), and two Naturalistic National Protected Areas-Underwater Parks (Baia Sommersa and Gaiola).

### 3. *Cyprus*

There are no Underwater Museums, or Diving Parks. Nevertheless, there are several ancient and modern shipwrecks that attract divers and enrich marine biodiversity. Additionally, divers find interesting spots within Marine Natura 2000 sites designated across the island as well as in designated Marine Protected Areas with artificial reefs.

### 4. *Spain*

In Spain, archaeological diving parks do not operate all year long, but are open for a few weeks during the year while the archaeologists make their excavations. Visits are organized so that the sport divers can watch live underwater archaeologists working in some emblematic sites.

Spain was one of the first countries to ratify the UNESCO Convention of 2001 on the

Protection of the Underwater Cultural Heritage, acquiring thus a permanent commitment to the defense and study of this important set of goods of our Cultural Heritage. In 2007, the Council of Ministers approved the “National Plan for the Protection of the Spanish Underwater Cultural Heritage”, prepared by the Ministry of Culture and it was accepted by the Council of Historical Heritage that includes all the Autonomous Communities. The aforementioned National Plan discussed the main lines to be carried out in Spain for the protection of Underwater Cultural Heritage. Two years later, in 2009, the Green Paper was drafted by a committee of experts from the Ministry of Culture, the Autonomous Communities and Universities, in order to analyze the situation of underwater archeology in Spain and establish guidelines and programs for the management of this heritage. It also provides the tools for achieving the objectives of the National Plan which provides for a Decalogue of measures ranging from documentation and inventory of underwater archaeological heritage to the physical and legal protection of the most emblematic underwater archaeological sites on the coast, through training in this field, and collaboration agreements with the Ministries of Defense, Interior and Foreign Affairs.

## 5. Croatia

In Republic of Croatia there are no formal underwater museums and diving parks. However, by positive legislation, especially the Act on the Protection and Preservation of Cultural Goods, the following categories are defined:

- individual registered underwater cultural goods
- individual preventively protected underwater cultural goods
- registered underwater archaeological zones
- preventively protected underwater archaeological zones

All above mentioned categories can be in some way considered as underwater museums and diving parks, because for most of them there is no legal, theoretical and practical framework, by which can be organized to visit the vast majority of those underwater archaeological zones and localities.

The difference between registered and preventively protected sites is that registration represents a continuing, and preventive care only temporary protection (6 years from the date of issuing a Decision on preventive protection). In addition to these legally protected cultural goods for which the Decision on registration or preventive protection is issued, there are also evidenced underwater cultural goods. These are mostly underwater archaeological sites which are known in professional circles, scientific literature and similar, but for them there is not enough data to be adopted and adequate legal protection. The procedure for adopting the Decision on registration or preventive protection, in addition to the mentioned Act, is regulated by the Ordinance on the form, content and manner of keeping the Register of Cultural Goods of Croatia (NN 89/11 i 130/13).

In the seabed of the Republic of Croatia, are located about 450 underwater archaeological sites. Of these, 141 are registered individual underwater cultural goods, 5 are registered underwater archaeological zones, 23 are individual preventively protected underwater cultural goods, and the other are evidenced underwater sites. If we look only the waters of Dubrovnik - Neretva County, then we can say that it is known about 100 underwater archaeological sites, of which 34 are individual registered underwater cultural goods, 3 registered underwater archaeological zones and 12 are individual preventively protected underwater cultural goods.

## **UNDERWATER MUSEUMS AND DIVING PARKS**

Below, there is an *indicative* list of the Underwater Museums and Diving Parks considered successful in a worldwide scale, based on the visits by diving tourists.

It is important to mention at this point that the following list is only indicative and was bigger, including more Underwater Museums, Trails and Diving Parks, but since it was not possible for the project team to find the contact details of certain Underwater Museums, Diving Parks and Underwater Trails, they were deleted from the list.

The list includes a brief description and contact details of each UM and DP. The UMs and DPs of the list are the targeted benchmark partners that we will obtain information from.

## *Italy*

### *1. Arcipelago della Maddalena (Oristano, Sardinia) - Geomarine National Park*

National Park, Code: EUAP0018

**Managing Authority: Maddalena National Park**

Creation Laws: Law n. 10, 4th April 1994 – Presidential Law 17th May 1996

Land surface: 5.100,00 hectares, Sea surface: 15.046,00 hectares

It is a geomarine protected area consisting of a group of islands situated in the North-East of the coast of Gallura, in the stretch of sea between Sardinia and Corsica known as Bocche di Bonifacio. Its 180 kilometres of coastline cover 1/10 of the whole Sardinia coastline. The National Park includes all the marine area and the over 60 islands belonging to the archipelago. Except for the Maddalena Island and the Stagnali village in Caprera, the islands are completely uninhabited and their aspect never changed during the last two centuries.

On the seabeds, particularly appreciated by divers from all over the world, the rich flora and fauna species live together with the remains of several shipwrecks both from classical and modern age. A treacherous coastline that, together with the often fatal Bonifacio Straits, hosted one of the most used sea routes of the Mediterranean Sea.

#### **Contact Details:**

Address via Giulio Cesare, 7 - 07024 La Maddalena (OT)

Telephone +39 0789/790211

Fax +39 0789/720049

Email [info@lamaddalenapark.org](mailto:info@lamaddalenapark.org) Certified mail [lamaddalenapark@pec.it](mailto:lamaddalenapark@pec.it)

Web [www.lamaddalenapark.it](http://www.lamaddalenapark.it)

## ***2. Arcipelago Toscano (Livorno, Tuscany) - Geomarine National Park***

National Park, Code: EUAP0010

### **Managing Authority: Arcipelago Toscano National Park**

Creation Laws: Law n. 305, 28th August 1989; Ministry Decrees 21st July 1989 and 29th August 1990; Presidential Law 22nd July 1996

Land surface: 16.856,00 ha, Sea surface: 56.766,00 ha

Located in the municipalities of Grosseto and Livorno, it is the biggest Marine Park in Europe. The area includes islands holding an amazing naturalistic and historical heritage, among others: Giannutri, Capraia, Elba, Montecristo and Giglio.

### **Contact Details:**

Address        Loc. Enfola, 16 - 57037 Portoferraio (LI)

Telephone    +39 0565/919411, Fax        +39 0565/919428

Email    [parco@islepark.it](mailto:parco@islepark.it) , Certified mail    [pnarcipelago@postacert.toscana.it](mailto:pnarcipelago@postacert.toscana.it)

Web    [www.islepark.it](http://www.islepark.it), <http://www.parks.it/parco.nazionale.arcip.toscano/index.php>

### ***3. Underwater Park - Baiae (Naples, Campania)-National Naturalistic Protected Area BLUEMED PILOT SITE***

Other Naturalistic National Protected Areas, Code: EUAP0849

Creation Law: Inter-Ministry Decree August 7th, 2002

**Managing Authority: Parco Archeologico dei Campi Flegrei / MIBACT**

Sea surface: 177 hectares

The involved public institutions are: the Italian Ministry for the Environment and Land Conservation, acting together with the Ministry of Cultural Heritage and Activities and of the Tourism - MiBACT), the Ministry of Transport, the Ministry of Agriculture and Forests and with the Regione Campania. The involvement of four Ministries and the Regional Administration testifies to the importance of legislation introduced to safeguard this highly significant underwater archaeological site.

The area is located off the North-Western coasts of the bay of Puteoli (Naples), in the littoral zone between the southern limit of the port of Baiae and the dock of Lido Augusto. This site is part of the coastal region known as Campi Flegrei, that has been characterized in ancient times by a periodic volcanic and hydrothermal activity and it has been subjected to bradyseism, namely gradual changes in the levels of the coast with respect to the sea level.

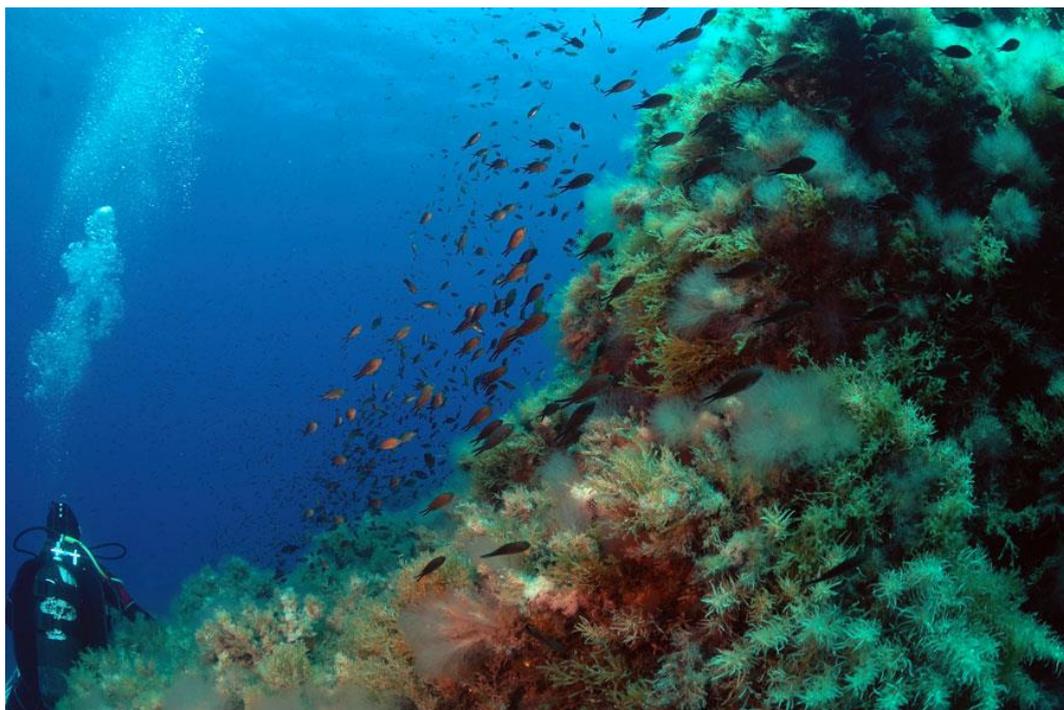
Ancient Baiae was a bathing resort for the Roman aristocracy between the 1st century BC and the 4th AD. As a result of bradyseism, it began to sink into the water around the 3rd century AD. The ancient city that is now almost completely submerged was famous for its luxurious seaside villas, public offices, baths, shops and coastal installations.

The NPA-UP of Baiae, which has an area of about 176.6 hectares, not only safeguards the archaeological remains of the Roman city and infrastructures of the roman harbor named Portus Iulius, but also represents an underwater area of great environmental value. Environmental aspects of this area are related to a peculiar volcanic and geo deformational history. As it is known, since antiquity this coastal region has been subject to the phenomenon of bradyseism, which may be positive or negative, and in its present state, the remains of the Roman Era are submerged at a depth ranging between 1 and 14-15m below the current sea level.

Over the last years, the Soprintendenza Archeologica di Napoli was the Managing Authority of the MPA-UP, however recently this role moved to the Parco Archeologico dei Campi Flegrei as the new Managing Authority. Today the MPA-UP of Baiae has at least five itineraries open to the public, for both divers and non-divers. Non-diver tourists can visit the site on board a boat with a transparent bottom. The local diving clubs are authorized by the Managing Authority to accompany underwater tourist visitors to the submerged city.

The underwater itineraries are: 1) the Villa of the Pisoni, 2) the “Villa with protyr entrance” – “Villa with vestibule”, 3) the “Nymphaeum of Punta dell’Epitaffio” 4) “Portus Iulius”; and 5) the “Secca fumosa”.

#### 4. Punta Cavazzi Ustica,



Ustica island's Marine Protected Area is divided in three different zones: "A ZONE" of total reserve extending from Caletta to Cala Sidoti, "B ZONE" of general reserve, that goes from Punta Cavazzi to Punta Homo Morto northern sector, and "C ZONE" of partial reserve, that includes the southern sector of the island, extending from Punta Homo Morto to Punta Cavazzi.

The island of Ustica, a rocky reef of about 9 km<sup>2</sup>, known as "the black pearl of Mediterranean Sea" thanks to the volcanic ground, is located on the northern coasts of Palermo and is fully surrounded by Tirrenian Sea. Always known for its beauty and for naturalistic patrimony that preserves, in 1986 was set up as Marine Protected Area of Sicily (first in the entire country).

The first human establishments date back to the Paleolithic, and the big quantity of archeological finds founded also underwater, due to many shipwrecks during the time, testified the presence of ancient Mediterranean people, from Phoenicians to Greeks, and from Carthaginians to Romans, that leave traces everywhere. After that the island became a base of Saracens pirates for a long time.

The area of Punta Cavazzi, as the time went by, has become a proper underwater museum with itinerary and informational panels: the ships that landed in the island could not always trace back their anchors so it was decided not to pick up them but to make an underwater museum with the passing of the time. The seabed is rich of ancient ship's anchors that lie there. In 300 meters long seabed there are a lot of archeological finds, between 10 and 20 meters of depth. You can also find Roman amphorae, iron and lead blocks with identification panels<sup>3</sup>.

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<sup>3</sup> <http://www.bluedivingustica.it/en/island-ustica.html>







Images: MiBACT - ISCR

**Contact Details:**

Address via Lucullo, 94 - 80070 Bacoli (NA)

Telephone +39 081 5232739, Fax +39 5232739

Email [centrovisiteampbaia@gmail.com](mailto:centrovisiteampbaia@gmail.com)

Web <http://www.minambiente.it/pagina/parco-sommerso-di-baia>

## ***5. Underwater Park - Gaiola (Naples, Campania)- National Naturalistic Protected Area***

Other Naturalistic National Protected Areas, code: EUAP0850

**Managing Authority: Soprintendenza Speciale per i Beni Archeologici di Napoli (MiBACT)**

Creation Law: Inter-Ministry Decree 07th August 2002

Sea surface: 42,00 hectares

The Naturalistic Protected Area of Gaiola Underwater Park is a 42-hectares marine area in the gulf of Naples, right in front of the Posillipo quarter. The whole area is full of remains of Roman villas emerged both on land and underwater. The vestiges of the old buildings are scattered on the park's seabed. These are the submerged parts of one of the many ancient buildings which used to be there, like the Imperial Villa of Pausilypon, which belonged to Vedio Pollione, a freedman and friend of Emperor Augustus.

In addition, on the seabed a visitor can see the remains of a small harbor and a nymphaeum, together with some old fish pools used for the breeding of moray eels. On the Eastern side of the Park, there are the remains of another Roman structure, the so called "Casa degli Spiriti" – The Haunted House. The area is available for both diving and snorkeling tours and there is a glass-bottom boat service too.

### **Contact Details:**

Address                      Discesa Gaiola, Cala S. Basilio - 80123 (NA)

Telephone/fax              +39 081 2403235

Email                        [info@areamarinaprotettagaiola.it](mailto:info@areamarinaprotettagaiola.it)

Web                          [www.areamarinaprotettagaiola.it](http://www.areamarinaprotettagaiola.it)

## **6. Capo Caccia - Isola Piana (Alghero, Sardinia)-Marine Protected Area**

MPA Code: EUAP0554

**Managing Authority: Municipality of Alghero**

Creation Law: Ministry Decree 20th September 2002

Sea surface: 2.631 hectares

The Marine Protected Area of Capo Caccia – Isola Piana covers a surface of 2.631 hectares. It was identified as a marine reserve based on law 979 of 1982 and was established as such by the Ministerial Decree dated on the 20th September 2002. The Marine Protected Area of Capo Caccia-Isola Piana is managed by the Municipality of Alghero. The site of Cala Barca (Capo Caccia, Alghero, Sassari) near Isola Piana, off the North-Western coast of Sardinia presents two shipwrecks known in the past 30 years; the Roman ship, I century AD and the French Vessel, end from the XVIII century.

### **Contact Details:**

Address                      Comune di Alghero, via S. Anna n. 38/40, 07041 Alghero (SS)

Telephone    +39 079 9978816,    Fax +39 079 9978247

E-mail:                      [info@ampcapocaccia.it](mailto:info@ampcapocaccia.it)

Certified e-mail [ampcapocaccia@pec.comune.alghero.ss.it](mailto:ampcapocaccia@pec.comune.alghero.ss.it)

Web                         <http://www.ampcapocaccia.it/>

## ***7. Marine Protected Area – Capo Rizzuto (Crotone, Calabria) - BLUEMED PILOT SITE***

The Marine Reserve of Capo Rizzuto is located in the central-eastern area of Ionic Calabria, and covers the sea stretch in front of the municipalities of Crotone and Isola Capo Rizzuto, along 42 Km of coastline. Its creation serves a double aim: the safeguarding of its rich naturalistic heritage and the protection of its amazing underwater archaeological sites. It hosts some underwater trails like “Le Castella” (in front of the Aragonese Castle), with a maximum depth of 5 m, in which divers and snorkelers can admire several marble blocks from the ancient quarry. Subsequently, there is the “Punta Scifo Bay” where divers and snorkelers can admire, through two different trails, the cargo of a Lapidaria from the III century AD, an ancient commercial ship carrying Asian marbles.

The shipwreck, called Punta Scifo D, shows 54 large blocks and slabs of Proconnesian and Docimean marble. A preliminary study of the pottery sets an estimated dating around the 3rd century AD. This ancient ship was about 40 m long and 14 m wide. The preliminary study describes a cargo of almost 340 tons, one of largest found in the Mediterranean. Around “Capo Colonna”, “Capo Pellegrino” and “Capo Cimiti” there are three different cargoes with marble columns and lithic grinders. There is also another underwater trail, at a depth of -24 to -29 metres, where a visitor can see the “modern” shipwreck Gunny, sank in 1963, lying on the seabed. Additionally, there is the Bengala shipwreck (“Chico”), sank in 1889. Apart from the wrecks’ structure and cargo, a diver can also admire the rich biodiversity of marine organisms found there, which successfully colonized both Chico and Gunny.

### **Contact Details:**

Area Marina Protetta Capo Rizzuto, Tel. 0962.665254 - Fax 0962.665247

Email: [ampcaporizzuto@pec.provincia.crotone.it](mailto:ampcaporizzuto@pec.provincia.crotone.it) , [segreteria@ampcaporizzuto.it](mailto:segreteria@ampcaporizzuto.it)

### ***8. Underwater Trail - San Pietro in Bevagna (Taranto, Puglia)***

The site of the sarcophagi from the wreck of San Pietro in Bevagna, III Century AD, is located approximately 100 m from the coast and 4-6 m in depth. It covers an area of approximately 148 sqm and contains twenty-two partially worked white marble sarcophagi of diverse shapes and sizes, each weighing between 1000 and 6000 kg.

For more information:

<http://www.academia.edu/12014511/R. PETRIAGGI B. DAVIDDE The sarcophagi from the wreck of San Pietro in Bevagna TA the subject of new works by the Istituto Superiore per la Conservazione ed il Restauro>

## ***Portugal***

### ***9. Terceira Island, Underwater Archaeological Park of the Bay of Angra do Heroísmo (Azores)***

Cultural heritage and site: it is a true underwater museum with more than 40 ancient anchors, sometimes over 3 metres long and from many centuries ago, littered across the ocean floor. Another dive site with archaeological interest lies only 100 metres away from the 'Cemetery of Anchors' (where there are more than 40 discarded anchors of the classic admiralty pattern) is the steamer 'Lidador' wrecked here on its way to Brazil in 1878. It rests at a depth of just 10 metres and is a fantastic breeding ground for small marine species.

#### **Contact Details:**

Website <http://mpas-portugal.org/azores/underwaterarcheologicalparks/>

Email: [emanuel@ispa.pt](mailto:emanuel@ispa.pt) or [mirtazupan@gmail.com](mailto:mirtazupan@gmail.com)

### ***10. Underwater Archaeological Park Caroline (Azores), Pico Island***

Cultural heritage and site: it is located off the coast of Areia Larga on Pico Island, at 8-10 meters depth, where lays the French sailing vessel Caroline, sunk in 1901. The Park protects the impressive 98 meters long and over 3000 tons heavy wreck.

**Contact Details:**

Email [drac.info@azores.gov.pt](mailto:drac.info@azores.gov.pt)

Telephone: (+351) 295 403 000, **Fax:** (+351) 295 403 001 / 403 071

Website <http://www.wrecksite.eu/wreck.aspx?217588>

### ***11. Underwater Archaeological Park Dori (Azores), São Miguel Island,***

Cultural heritage and site: it is located at Ponta Delgada, on São Miguel Island, at a depth of 15-20 meters where rests the tramp steamer ship Dori. The Park protects the site where the ship sunk in 1961 on its way from Germany to the United States of America. It is the one of the most popular dive sites of São Miguel and loved by wreck divers due to the great condition of the wreck.

**Contact Details:**

<http://dive.visitazores.com/en/divespots/dori>

<http://dive.visitazores.com/en/topten/diving-second-world-war-shipwreck-sao-miguel-island>

## Spain

### 12. The Medes Islands



Figure 1: MEDES ISLANDS, Source <http://www.la-sirena.net/gb/content/58-Medes-islands>

The Medes archipelago, has seven islets and a surface area of about 23 hectares.

According to the Professional Association of Diving Instructors (PADI), these small islets just off the coast of L'Estartit on the Costa Brava and are among the best Mediterranean dive sites. The crystal-clear water provides great visibility, and the Islands, which have been protected for 20 years, are a haven for a rich variety of marine flora and fauna including grouper, sea bream, barracuda and octopus<sup>4</sup>. Since the Medes Islands have been

<sup>4</sup> <http://www.la-sirena.net/gb/snorkeling/88-snorkel-medas.html>

declared as *reserva natural submarina* in 1983, have become the home to some of the most abundant marine life and one of the most important marine flora and fauna reserves in the western Mediterranean and thus they are a very popular scuba diving destination<sup>5</sup>. The diversity of depths provides diving opportunities for everyone; from professional divers to beginners.



Figure 2: Medes Islands, source: <http://www.visitstartit.com/en/23/Medes-Islands.html>

Numerous caves and tunnels indicate that the limestone archipelago was attached to the Montgrí Massif over ten thousand years ago. Moreover, near the islands there is Reggio Messina, the largest ship that divers can visit on the Costa Brava, which was sunk deliberately in 1991.

**Contact details:**

L'Estartit Tourist Office:

Tel. 972 75 19 10

[info@visitstartit.com](mailto:info@visitstartit.com)

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<sup>5</sup> Source: Lonely Planet, Anthony Ham, et. al.

## *Finland*

### *13. Underwater Park Kronprins Gustav Adolf, Helsinki, Finland*

Located in the water area of the City of Helsinki, approximately 3.5 nautical miles to South-Southwest from the Harmaja lighthouse. The coordinates of the park are (WGS84) 60°03.010 N, 24°55.445 E.

Cultural heritage and site: the wreck of the Kronprins Gustav Adolf, which sank off Helsinki in 1788. The wreck is a Swedish 62-cannon ship of the line that ran aground on an uncharted rock during the wars of King Gustav III in 1788. The ship's remains lie at a depth of 18–20 metres on a flat bed of moraine and is partly scattered over an area measuring approximately 100 x 100 metres. The wreck consists of the bottom of the hull, the sides, which have fallen, different parts of the structure, cannons, cannon balls, and a variety of loose articles. All in all, 71 cannons have been found at the site. Three of these were raised, conserved and examined. There are also two big anchors at the wreck. There are 13 information signs at the site. No special permission is needed for diving at the park.

The National Board of Antiquities is responsible for the park. The maintenance of the park is carried out in collaboration with Sea Safety Scandinavia Ltd and the Sports Department of the City of Helsinki. Entry to the wreck park is free and divers can move in the park by following the underwater rope path. Divers can study the wreck as closely as is possible without damaging it.

The park is marked with a buoy, that can be used for mooring a boat. The wreck area is surrounded by an information path connected by a leading line, with information boards about the history of Kronprins Gustav Adolf and the ship's structure. There are diving lines attached to the bow and aft of the wreck for the divers. The goal of underwater parks is to help visitors recognize and interpret what they see; a messy pile of planks can be interpreted as an old warship and a memory of passed event. The wreck park helps visitors

to understand the enormous potential of the Baltic Sea as a unique ‘underwater outdoor museum’, where thousands of different wrecks have been preserved.

Depth at the site is 19-21 metres with sandy bottom. There are normally no strong currents. Visibility is between one and ten metres, usually 4-6 m. The WGS84 coordinates of the park are: 60°03.010 N, 24°55.445 E.

No special permission by the Maritime Museum is needed for diving at the park during daytime in the summer.

For more information visit:

[http://www.nba.fi/en/cultural\\_environment/archaeological\\_heritage/underwater\\_cultural\\_heritage/underwater\\_park](http://www.nba.fi/en/cultural_environment/archaeological_heritage/underwater_cultural_heritage/underwater_park)

**Contact details:**

National Board of Antiquities

Researchers Riikka Alvik (tel. +358 295 33 6220), Minna Koivikko (tel. +358 295 33 6215),

Partner organization: Sea Safety Scandinavia Ltd, tel. +358 9 454 4600



*Figure 3: The underwater park has been built at the wreck of Gustav Adolf, off Helsinki.  
Photo by: The National Board of Antiquities*

## *Sweden*

### *14. Dalarö Model (located at The Dalarö archipelago, southeast of Stockholm)*

The waters of Dalarö in the Stockholm Archipelago are extremely rich in wrecks. There are several wrecks here from the 16th to the 18th century. One of the more famous ones is the Dalarö wreck. The Dalarö wreck is one of the world's best preserved 17th-century wrecks, lying at about 30 metres depth by Edesön. On and around the wreck are many objects – pottery, glass bottles, tools, weapons, parts of the rigging, and baskets and crates.

It is a fairly small ship, about 20 metres long, with a hold and six-gun ports. Two cannons have been found on board; one is still in its carriage on the quarterdeck and one has collapsed into the forebody. Several hand weapons have been found: two handles from rapiers, one musket and two pistols, one of which has a flintlock and was probably made in Holland in the 1660s<sup>6</sup>.



#### **Contact Details:**

The Maritime Museum: [sjohistoriska@maritima.se](mailto:sjohistoriska@maritima.se)

<sup>6</sup> <https://www.sjohistoriska.se/en/maritime-archaeology/wrecks-in-the-baltic-sea/the-dalaro-wreck>

### ***15. Axmar Underwater Park (located in Axmar)***

Cultural and natural heritage and site: In the park it is possible to enjoy both nature and culture. The many shipwrecks of the park are located mainly in the shallow waters and they can be visited by divers, boat tourists, canoeist and some of the sites can be seen even from the shores. In addition, Axmar is a nature preserve and marine protection area which adds the importance of the underwater park.

#### **Contact Details:**

<http://www.lansstyrelsen.se/gavleborg/SiteCollectionDocuments/Sv/publikationer/2014/Axmar-ENG-webb.pdf>

[http://www.xray-mag.com/pdfs/articles/Travel\\_Sweden\\_36.pdf](http://www.xray-mag.com/pdfs/articles/Travel_Sweden_36.pdf)

## ***Norway***

### ***16. The Lossen Trail (located on the west side of Outer Hvaler National Park)***

The frigate Lossen (28,7 m. long, 7,5 m. wide) who served in the Danish fleet during “the Great Northern War” (1700-1721) was smashed against cliffs during a storm and sank off in 1717.

There is an underwater path that goes around the frigate Lossen who lays at a depth of six meters; the path includes no interference to the seafloor since signs are created in stone slabs that lay on the seafloor. Between the signs, there is a line that is attached to the granite blocks, so that divers and snorkelers are easily guided from sign to sign. The trail consists of five signs with the following topics: ship construction, ship's armament, cultural heritage law, flora and fauna.

Nordic Blue Parks project-manages cultural heritage under water in the Nordic countries by using signs. The goal of these paths is to raise awareness of the environment and cultural heritage, while providing the public good cultural and natural experiences underwater. "Lossen" is one of the cultural monuments Norwegian Maritime Museum has chosen to boast in Norway, so that divers can read about the protection of underwater cultural heritage and history of the ship, as well as provide information about the plants and wildlife in the sea. Between the signs, there is a line that is attached to the granite blocks, so that divers and snorkelers are easily guided from sign to sign. The trail consists of five signs with the following topics: ship construction, ship's armament, cultural heritage law, flora and fauna. To make the underwater journey even more interesting, you can buy an A4 plastic sheet with additional information and overview maps from local retailers and Norwegian Maritime Museum.

**Contact Details:**

<https://www.visithvaler.com/frontpage/2014/10/30/underwater-cultural-heritage>

**Address:** 1680 Skjærhalden

**Telephone:** [+47 69 37 88 87](tel:+4769378887)

**E-mail:** [othh@hvaler.kommune.no](mailto:othh@hvaler.kommune.no), **Webpage:** <https://www.ytrehvaler.no/Kontakt-oss/>

## *Scotland*

### *17. The Duart Wreck Diver Trail (West coast of Scotland)*

This wreck of a small warship lost in 1653 lies against the rocks beneath Duart Castle and has recently been investigated by professional underwater archaeologists. After excavation, the remainder of the site has been protected by a layer of sandbags, restoring the natural underwater topography, but a scatter of cannon are still visible on the surface.

The site was originally designated under the Protection of Wrecks Act 1973 and could only be dived under license from Historic Scotland. Designation has now changed and the site is now a Marine Historic Protected Area (MHPA) which means you can look but not disturb the archaeology or the habitat on the site. The Duart Point site is a historically important and interesting site, and since the change of legislation is now open to all divers.



Picture: [http://www.lochlinedivecentre.co.uk/?page\\_id=1455](http://www.lochlinedivecentre.co.uk/?page_id=1455)

For a trail map visit:

[https://www.nauticalarchaeologysociety.org/sites/default/files/u9/DPVisitorTrail\\_forweb.pdf](https://www.nauticalarchaeologysociety.org/sites/default/files/u9/DPVisitorTrail_forweb.pdf)

**Contact Details:**

**Website:** <http://portal.historicenvironment.scot/designation/HMPA7>

**Telephone:** 0131 668 8600

**Email:** [HMEnquiries@hes.scot](mailto:HMEnquiries@hes.scot) , [designations@hes.scot](mailto:designations@hes.scot)

## *England*

### *18. Norman's Bay wreck diver trail (located in Norman's Bay, East Sussex, just South of Pevensey, near Eastbourne)*

Cultural heritage and site consist of a large warship of the period 1600-1800. Judging from the length of the visible remains the vessel would have been approximately 40m (131 feet) long, with an approximate breadth of 12m (39 feet). The number and size of the armaments and the anchor suggested this was a third-rate warship of 800 to 1000 tons. Recent research generously funded by English Heritage has led to a possible identity for the wreck being proposed. The wreck site contains a cluster of at least forty-nine iron guns, timber hull structure and various other artefacts including a large anchor on top of a ballast mound.

The dive trail was created in 2010 and launched in spring 2011. An underwater information booklet to guide divers around the site was designed that aids navigation and assist visitors in recognizing features on the wreck.

For more information about the dive trail:

<http://www.nauticalarchaeologysociety.org/sites/default/files/u9/Norman%27s%20Bay%20Wreck%20dive%20trail%20guide%202013.pdf>

**Contact:**

email the NAS at [nas@nauticalarchaeologysociety.org](mailto:nas@nauticalarchaeologysociety.org)

tel. +44 (0) 23 9281 8419.

### ***19. Holland No. 5 Submarine (located about 6 miles (9.7 km) off the British coast near Eastbourne)***

The Holland No.5 submarine was the first submarine to actually be commissioned in the Royal Navy, on the 19th January 1903; in order to visit the wreck it is possible to contact the NAS to schedule a visit, no NAS qualifications are required to visit the wreck, however for the Holland 5 the minimum Diving Qualification is BSAC Dive Leader / PADI Rescue Diver equivalent with recent dives to over 30m.

For more information visit:

<https://www.nauticalarchaeologysociety.org/content/holland-no5-submarine>

#### **Contact Details:**

Nautical Archaeology Society (NAS)

Mark Beattie-Edwards – Programme Director

Fort Cumberland, Fort Cumberland Road, Portsmouth

Tel No: 023 9281 8419

E-mail: [Mark@nauticalarchaeologysociety.org](mailto:Mark@nauticalarchaeologysociety.org)

Website: [www.nauticalarchaeologysociety.org](http://www.nauticalarchaeologysociety.org)

### ***20. The Coronation Wreck Project (Plymouth)***

The Coronation sank near Plymouth during a violent storm in 1691. She lay undiscovered until 1967 and eventually the site became a designated 'Protected Wreck' under the PWA 1974. There are two main areas of wreckage lying some 800 meters apart. The topography of the offshore site comprises of rugged rock formations and sand-filled gullies. It was

discovered by magnetometer in July 1977 this is the site of the Diver Trail. The site is in a general depth of 18 – 20m and has some kelp and low-level vegetable turf covering the area. A large variety of marine life inhabits the site. The site has seventeen cannons and three anchors within it.

The site is fully protected and there is a strict divers 'no taking' policy. Divers must not remove any items or marine life from the site at any time.

For more information about the wreck visit:

<http://www.coronationwreck.org/history.html>

and

<http://www.coronationwreck.org/divers.html>

For a 3D virtual tour visit: <http://www.coronationwreck.org/tour.html>

**Contact Details:**

Coronation Wreck Project

[info@coronationwreck.org](mailto:info@coronationwreck.org)

***21. The A1 Submarine (located in the Eastern Solent, the strait that separates the Isle of Wight from the mainland of England)***

The wreck of the HMS m/A1 is a submarine that sunk in the eastern Solent in 1911. The dive trail is organized and managed by the NAS in partnership with the South sea branch of the British Sub-Aqua Club (SSAC). An underwater information guide for divers visiting the site has been designed that will aid navigation and assist visitors in recognizing features on the wreck. This guide will also explain the background to the remains and the issues of protecting and managing the wreck.

For the underwater guide of the wreck visit:

[https://www.nauticalarchaeologysociety.org/sites/default/files/u9/A1%20sub%20trail%20guide\\_final\\_0.pdf](https://www.nauticalarchaeologysociety.org/sites/default/files/u9/A1%20sub%20trail%20guide_final_0.pdf)

**Contact Details:**

email the NAS at [nas@nauticalarchaeologysociety.org](mailto:nas@nauticalarchaeologysociety.org)

tel. +44 (0) 23 9381 8419

## ***22. The barque Hera (North of Gull rock, East Falmouth)***

The wreck of the four-masted German barque Hera, was built in 1886 and wrecked behind Gull Rock to the east of Falmouth at the start of 1914. At 16m deep, the Hera is an ideal wreck for beginners and training dives. Diveable pretty much at any state of the tide, it also makes a great second dive to follow a deeper offshore wreck on slack water. The wreck is in two main sections about 20m apart, separated by the masts laying on the sea bed.

For more information about the wreck visit:

<http://www.divernet.com/wreck-tours/p301742-wrecktour:110-the-hera.html>

<http://www.submerged.co.uk/hera.php>

<http://www.wrecksite.eu/wreck.aspx?77352>

## *Cornwall, UK*

### *23. HMS Colossus Dive Trail (Cornwall-Isles of Scilly)*

Cultural heritage and site: the HMS Colossus was a Courageux class 74 gun warship built in 1787 at Gravesend and wrecked off Samson in the Isles of Scilly in 1798. The 74 gun ship was one of the most successful types of the period. They were typically about 51m in length with a crew of over 600.

The dive trail consists of numbered observation stations situated around the site and a waterproofed underwater information booklet which guides divers between the observation stations, explaining the exposed remains and detailing brief background information on the wreck.

For more information:

<http://www.cismas.org.uk/colossus-dive-trail.php> <http://hmscolossus.cismas.org.uk/>

For a 3D interactive diving trail: <http://hmscolossus.cismas.org.uk/start-the-dive-trail/>

#### **Contact Details:**

**E-mail:** [secretary@cismas.org.uk](mailto:secretary@cismas.org.uk)

**Tel:** 01736 365429

*Mexico*

24.MUSA, Cancun



*Figure 4: The Anchors*



Figure 5: Resurrection



Figure 6: Blessings



Figure 7: *The Gardener of Hope*

In 2009 a monumental underwater contemporary museum of art called MUSA (Museo Subacuático de Arte) was formed in the waters surrounding Cancun, Isla Mujeres and Punta Nizuc<sup>7</sup>.

This project was founded by Roberto Díaz Abraham, former President of the Cancun Nautical Association and Jaime González Cano, Director of the National Marine Park.

Today, MUSA consists of over 500 permanent life-sized and monumental sculptures and is one of the largest and most ambitious underwater artificial art attractions in the world. The Museum aims to demonstrate the interaction between art and environmental science and form part of a complex reef structure for marine life to colonize and inhabit whilst increasing biomass on a grand scale. All sculptures are fixed to the seabed and made from

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<sup>7</sup> <http://musamexico.org/>

specialized materials used to promote coral life. The total installations occupy an area of over 420sq meters of barren substrate and weighing in at over 200 tons.

### **Contact Details**

MUSA | Underwater Museum of Art 2016

Tel: +52 1 (998) 206 01 82 / +52 1 (998) 840 72 32

<http://musamexico.org/contact/>

## ***Dominican Republic***

### **25.Parque Nacional Submarino La Caleta,**

The Parque Nacional Submarino La Caleta (La Caleta Underwater National Park) is a national park located approximately 12 miles from Santo Domingo, the capital of the Dominican Republic.

Created by Decree No. 249 on September 25, 1986, La Caleta Underwater National Park is the first underwater park in the Dominican Republic and is considered by experts to be one of the five best diving locations in the Caribbean. It has a maximum depth of 180 metres (590 ft). Many coral reefs can be found between 10 metres and 50 metres. It is one of the most visited parks in the country and attracts divers from both the Dominican Republic and other countries.

It is classified as an ecotourism park, aimed at the assessment of existing natural resources, while encouraging participants to pursue conservation and respect for nature.

The main tourist attraction is the ship Hickory, which was removed in 1984 by Grayson

Roach in order to form a habitat for reef fish and a diving destination. Inside the park there is an Ethnological and Archaeological Museum which has a large collection of objects created by the Taíno.

A trip to the "Hickory", the famous wreck of treasure hunter Tracy Bowden, as well as to the wreck of "El Limon".

The "Limon" is certainly one of the best-preserved wrecks in the underwater national park of "La Caleta". The whole superstructure is still intact and divers get the impression that it went down just yesterday. Once the former tug boat was a powerful ship and today she has her resting place in 22m/80ft of water leaning to it is starboard side on a sandy area. The 3 propellers are still clearly visible.

Today the "Hickory" lays also leant to it is starboard side in approx. 18m/60ft of water in the middle of a nicely composed coral reef. The hull, especially at bow and stern, are encrusted with lots of different brain corals and sponges. Once famous as one of the most beautiful wrecks in the Caribbean it still preserved its charm even after Hurricane "George" struck the Dominican Republic in 1998.

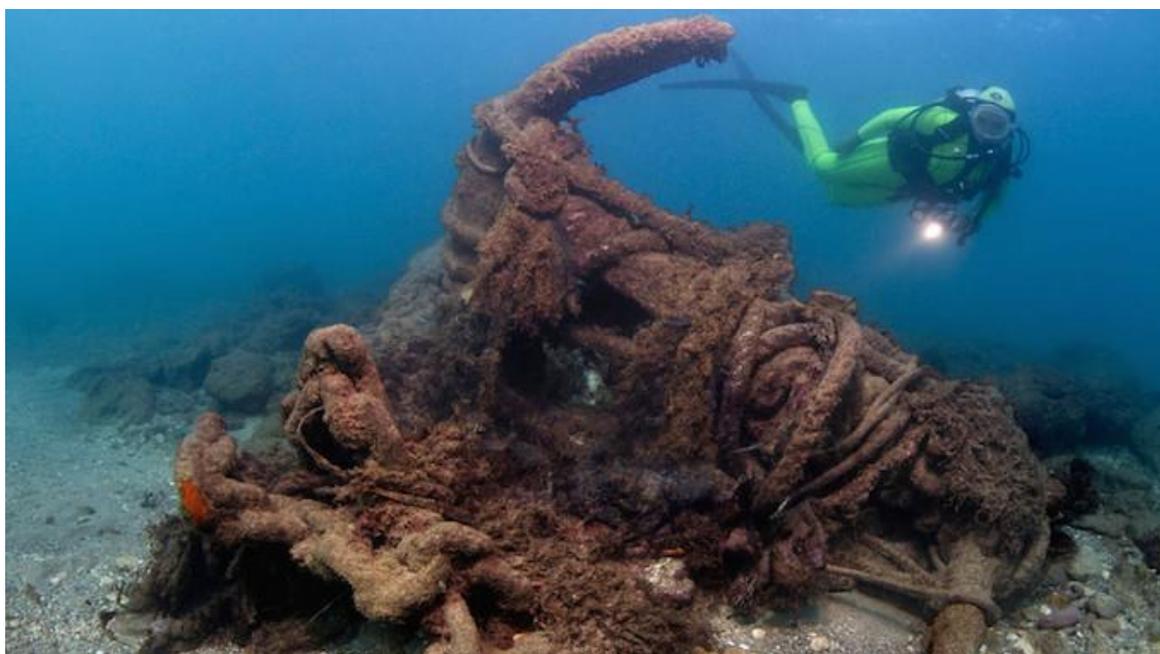
Located about 13 miles east of Santo Domingo, this is less a formal park than a strip of beach used as a popular launching pad for divers. The main attractions are two wrecked ships, both scuttled here in the 1980s, when the park was formed. Hickory, 130 feet long, was once used to hunt treasure, salvaging sunken Spanish galleons. Over the course of the past 20 years it's become a veritable underwater museum of sea life, easily accessible to divers in the shallow waters.

Telephone: [+1 849-270-2986](tel:+18492702986)

## *Israel*

### 26.Caesarea

In Israel's coastal city of Caesarea -- the site of "Herod's Harbor" -- visitors can inspect what was once one of the biggest and most sophisticated ports of the Roman Empire. Originally opened for business in 10 BC, the submerged harbor now rests in about 20 feet of water, and the museum itself covers some 18,580 square feet. With waterproof maps and an instructor to guide them, divers and snorkelers can swim among the 36 exhibits -- from sunken vessels, to giant anchors, to marble columns -- by following ropes tied between poles stuck in the sea floor.



It was the largest, most impressive port in the Roman Empire when it was inaugurated in 10 BCE. And some 2,016 years later, the ancient port of Caesarea - along the Mediterranean coast of Israel - was inaugurated this time as the world's first underwater

museum. Divers can now wear their wet suits and tour the sign-posted remains of the magnificent harbor built by King Herod to honor his Roman patron, Caesar Augustus. The site has been excavated over the last three decades by a team led by the late Prof. Avner Raban of the University of Haifa's Recanati Institute for Maritime Studies.

It's not your ordinary museum tour. Visitors float from one 'exhibit' to the next, marveling in silence at the untouched remains of a once-glorious harbor; a Roman shipwreck, a ruined lighthouse, an ancient breakwater, the port's original foundations, anchors, pedestals.

Researchers from the University of Haifa together with the Caesarea Development Corporation opened the park in 2006. This stunning underwater archaeological park teaches both amateurs and professionals alike about the techniques Herod used to construct the ancient ports and about later attempts to restore the port after it began to sink. The archaeological diving adventure, a unique experience available no where else in the world, includes following the techniques used to build ports in the Roman era learning hands-on about the incredibly sophisticated construction techniques used by Herod's engineers, who built the first breakwaters in history<sup>8</sup>.

The underwater port covers about 200 dunams, and within its confines can be found the evidence of loading and unloading docks, warehouses, boardwalks and beacons. On the seafloor divers can explore the remains of ancient shipwrecks, the vessels and cargo and even the wreck of a boat bringing immigrants to Israel at the time the Second World War.

### **Contact details**

Telephone: **04-6267080**

Fax: **04-6262056**

<http://www.parks.org.il/sites/English/ParksAndReserves/caesarea/Pages/default.aspx>

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<sup>8</sup> <http://www.israel-golf-tours.com/Golf/Templates/showpage.asp?DBID=1&LNGID=1&TMID=84&FID=728>

### *iii. Data collection method and indicators*

The data collection method used was questionnaires that were sent to the management organizations of every Underwater Museum (UM) / Diving Park (DP) / Underwater Trail of the sample. The questions included in the questionnaire were formed in order to provide qualitative and quantitative data that would allow for comparison amongst the sample. The questionnaires provided data regarding the number of visitors, the number of divers, the pricing model, the offered services and the management model, among others.

The questionnaire to be filled by the management and/or person responsible is the Annex of this deliverable.

### *iv. Data collection*

According to the proposed methodology for this specific deliverable, the questionnaires were sent out by email to be filled by the organizations responsible for the management / operation of each Underwater Museum and Diving Park of the sample. The partners responsible for the deliverable were responsible for distributing the questionnaires to the relevant contact points of the UMs and DPs. What is more, project partners from Italy and Spain would assist by communicating with the UMs and DPs in their region, whenever needed.

When filling the questionnaires is not feasible due to non-response, the project team will conduct phone/skype interviews to collect the necessary data for the study. If this proves to be inadequate as well then certain UMs and DPs for which data is available will be selected and the project team will use them as case studies.

## v. *Analysis of results*

The methodology followed by partners to gather information for the study was the distribution of questionnaires to all Underwater Museums, Trails and Diving parks. The first phase was that the partners sent out the questionnaires and in the second phase partners send out a reminder to everyone to fill in and send back the questionnaires. What is more, a second reminder e-mail followed up. Unfortunately, the response rate was 15% that is very low and it does not allow for drawing safe conclusions. The low response rate can be attributed to two main reasons; the timing of the distribution and the time constraints. The timing of the distribution means that the distribution occurred during the summer time that is on one hand high season for the Diving parks and on the other hand people in charge in the Managing Authorities of the UMs are most likely to be on vacation. Thus, it was not possible to get the answers in time. Another issue is that due to time constraints, partners didn't have the luxury to give that much time to the respondents.

Nevertheless, as already stated in the methodology, partners had an alternative plan in case plan A wouldn't work, that being to apply the case study methodology.

In what follows, 9 case studies were chosen in order to examine what are the determinants of successful Underwater Parks, Diving Parks and Underwater Trails. The specific examples we chosen out of the sample as they have some characteristics that allow them to be perceived as best practices. Those characteristics are their fame, the way they are organized, their effective management practices etc. However, it is important to stress that every Underwater Museum/ Trail or Diving Park is different from the other and can operate in a different way, as they are in different regions where dissimilar laws and/or practices apply.

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## **Arcipelago della Maddalena (Oristano, Sardinia) - Geomarine National Park**

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### **Managing Authority: Maddalena National Park**

La Maddalena Archipelago National Park is a Geomarine Protected Area consisting of a group of islands situated in the north-east of the coast of Gallura, in the stretch of sea between Sardinia and Corsica known as Bocche di Bonifacio.

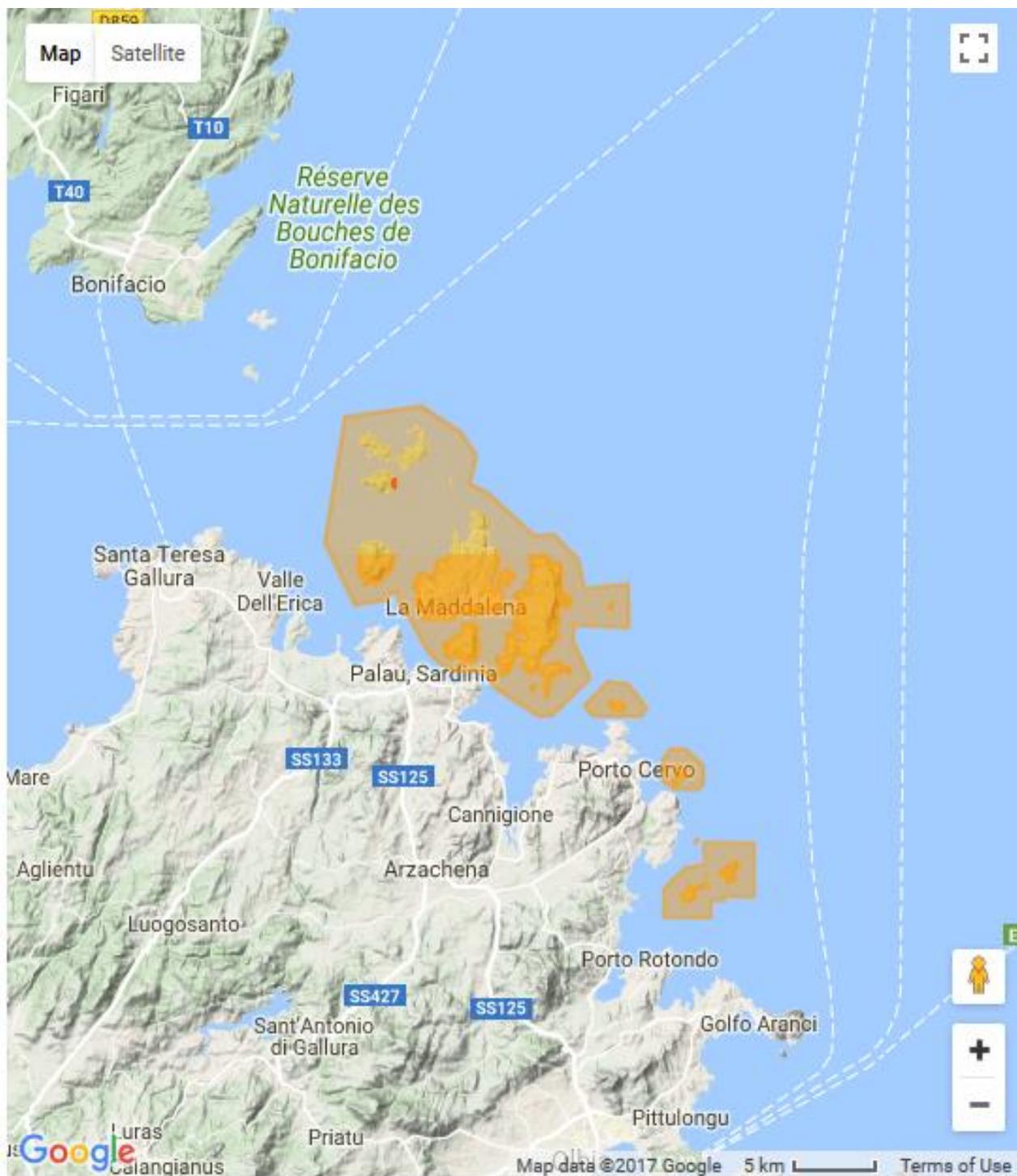


Figure 8: Protected Area, source: <http://www.parks.it/parco.nazionale.arcip.maddalena/Emap.php>

Established with Law 4th January 1994 according to the reference regulations on protected areas, the Park Authority is regulated by Decree of the President of the Republic (D.P.R.) of 17th May 1996, which also introduced the first safeguard rules. The Decree also delimits the Park borders, which include "all the islands and islets belonging to the territory of the Municipality of La Maddalena, as well as the surrounding marine areas".

Almost the whole territory of La Maddalena Archipelago National Park is a **Site of Community Interest (SCI)** according to the Habitat Directive 92/43 CE. The area is characterized by the presence of over 700 vegetable species, representing 1/3 of the flora of Sardinia, over 50 endemic species representing the 25% of the total flora of Sardinia, and several rare species and species of phytogeographical interest, as well as by several habitats of Community importance.

Yachting, fishing, diving, and economic activities linked to the sea are allowed by previous issue of specific authorizations only. The income that is generated by the issuance of the authorizations and diving permits is one of the most important self-financing sources for the Park Authority. To be more specific, thanks to this income the Park can guarantee the regular implementation of its own establishment mission through promotion, environmental education and sensitization activities, as well as control the access to the waters of the Archipelago.

Almost the whole territory of La Maddalena Archipelago National Park is a Site of Community Interest (SCI).

The income generated by the issuance of the authorizations is one of the most important self-financing sources for the Park Authority.

The Park accomplishes its mission through promotion, environmental education and sensitization activities, as well as control the access to the waters of the Archipelago.

The Park sponsors researches and useful facilities offered to visitors.

Moreover, the Park can sponsor researches and useful facilities offered to visitors, just as:

- the placement of free buoy fields
- the safety of the water stretches for swimming
- the recovery of situation of environmental degradation and the delimitation of some dune systems
- the monitoring of the dolphin population living in the Archipelago
- the opening of museum structures in the premises of the CEA, the Environmental Education Center in Stagnali, in the island of Caprera
- the management of the "doggie beach" in the island of Caprera, one of the few beaches for dogs in Sardinia.

For non-residents, the yachting and scuba diving authorizations are issued on payment. One of the main goals of Arcipelago di La Maddalena National Park is to inform the public about the activities allowed in the protected area; therefore, with the authorization issued by the Personnel in Charge of Control at Sea they hand out brochures that explain the great importance of this natural place declared Site of Community Importance (SCI) and Special Protection Area (SPA), as well as that they are fines to pay when there is no compliance with the yachting permits.

The Arcipelago di La Maddalena National Park is a great example that shows how valuable the entrance fee is for the maintenance of the Park since it is the most important source of self-financing. To be more specific, the income generated by the fees paid by visitors assists to the institutional purposes and activities of the Park, namely the promotion of environmental education and awareness and the maintenance of high standards of environmental monitoring. Last but not least, this income assists the Park Authority to finance several activities related to the Park such as events and studies.

## Arcipelago Toscano (Livorno, Tuscany) - Geomarine National Park

Managing Authority: Arcipelago Toscano National Park

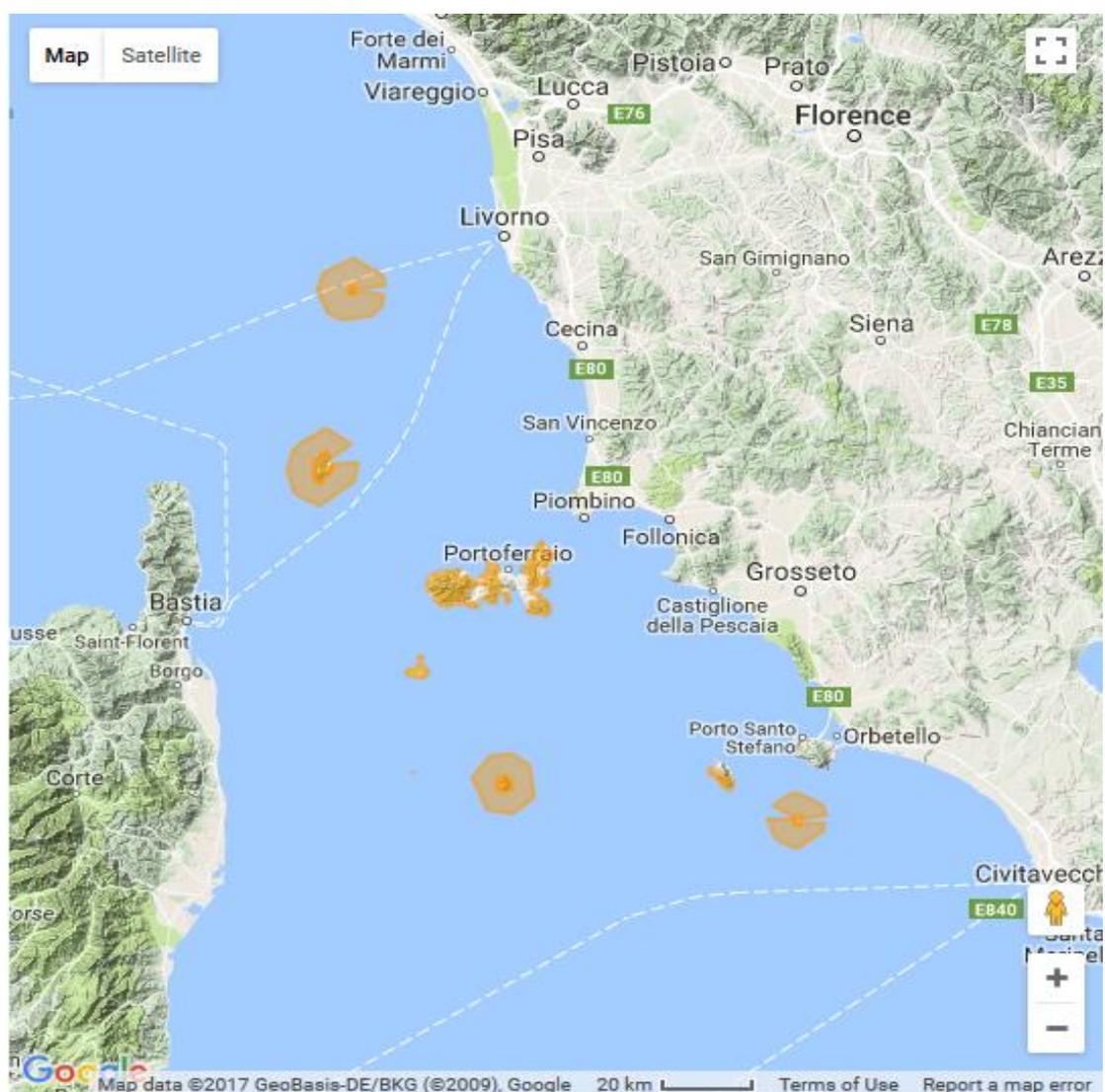


Figure 9: Protected Areas, source: <http://www.parks.it/parco.nazionale.arcip.toscano/Emap.php>

The **biggest Marine Park in Europe** is located in the Municipalities of Grosseto and Livorno. The area includes islands holding an amazing naturalistic and historical heritage, among others: Giannutri, Capraia, Elba, Montecristo and Giglio.

Arcipelago Toscano has always represented an important shelter and connection area between the Sardinian-Corsican system and the peninsula. Thus, the Archipelago hosts specialized animal and vegetal species which formed during the periods of isolation and species which only live in Corsica and Sardinia. There are colonies of sea birds, like shearwaters and seagulls, among which the rare Audouin's Gull, a Mediterranean endemic species which in Italy lives in a few places. The presence of the Mediterranean monk seal has also been sporadically recorded, and it also possible to sight cetaceans.

It is the biggest Marine Park in Europe.

The great biological diversity of the is due to the variety of the coasts and of the bottom of the sea: from the beaches of the Elba to the rocky cliffs of the western Capraia.

The Park is characterized by a great variety of habitats populated by different living beings.

Moreover, due to the fruitful collaboration between organizations, security forces and operators of the diving sector and of the Elba's diving union, divers are welcome to discover the amazing sea bottoms of the island's Protected Area. The sea bottoms are visible not only for expert divers but also for small groups guided by scuba environmental guides. It is an experimental use agreed after a scientific monitoring and both the diving itineraries and the access rules have already been established.

Therefore, this Park is an example how it is possible to achieve not only the protection of the underwater ecosystem but also its promotion to the wider diving public.

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## Underwater Park - Baiae (Naples, Campania) - National Naturalistic Protected Area

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### **Managing Authority: Parco Archeologico dei Campi Flegrei / MIBACT**

On 30th January 2007 an agreement was signed between the Archaeological Authority of Naples and Caserta and the association Assodiving Flegreum, represented by Centro Sub Campi Flegrei, for the concession and regulation of diving activities within the Underwater Archaeological Park of Baiae.

In the MPA of Baiae recording of the alterations of the underwater artifacts, as well as water sample analysis is carried out monthly after each swell, according to the president and responsible officer of Fillirea that is the Visitors Centre of the 'Baiae Marine Protected Area'.

The visiting period of the site is all year round as the water's temperature is ideal throughout the year.

The facilities available for the visitors are; reception office, information point, administrative facilities, repository and storage of Antiquities / Exhibits, area of preservation of Antiquities / Exhibits, area of restoration of Antiquities / Exhibits as well as supporting dives area. The underwater trails are already designed and a guided tour is offered for a fee.

FILLIREA accommodates the visitors using their headquarters in Baia; as they can understand what visitors would like to visit and which is the proper way to plan the visit, according to their scuba diving experience; they also connect them with the local diving center or other available facilities (e.g. the glass-bottomed ship service).

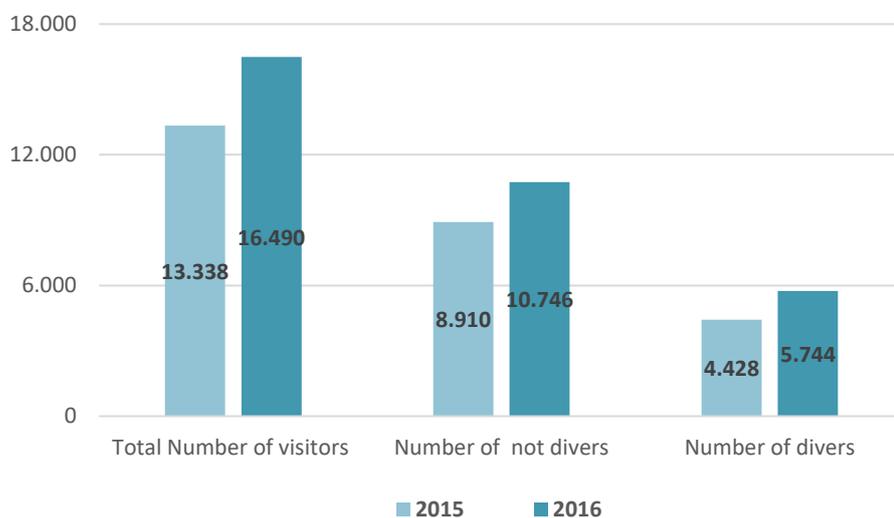
There are customized tours for individuals, couples, families or groups, schools available; the tour includes the hotel reservation, a personal guide and the diving support. Printed brochures, and in digital version are also available.

The underwater protection policies are the ones applied by ISCR, regarding the conservation and protection of the underwater artifacts and ruins against biodegradation, and Fillirea performs the site's monitoring activity, patrolling all day, against every possible human illegal activity. Moreover, during every dive, there is a guide responsible for the safety of both the visitors and the protected underwater site. The guide checks that nothing is kept out from the seabed during the diving experience, and that no harm is done to the artifacts. The diving group must dive following the arranged trails, showed through several signs placed along the itinerary. Furthermore, in order to keep track and control of people diving, the diving guide performs a direct underwater control, while the local coast guard checks all the activities from the patrolling boat.

Regarding the pricing policy, it goes as follows:

<b>Ticket price</b>	<b>Services offered</b>
35,00 €	Diving and Guide
20,00 €	Snorkeling and Guide
10,00 €	Boat tour with glass-bottomed boat and Guide

As we can observe from the table below, from 2015 to 2016 the number of visitors increased in total, as the number of people diving and not diving respectively increased.



The MPA of Baiae is a successful, well- organized Underwater Park that allows for promotion and protection of the underwater heritage.

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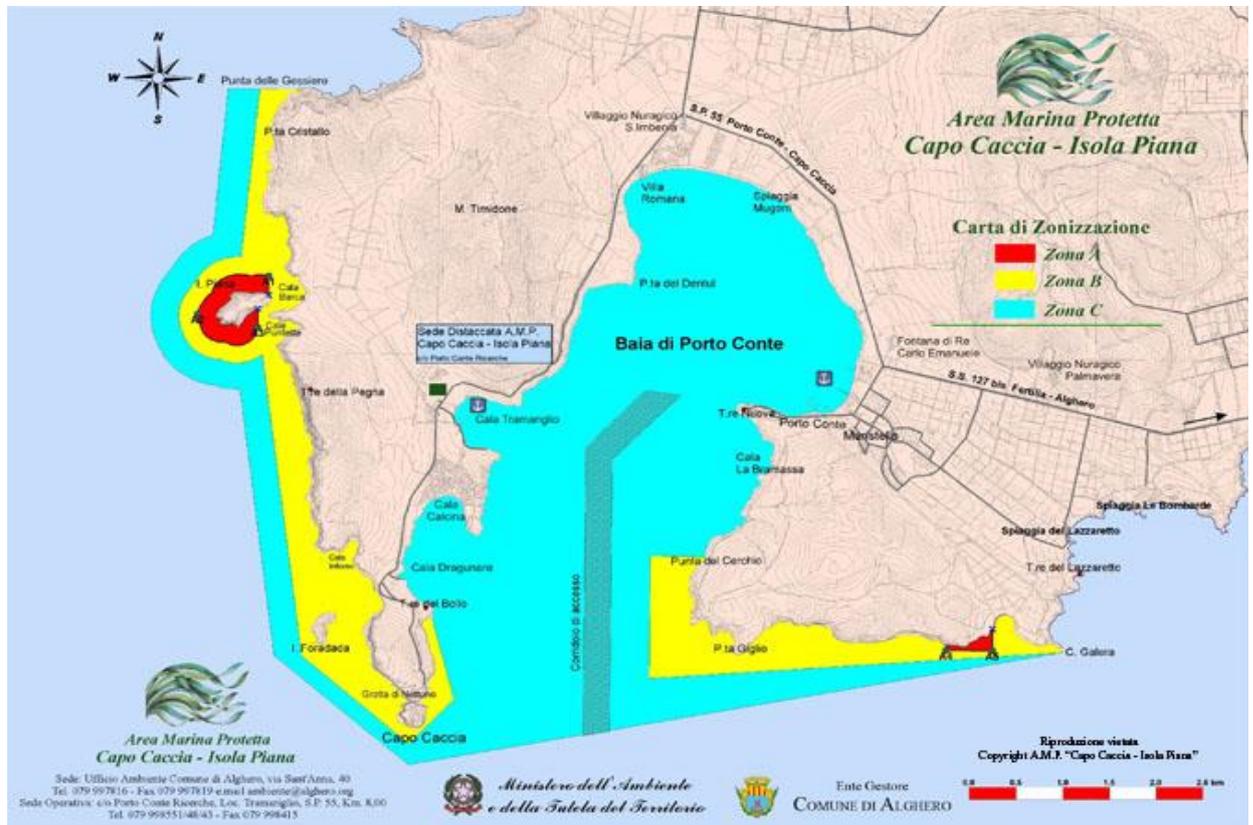
### Capo Caccia - Isola Piana (Alghero, Sardinia)- Marine Protected Area

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**Managing Authority: Comune di Alghero (The District Authority of Alghero)**



Figure 10: Protected Area, Source: <http://www.ampcapocaccia.it/mappa.asp>



As we can see above in the picture, the MPA is divided in 3 zones; Zone A (red), Zone B (yellow) and Zone C (aqua blue). The two Zones A are full protection zones, the two Zones B are general protection zones and the Zone C is partially protected. By zoning, not only the protection can be achieved but also the promotion of the heritage site and that's the reason why it's important to have in mind that in an underwater heritage site, we could have all kinds of regulations and activities and it doesn't have to be strictly closed or freely open.

Thus, the zoning is a smart solution in cases where the responsible Managing Authorities want to protect the underwater heritage but also want to promote it so people from all over the world could come and visit.

More specifically, In the MPA of Capo Caccia / Isola Piana the following activities are prohibited, amongst other:

- a) hunting, capture, collection, damage or any other activity that constitutes a threat to, or disturbance of, the animal life and vegetation;
- b) full or partial removal of, or damage to, archaeological artefacts, geological formations or minerals;
- c) the direct or indirect alteration, using any means, of the geophysical environment and of the water; etc.

To have a more concrete idea regarding the zoning and the way allowed activities are allocated in the MPA, below there is a list with indicative activities allowed and prohibited.

The Zone A is extremely limited in size, and represents the core of the MPA. Hence, the only activities permitted inside the perimeters of this zone are scientific research, surveys and emergency assistance. All other activities are strictly prohibited.

In Zone B the following are permitted, amongst other:

- bathing;
- sub-aqua diving with or without breathing apparatus,
- navigation by motorboat by sail or rowing boat;
- navigation by motorboats used as collective transport for the purposes of guided tours, but only authorized in advance by the Managing Authority, and subject to the Authority's guidelines;
- dropping anchor in the areas delineated by the Managing Authority;
- mooring in the areas delineated by the Managing Authority, using appropriate mooring buoys;

In Zone C the following are permitted, amongst other:

- sub-aqua diving;
- bathing;
- navigation by motorboats (as defined by the Managing Authority); navigation by sail or rowing boat;
- mooring in the areas delineated by the Managing Authority, using appropriate mooring buoys
- anchoring, subject to the Managing Authority's regulations, in the delineated areas; autonomous anchoring using a mazzera made from local stone;

Moreover, underwater fishing is prohibited in all zones.

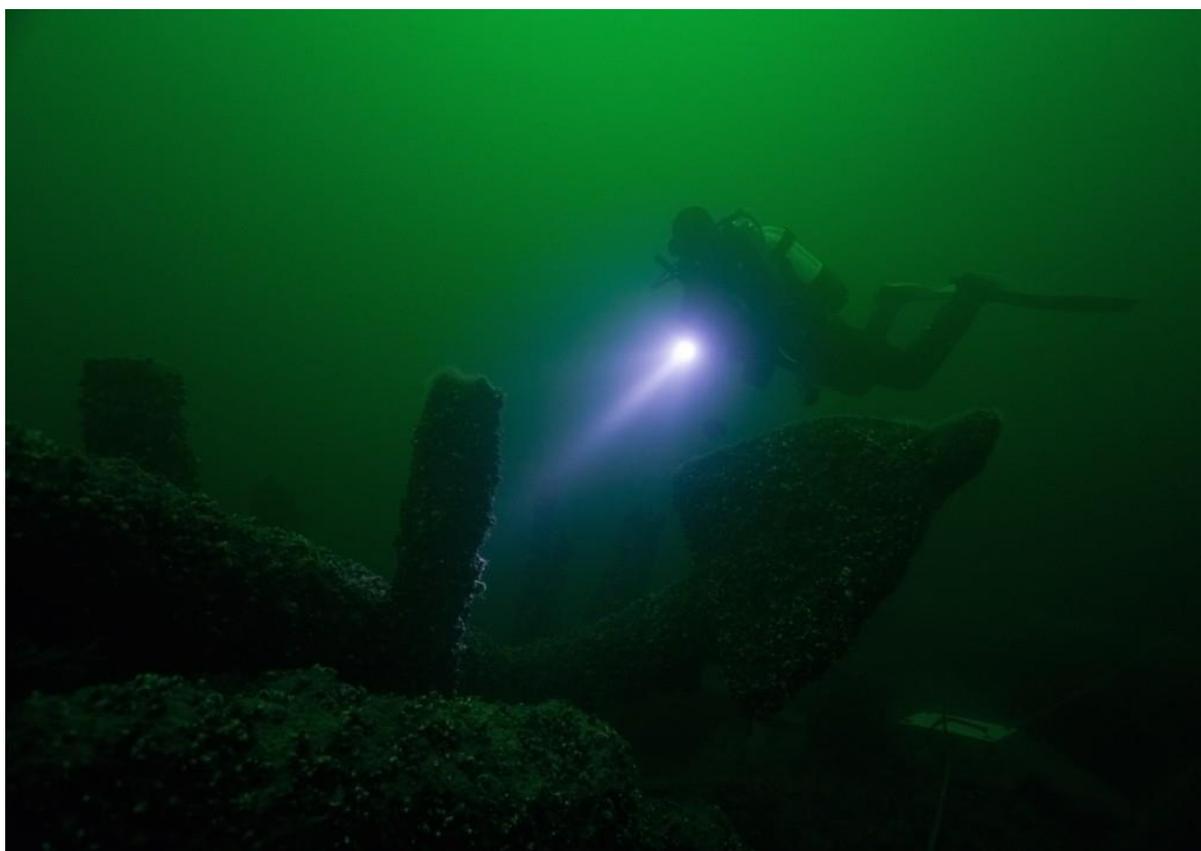
The activities listed above are conditionally permitted according to the zone mentioned, and, where appropriate, regulated by the Managing Authority until the MPA Regulations come into force. This list could be used as a guidance by the Managing Authorities of other MPAs in order to have an example of what works in other MPAs.

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## Underwater Park Kronprins Gustav Adolf, Helsinki, Finland

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The **1<sup>st</sup> Underwater Park in the Baltic Sea** was built in 2000 at the wreck of Kronprins Gustav Adolf, a ship of the Swedish line, off Helsinki.



*Figure 11 Diver Emilia Raunio is examining the anchor in the middle of the wreck with a torch, summer 2009. Photo: Pekka Tuuri, the collection of The National Board of Antiquities.*



*Figure 12: Diver Emilia Raunio is writing to the temporary guest book in early summer 2009. Photo: Pekka Tuuri, the collection of The National Board of Antiquities*

The National Board of Antiquities is responsible for the Park. The maintenance of the Park is carried out in collaboration with Sea Safety Scandinavia Ltd and the Sports Department of the City of Helsinki. Furthermore, the National Board of Antiquities is responsible for the protection, research, upkeep, and restoring of underwater archaeological sites.

The Kronprins Gustav Adolf Underwater Park is a very well-organized Park that has set clear rules for diving and provides to all divers a diver's map and a brochure in advance in order to familiarize themselves with the location before diving.

In this Park, divers do not need a permission to dive, as is the case with all other wrecks over one hundred years old in Finland except four wrecks which have a protected area around them.

Diving in the Park is allowed during the summer months, and on the condition that all rules are followed. The diving is prohibited if wind speed exceeds 6 m/s. Moreover, there is one specific buoy for mooring the boat by the wreck, and only one boat at the time is allowed to moor at the buoy.

The smaller round red buoys are for diving and surfacing lines; mooring a boat at them is prohibited. There are two diving lines secured to two round red buoys near the wreck. One of the buoys has the text 'perä' (aft) and the other the text 'keula' (bow), leading to the aft and the bow of the wreck. There are corresponding texts at the lower ends of the diving lines.

In this Underwater Park, the diving route is marked by a blue and white 14 mm rope, secured to small metal weighs and the information boards. The rope is equipped with yellow arrows indicating the diving direction. In addition, there are 12, yellow-A3 sized information boards and one 'Welcome' board.

The Managing Authority of the Park gives certain instructions to the divers, such as to be

Divers do not need a permission to dive at the underwater park.

Divers are allowed to take underwater photos at the wreck site.

Entry to the wreck park is free.

Divers can study the wreck as closely as is possible without damaging it.

Any research work on the wreck has to be authorized.

accompanied by a diving instructor; not to dive too many at the same time; to remember to fly the diving flag on their boat; to always dive in pairs; and not to lose visual contact of the blue and white diving rope marking the diving route.

This is a bright example of how an Underwater Park managed by a public organization whose stakeholders are the Government of Finland and the Ministry of Culture and Education, can be effectively organized and protect the heritage in such a good manner.

To be more specific, they record any alterations on the underwater artifacts, implement water sample analysis and checkup of the infrastructure like buoys and ropes twice a year. The frequency of these monitoring checks is twice a year in the opening and the closing period and in the case that someone is reporting changes in the Park either in the wreck or the infrastructure like missing buoys and guiding lines.

The visiting period is usually between 1<sup>st</sup> of June till end of October. According to the Intendant at the Cultural Environment Services – department of the National Board of Antiquities (NBA), diving associations, clubs and companies dive at the site on their responsibility. The NBA is not offering any services except maintenance of the Park and information at the NBA website, which is updated regularly.

The visitors can provide voluntary feedback in the guest book available in the Park. However, the number of visitors is not systematically tracked. Moreover, no ticket is required from the individual visitors, but the dive charter companies have to pay a fee for the dive. The NBA receives no income and the maintenance and monitoring of the Park is paid from their budget.

Furthermore, it is important to mention that at the moment, the NBA is part of a EU-funded Baltic Region project the BALTACAR Underwater trails online and in situ, in which they will improve the Park and make it more visible also to the non – diving community and foreign visitors. The wreck will be 3D modelled and new booklet will be published.

What is more, they co-operate with local diving communities and city of Helsinki, who provide services for divers.

Therefore, the Helsinki Underwater Park Kronprins Gustaf Adolf is definitely an Underwater Park everyone that everyone interested in diving and in protecting the underwater heritage should keep an eye on.

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### **Dalarö Model (located at The Dalarö archipelago, southeast of Stockholm), Sweden**

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A great number of well-preserved shipwrecks from the 17th and 18th centuries. Dalarö Model is based on the idea of controlled access to protected shipwreck sites, it is a concept developed by the Swedish National Maritime Museums. Divers will get a permission to dive on the wrecks when accompanied by a licensed underwater guide. The guide has relevant competence and training to educate the divers on the cultural heritage of the area and the shipwrecks. Moreover, non-divers can enjoy the underwater cultural heritage in real-time experience onboard charter boats equipped with ROV's. In addition, digitally enhanced movies and animated reconstructions of ships can be made for display on widescreen television and on movie screens.



The shipwrecks are “owned” by the Swedish government, the formal management of the dive park is handled by Haninge municipality, the commercial/ businesses performing tours are privately owned. Dive park is very well organized and offers a diversified diving offers underwater tour with an instructor/tour guide with underwater trails designed for the site. Cost for two dives including lunch at the site is around 100 Euros.

The conditions of the Dalarö dive park are special. Three of the approximately 30 shipwrecks in the area have general diving prohibitions, but dives can be performed when diving with a dive guide that has undergone training performed by the Swedish National Maritime Museums. All the dives to the protected shipwrecks are being handled by private diving tour companies and/or dive clubs.

Divers who would like to visit the few (in the case of Dalarö dive park, three) shipwrecks, they contact dive clubs and/or diving tour companies with dive guides trained to guide these particular shipwrecks.

The clubs/diving companies make applications to dive on these shipwrecks through a form offered on the local municipality's web page. After the dive, they report back to the municipality.

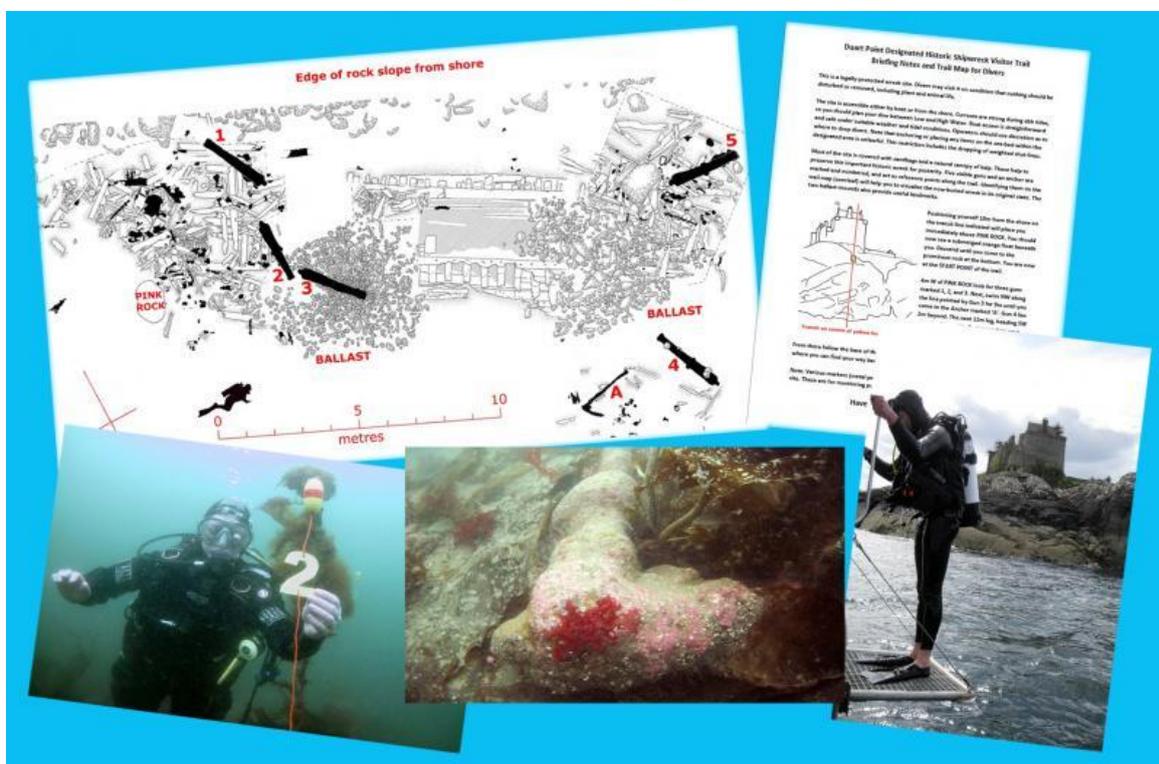
The dive clubs/diving companies (and also other tour organizers such as ROV-pilots) have been provided with information about the shipwrecks. The information is also being provided for free on organization's web site (content such as text, photos, film and 3D-models), and is continually being updated.

The dive park is not (yet) protected by technical means. But the Swedish coast guard and the Marine Police are informed of the situation in the dive park, and dive boats at the protected sites need to show a permit from the municipality. All visitors on the three protected shipwrecks are being guided by a specially trained dive guide. The dive guide has to follow instructions and regulations provided from the municipality. After each dive, a report is being handed in to the municipality. Names, diving certificates etc are collected by the diving company and reported to the municipality. In 2015. 291 divers visited site.

## The Duart Wreck Diver Trail (West coast of Scotland)

The Duart wreck is a Historic Marine Protected Area under the Marine (Scotland) Act of 2010, and diving visits can be made at any time without a license, provided nothing is disturbed or removed.

In 2014 Historic Scotland, recognizing that visits would be frustrating if divers couldn't find their way around the site, they commissioned the Nautical Archaeology Society to come up with a more attractive scheme. Two visits were made to the wreck, and input from divers and maritime archaeologists was pooled and tested before the group came up with the scheme that was launched in November 2015.



The trail is laid out using a series of floating tags. Each feature has a small float attached

to it by a length of cord which rises just above the kelp level. A number is attached to the float to identify the cannons, and a floating 'A' identifies the position of the anchor. All seven cannons and the anchor have been marked with these floating numbers, and a start point for the trail is accessed via a simple shore transit. This enables divers to navigate their way around the marked positions, using the trail map as a guide to help them visualize the main features and layout of the wreck.

This wreck of a small warship lost in 1653 lies against the rocks beneath Duart Castle and has recently been investigated by professional underwater archaeologists. After excavation, the remainder of the site has been protected by a layer of sandbags, restoring the natural underwater topography, but a scatter of cannon are still visible on the surface.

The site was originally designated under the Protection of Wrecks Act 1973 and could only be dived under license from Historic Scotland. Designation has now changed and the site is now a Marine Historic Protected Area (MHPA) which means you can look but not disturb the archaeology or the habitat on the site. The Duart Point site is a historically important and interesting site, and since the change of legislation is now open to all divers.

The next stage, still under consideration by Historic Environment Scotland will be to recruit interested divers to adopt the wreck so they can monitor it and report any changes or threats. The best way to preserve our historic wrecks, is to give the diving movement a positive stake in their protection, management, education and public enjoyment.

The Nautical Archaeology Society (NAS) is responsible for the Park and as both a national charity and a limited company – NAS has policies it must enforce under the auspices of the Charity Commission and the Companies Act. The policies safeguard the work of the society, its employees and its members.

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## The Coronation Wreck Project (Plymouth), UK

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The Coronation was a Second Rate Ship of the Line launched in 1685, and wrecked off Penlee Point, Cornwall in 1691. There are two main areas of wreckage, (Offshore - Site 17 Designation Number 2 Order 1978/321 and Inshore - Site 33 Designation Number 1 Order 1988/2138) lying some 800 metres apart.

The Coronation served under Admiral Russell and was captained by Capt Charles Skelton. The vessel took part in the Battle of Beachy Head in 1690 and was lost a year later (3 September 1691) in a gale off Penlee Point, near Plymouth, Devon. The exact reasons for her loss are unclear.

Sheltering in a gale off Plymouth in September 1691, Coronation's anchor cables parted (assumption). she was dismasted, capsized and driven aground to the west of Penlee Point (Lady Cove). All her crew less an estimated 17 - 23 personnel were lost.

The Coronation sites have several cannon (86) and anchors (7) as well as further artefacts, including the potential for small and delicate items of importance still to be revealed.

Mr Peter McBride is currently in the final phase of his collation of research in readiness to publish. The following particulars, presented as a Ship Biography, draws together the main attributes of the site and provides a statement of the site's archaeological interest.

The topography of the offshore site comprises of rugged rock formations and sand-filled gullies. It was discovered by magnetometer in July 1977 this is the site of the Diver Trail. The site is in a general depth of 18 – 20m and has some kelp and low level vegetable turf covering the area.



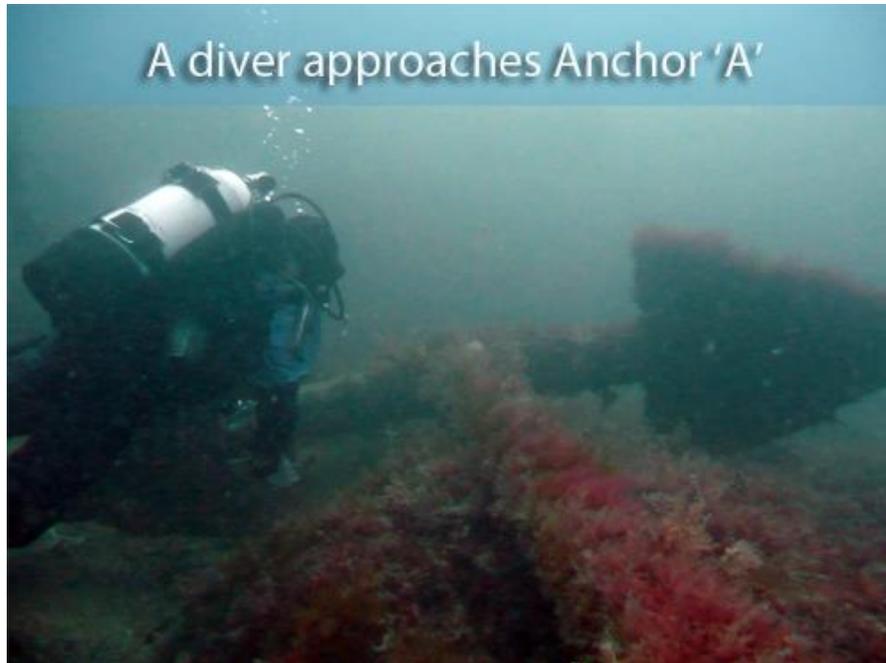
A large variety of marine life inhabits the site. The site has seventeen cannon and three anchors within it. One of the small artefacts found on this site was a folded pewter plate. This plate bears the crest of Captain Charles Skelton, captain of the Coronation at the time she sank. This combined with the discovery of a large ships bell dated 1686 confirmed the site as that of the Coronation.

The inshore site, originally discovered in 1967, comprises of a very rugged and difficult coast line area of rock gullies with significant kelp forests. The current designated inshore area contains 59 guns and a further

3 anchors. Cannon number 39 was raised and re-located to the shallows of Fort Bovisand for further investigation in 1983. The gun was cleared of concretion and was found to be cast by Thomas Western.

It's location just outside the harbour allows easy access for shore divers. The original Coronation group hold custody of artefacts raised and a small collection has been intermittently displayed at the Charlestown Shipwreck Museum, Cornwall, over several years. Analysis of the data from the survey of the guns by Peter McBride indicates the presence of a selection of mixed calibre cannon totalling 88.

Many of the guns are concreted to the seabed, some stand proud on rock outcrops and others are partially buried in sandy gullies.



The site is fully protected and there is a strict divers 'no taking' policy. Divers must not remove any items or marine life from the site at any time.

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### **HMS Colossus Dive Trail (Cornwall-Isles of Scilly)**

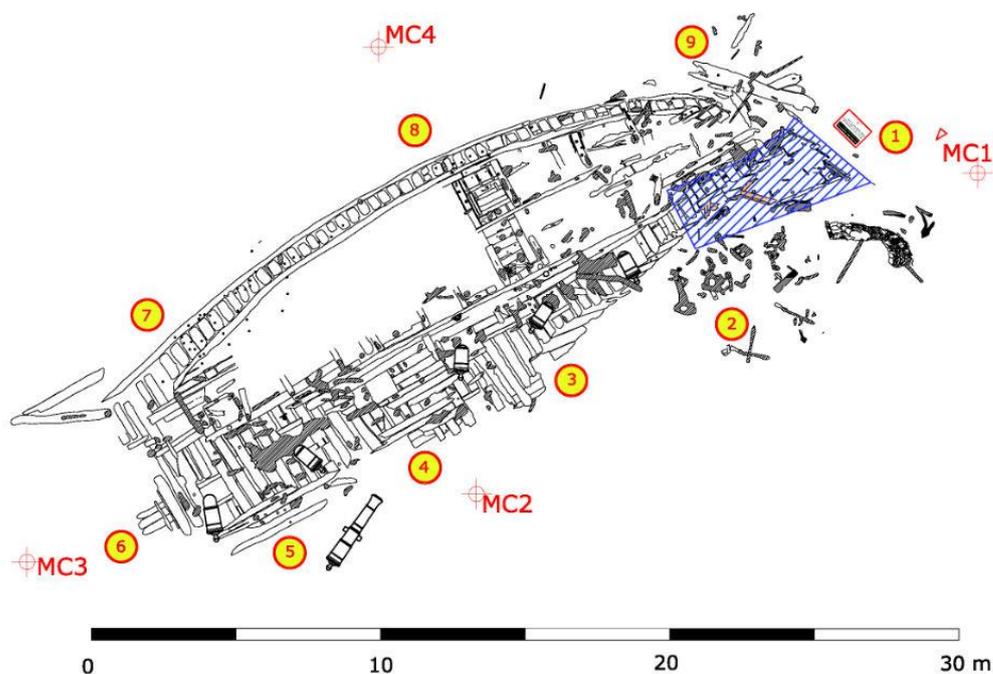
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The HMS Colossus Dive Trail was founded in June 2009 at Isles of Scilly, UK. Historic England (previously English Heritage) registered as non-profit organization, is responsible for the 1000 square meters of Park.

Cultural heritage and site: the HMS Colossus was a Courageux class 74 gun warship built in 1787 at Gravesend and wrecked off Samson in the Isles of Scilly in 1798. The 74 gun ship was one of the most successful types of the period. They were typically about 51m in

length with a crew of over 600.

The dive trail consists of numbered observation stations situated around the site and a waterproofed underwater information booklet which guides divers between the observation stations, explaining the exposed remains and detailing brief background information on the wreck.



Park as part of its annual activities does recording of alterations on the underwater artifacts, water sample analysis and sediment level monitoring and condition of site markers and signs.

Diving at the site is allowed throughout all year with underwater trails designed but without possibility for an underwater tour with an instructor. Annually approximately 500 divers visit site and the entrance is free of charge.

## *vi. Conclusion*

This deliverable had as a goal to conduct a comparative performance study on selected Underwater Museums, Underwater Trails and Diving Parks to determine which are the optimal parameters for an UM and a DP to be successful. The input used was the Underwater Museums and Diving Parks from the deliverable 'D 3.2.1 State-of-the-art analysis of Underwater Museums and Diving Parks'.

Nevertheless, the study, as initially intended, was not feasible to be implemented mainly due to time constraints. Therefore, partners examined selected heritage sites that are successful in the own framework; meaning that their location, management by the Managing Authority, rules that are followed and content all contribute to the effective operation of the site. Consequently, the result of this deliverable is the presentation of the elements that successful sites have with regards to their management procedures, the pricing policies they follow, the organization of the site (zoning) etc. The transferability of these results can be achieved when people responsible for the establishment / operation of Underwater Museums and Diving Parks take into account what already works in other underwater sites and then adapt the elements they found useful according to the laws and rules followed in the specific country.

## **vii. Annex**

The questionnaire was accompanied by the following text, in order to motivate the respondents.

*ISCR, the Conservation Institute of the Italian Ministry of the Cultural Heritage and Activities and of the Tourism, is a proud partner of the BLUEMED Project, a European Union initiative promoting the 'Mediterranean Sustainable and Responsible Tourism Development of Underwater Natural and Cultural Heritage'.*

*The BLUEMED European Project, part of the Interreg Europe Programme, involves Greek, Italian, Croatian, Cypriot and Spanish universities, research institutions and public authorities, in the framework of the MED Programme 2014-2020, born to enhance sustainable development policies for a more efficient valorization of the natural and cultural heritage in the MED Area.*

*This EU three-years long project (2017-2019) is aimed to plan, test and coordinate Underwater Museums, Diving Parks and Knowledge Awareness Centers in the EU Mediterranean Countries in order to enhance the promotion and protection of the Mediterranean underwater natural and cultural heritage and to promote the 'Blue growth' (sustainable and responsible tourism in coastal and maritime areas).*

*To achieve the Project's objectives, first-hand data collection is an activity of the highest importance: the attached Questionnaire is an essential step in order to assess the current success of each national /regional legal framework and of each organization's management model.*

*The results collected will be compared and analyzed in order to find the best legislative and management tools to support the local institutions in charge of the protection and promotion of natural and cultural underwater heritage in further achieving their expected results.*

*Your collaboration is precious and greatly appreciated!*

## A. General Information

<b>Personal details of the interviewee</b>	
Name:	
Organization:	
Administrative position:	
Contact details	
Tel:	Email:

<b>Name of the Underwater Museum / Diving Park:</b>

<b>Location of the Underwater Museum/ Diving Park:</b>

<b>Surface area (in square metres) included in the Underwater Museum/Diving Park:</b>

<b>Founded year of the Underwater Museum/ Diving Park:</b>	__/__/__
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<b>First operated year of the Underwater Museum/ Diving Park:</b>	__/__/__
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<b>Name of organization / management body of the Underwater Museum/ Diving Park</b>

<b>Status of the organization</b> <i>(Please select one of the following)</i>	
	Public
	Private
	Not profit

	Public and Private <i>(Please specify the percentage of each entity: __% public and __% private)</i>
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<b>Ownership structure of organization / institution</b>	
Please fill in the names of the entities or/ and shareholders (depending on the status of the organization) involved in the organization	
Names of entities	
Names of shareholders	

<b>Monitoring authority of the UM / DP</b> <i>(Please specify one of the following)</i>	
<input type="checkbox"/>	National government (Please indicate the relevant Ministry)
<input type="checkbox"/>	Local government
<input type="checkbox"/>	Independent Authority (please specify the name)
<input type="checkbox"/>	University (please specify the name)
<input type="checkbox"/>	Other (please specify)

<b>11. Monitoring checks of the UM / DP</b> <i>(Please specify what a monitoring check includes from the following)</i>	
<input type="checkbox"/>	Recording of alterations on the underwater artifacts
<input type="checkbox"/>	Water sample analysis
<input type="checkbox"/>	Other (please specify)

<b>12. Frequency of monitoring checks:</b>	
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## B. Facilities of Underwater Museum/ Diving Park

Existing facilities of the Underwater Museum/ Diving Park in land <i>(Please specify – multiple choice)</i>	
<input type="checkbox"/>	Reception
<input type="checkbox"/>	Information point
<input type="checkbox"/>	Exhibit room
<input type="checkbox"/>	Administrative facilities
<input type="checkbox"/>	Research facilities
<input type="checkbox"/>	Repository and storage of Antiquities / Exhibits
<input type="checkbox"/>	Area of preservation of Antiquities / Exhibits
<input type="checkbox"/>	Area of restoration of Antiquities / Exhibits
<input type="checkbox"/>	Supporting dives area
<input type="checkbox"/>	Refectory
<input type="checkbox"/>	Other

<b>2. Are underwater trails already designed for the site?</b>	<input type="checkbox"/> s	<input type="checkbox"/>
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<b>3. Is an underwater tour with an instructor/tour guide offered?</b>	<input type="checkbox"/> s	<input type="checkbox"/>
If yes, how much does it cost?		
a. Are full face diving masks used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Is underwater audio communication used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## C. Operation of Underwater Museum/ Diving Park

<b>Visiting period</b> <i>(Please fill in the time period during which the UM/DP operates. For example throughout the year, month ... .. to month ... ..)</i>

Staff specialties <i>(Please specify the specialty and the number of the employees per category)</i>			
Specialty	Number	Permanent staff	Seasonal staff


#### D. Services offered

**What is the procedure to accommodate visitors to the Museum (in the land) and divers in the underwater area of Antiquities / Exhibits? (Please describe the services offered to visitors and divers, e.g. brochures, tour, diving support)**

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#### E. Protection of the underwater Antiquities / Exhibits

**Which organization(s) is (are) responsible for the protection of underwater Antiquities / Exhibits of the Museum?**

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**Are there any technical means used to protect the underwater Antiquities / Exhibits? Please specify.**

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**What is the procedure followed to dive in the area of the Antiquities / Exhibits? Is there any person responsible for the protection of the Antiquities / Exhibits diving with the visitors?**

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What is the procedure to <b>keep track of and control</b> people diving in the area of the Antiquities / Exhibits?

## F. Visitors characteristics

Number of visitors <i>(Please specify the number of visitors of the Underwater Museum per category)</i>		
	2015	2016
Number of visitors in total:		
Number of divers:		
Number of dives:		

## G. Pricing policy

Pricing policy <i>(Please specify the ticket price and the services offered respectively)</i>	
Ticket price	Services offered
..... €	1.
	2.
..... €	1.
	2.
<b>How is revenue from the ticket price allocated</b> (for instance: between entities, shareholders, diving centre)?	

Other revenue sources <i>(Please specify other income sources of the Underwater Museum)</i>