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COMPARATIVE SYNTHETIC STUDY

based on the overall status quo analyses

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1. General premises and state of art

The regional analyses of the partners on the state of the art and the perception of the submerged heritage are characterized by peculiarities and differences, predictable also on the basis of the heterogeneity of various aspects, from the extent and knowledge of the cultural heritage and the related/comprehensive seascapes to the research, protection, enhancement and communication policies and strategies implemented in the four areas. Between the two nations, Italy and Croatia, we have found differences in legal and administrative systems but also between the three Italian regions there is a dissimilarity due to the different sharing level of UCH by institutions and communities.

The various cognitive pictures reflect the different history and the different conditions of the submerged heritage. The history of research shows a remarkable earliness in Puglia region, with various interventions from the late 60s of the twentieth century, even if at a fluctuating rhythm, thanks to the impulse of the provincial museums and thanks to the research of the Centro Sperimentale di Archeologia Sottomarina of Albenga; it shows a continuous interest and motivation even in periods of standstill and, above all, a profitable season of systematic research conducted by the University of Salento since the 90s. In Friuli Venezia Giulia region, the same level of interest has not been recorded in early periods, except for the constant focus on the Roman Grado 1 wreck between 1987 and 1999, concluded with the full recovery of the cargo and the hull, but in the last twenty years significant projects curated by the regional Universities have constantly followed. In Veneto region, research has particularly focused on the lagoon, thanks initially to the amateur activities of local diving clubs, which have begun the Venetian underwater archaeological research and the training of the first operators in this sector (FIPS-OTAS courses) and subsequently thanks to the local offices of Ministry of Cultural Heritage and Activities and Tourism - MiBACT (STAS - Servizio Tecnico per l'Archeologia Subacquea (Technical Service for Underwater Archaeology) and NAUSICAA – Nucleo Archeologia Umida Subacquea Italia Centro Alto Adriatico (Group for the Wet and Underwater Archaeology Italy Central Northern Adriatic). In the 90s, the long season of discoveries and investigations (more emergency and preventive works than systematic research) exploded due to the large maritime works carried out by the Magistrato alle Acque – Consorzio Venezia Nuova with the building of MOSE, which has detected and exposed many wrecks in the mouths of Lido and Malamocco. However, it should be recorded how almost all of these contexts, once investigated and recovered with a huge economic effort, were re-buried – denying the accessibility and future studies - or stored without any project of

enhancement, publication of data and valorization for the public. In the last twenty years, the research on the *Mercurio brig*, conducted by Ca' Foscari University of Venice (in collaboration with the Soprintendenza Archeologica per il Veneto – Conservation Office for Archeology of the Veneto Region) excels for continuity, scientific rigor and exemplary enhancement.

Split-Dalmatia County boasts a long and early history of research, as much as Puglia region, for which the Archaeological Museum of Split has played a crucial role; between the end of the 20th and the beginning of 21st century, some important steps can be recorded, also thanks to the foundation of bodies targeted to the UCH knowledge and enhancement, such as ICUA and the Department for Underwater Archeology of the Croatian Conservation Institute.

Obviously, due to these premises, the state of knowledge is different.

Both Italy and Croatia have a national catalogue of cultural heritage: the general information system of the catalogue (SIGECweb: <http://www.iccd.beniculturali.it/it/sigec-web>) and other related (for example Vincoli in Rete - VIR), managed by MiBACT, Istituto Centrale per il Catalogo e la Documentazione (Central Institute for Cataloguing and Documentation), and the Register of Cultural Goods of the Republic of Croatia. The underwater heritage of the involved regions (FVG, Veneto, Puglia) only approximately appears in the Italian catalog, but in FVG and Puglia the underwater evidences are registered in the respective regional webGIS, SIRPAC FVG and SIRPAC Puglia/*cartapulia* (recognized and accredited by the Ministry), thanks to the inclusion of the information systems developed by the University of Trieste (*AltoAdriatico*) and the University of Salento (Underwater Archaeology Map of Salento).

Between Italy and Croatia there is a clear difference of legislation and protection, due to the presence, in Croatia, of specific central bodies for the conservation of the underwater heritage; Italy could catch up the heavy delay accumulated (despite the late ratification of the UNESCO Convention 2001 and its conversion into Law 157/2009) with the recent institution of the Soprintendenza Nazionale per l'Archeologia del Patrimonio Subacqueo (National Conservation Office for the Underwater Heritage Archaeology - DPCM of December 2, 2019 n. 169, Art. 37).

Not all submerged contexts of the Italian regions are protected by an archaeological constraint, even if the most conserved wrecks and almost all of the structures are protected, in particular if these are part of archaeological complexes (e.g. the port of Egnazia); the absence of submerged archaeological parks is significant and only a few deposits or archeological sites are accessible with underwater trails. In the MPAs of Puglia region, naturalistic-cultural routes, guided tours and virtual restitution projects for landscapes and archaeological evidence (approximately three

cases) have been experimentally activated, sometime in agreement with the responsible Conservation Offices.

Some diving clubs and associations of Puglia Region, in collaboration with Polo Museale (Museums Department) and SABAP, carry out guided tours of the submerged sites (two cases). The ongoing experiences do not have a systematic disposition and a sufficiently articulated and qualified offer (objective of the *Seascapes* project).

In the Northern Adriatic, none of the mentioned archaeological sites is currently accessible, neither *in situ* nor remotely, except for *Mercurio brig*, whose materials are exhibited in the Museo Nazionale dell'Archeologia del Mare of Caorle.

Only *Grado 2* shipwreck was involved in an *in situ* protection project through a video surveillance system both on the seabed and on the surface, studied by the University of Udine but never realized, and in a protection intervention with metal grids applied on a portion of 32 square metres to allow accessibility. Actually, the visit of the site is not possible by the public, but it should hopefully be guaranteed by the interventions foreseen of *UnderwaterMuse* project, with the extension of the modular grid system to cover the entire site and with the realization of the related services.

In Veneto, the situation is more complex, in particular for the lagoon deposits, which are difficult to access due to the environmental conditions (low visibility, tidal currents and traffic of motorboats). The Roman *Caorle 1* wreck could be suitable for *in situ* preservation. This wreck has been protected by metal nets which, however, have been removed by the passage of trawling fishing equipment, which is the biggest problem of the archaeological heritage of the North Adriatic. Also for this context, remote monitoring systems are being studied to manage the problem of the distance of the site from the coast (12 nautical miles).

The other Venetian shipwrecks are more easily controlled and accessible, such as the two nineteenth-century sites of Eraclea-Jesolo, the "Brick wreck" and the *Hellmuth* wreck which will be studied within the *UnderwaterMuse* project.

In Croatia the situation is surely more structured and uniform, with different degrees of accessibility; all the mentioned sites are protected cultural property of the Republic of Croatia, in which only freediving and snorkeling are allowed and scuba diving is not permitted. Diving is already possible on some archaeological sites through licensed diving centers (Paržanj near Pakleni islands, Stari Stani Bay, Cape Izmetišće on the island of Sveti Klement, Vela Svitnja Bay,

Cape Stončica, Svetac, Palagruža submarine area with various evidence and numerous wrecks from modern age which are excellent attractions for the underwater tourism).

In situ fruition with information aids (like info-boards) and with authorized diving is planned for other sites, such as Cape Pelegrin and Duba bay, after the archaeological prospections following the *UnderwaterMuse* Project.

There are cases of valorization and accessibility with metal cages, but the access is possible, as well as the others, with authorized diving (Šćedro, the islet of Host).

The extent of the assets is not exactly comparable, also due to the different aims and objectives and the consequent choice of strategies and methods; university research conducted in Puglia show the holistic and multi-disciplinary methodological approach of the global archaeology of landscapes, which sees the landscape as a connective system and living palimpsest; the information systems are based on the connections and stratifications of the archaeological assets, small or big, spread on the coast and in the surrounding waters. This explains the presence of about 650 different artefacts inventoried in the Underwater Archaeological Map of Salento, from which not more than 50, mostly in Salento, could be available in future to access *in situ*, and the presence in Friuli Venezia Giulia of about 50 archaeological sites in the SIRPaC, of which about 20 have the *minimum* requirements for underwater tourist access.

The rich Croatian documentation of sites seems to respond to a priority need of registration as in cadastre, to a “patrimonial” purpose of heritage’s punctual cataloguing, which could certainly facilitate the protection action.

Besides, the metal wrecks of the twentieth century are not included in the regional databases of Friuli Venezia Giulia and Puglia, whereas these are registered and bound by the Croatian Ministry and almost all accessible *in situ* through authorized diving.

In the museums of the involved areas, there is a significant presence of underwater archaeological collections, in some cases with a prominent role in the exhibition itineraries; against these important museum heritages and the rich underwater potential, the use of ICT (Information and Communications Technology) with an interactive installation, animations, videos, virtual and augmented reality and digital tools that could share the heritage more effectively, especially to new generations, appear insufficient. Some museums (for example Museo Nazionale dell’Archeologia del Mare of Caorle – National Museum of the Sea Archaeology, Caorle) and some exhibitions (the two editions of the "In the sea of intimacy" exhibition) represent significant exceptions.

2. Data Collection

The data that emerged from the questionnaires confirm the multiplicity of cultural situations and policies of the cultural heritage in the four areas. The 11 sections and the 53 questions aimed to collect data about knowledge, perception and interest of different stakeholders about underwater heritage.

Numbers and percentages of the compiled questionnaires on a totality of the contacted stakeholders are:

Puglia: 37 out of 110 (33%)

FVG: 10 out of 38 (26%)

Veneto: 9 out of 38 (24%)

Croatia: 9 out of 16 (56%)

Different categories have been contacted:

- **Public / Regional Authorities / Bodies:**
MPA / Parks / Eco-museums;
Regional Authority for the Environment;
Municipalities
- **Cultural / research institutions:**
National / Regional / Civic Museums
- **Educational Institutions:**
Elementary / High school / University Departments
- **Interest groups including NGOs:**
Cultural association of national / Regional / Local level;
Diving association / Sport Association of regional level;
Environmental association of local level
- **Private companies:**
Cultural and creative SME;
Diving centers.

The most numerous group (17 Puglia, 3 FVG, 3 Veneto) is represented by private companies and small-medium enterprises, cultural and creative SMEs and diving centers. Various subjects of the private companies (6 Puglia, 1 Veneto, 4 Croatia) manage or deal with cultural institution, such as the association *TheMonumentsPeople* in Puglia, which manages the Museum of Ancient Sea

of Nardò, a city museum / public institution (in this case, we must consider a double role of this association).

The second sub-group, constituted by the diving centres (11 Puglia, 3 FVG, 2 Veneto, 2 Croatia) is the most numerous. The questionnaires reveal insufficient or wrong knowledge and information limited to their geographic area and operative range; many of them often answer referring to the environmental and marine heritage rather than to the cultural one and often ignore important issues of the regional cultural assets.

The second cluster is represented by the interest groups including NGOs (9 Puglia, 4 FVG, 6 Veneto, 1 Croatia), therein appear both regional sections of national-level organizations, that are supposed to be informed and involved in the cultural policies of the territories and local associations. These latter appear to be more aware and conscious about the possibilities of their territories and communities.

The third group corresponds to the public / regional Authorities (6 Puglia, 3 FVG, 3 Croatia), including 2 Regional Offices of Ministry of Cultural Heritage and Tourism, 3 MPA, 1 Eco-museum and 2 coastal municipalities which are active in the cultural valorisation of their coasts and sea. Furthermore, there are the Institutions and Places of Culture (4 Puglia, 1 Croatia), all public museums: 1 national, 2 regional, 1 from University; in the end, the group of the SMEs includes 2 subjects that manage 2 city museums (Puglia).

Puglia Region presents the most numerous and heterogeneous group of replying stakeholders, but the incidence of some categories is quite similar, with the primacy of the SMEs and of the diving centres. Indisputably, the sample of Puglia Region is the most significant and diagnostic for the status quo analysis, due to the number and the variety of stakeholders.

3. Heritage community awareness

- Is the underwater heritage significant and valuable for the stakeholders/people and in what measure?

The questionnaire generally shows a shared consciousness of the relevance of the underwater cultural heritage, of the acknowledgment of its historical and cultural (and even emotional) value, but also of its potential about social and economic development. This is a feature shared by all the regional analyses.

- Do the stakeholders/people know the regional underwater archaeological sites/parks, MPA, coastal parks, blue trails (if any)? In what measure/percentage?

In this topic, the data of the Italian and Croatian regions are different. Knowledge changes among Italian stakeholders according to categories and geographical proximity: knowledge from the stakeholders rarely achieves a regional level, but it is usually limited to their municipality or province. Often this knowledge is incorrect or partial, also in a situation where should be direct. The stakeholders usually mention sites with an environmental interest and only a small part of them (25% in Puglia) knows that there are no established and structured underwater parks and archaeological trails; the insufficient knowledge from Foundations, important national Associations and public institutions is surprising, while local associations, in particular environmentalist association, are well-informed and aware. The stakeholders have an exact framework about disabilities: accessibility to people with disabilities is limited and linked to the organization of guides, associations, etc.

Croatian stakeholders, on the other hand, are more informed, but the replying sample is not fully representative, being essentially composed of local underwater and cultural associations that work alongside archaeologists and are familiar with these issues; also in Italy, these associations are the most informed categories, unlike commercial diving which need and require adequate training.

- Do the stakeholders/people know the regional authorities and the legislation/regulations concerning the UCH?

About authorities, laws and regulations, good practices and accessibility, most of the stakeholders believe that direct access is compatible with the protection and management of the sites, especially if this is controlled. Among the Italian stakeholders, the majority cites MiBACT

and the Soprintendenze (Conservation Offices) and, even more so, the Region and local authorities among the bodies responsible for the management, but various subjects erroneously indicate entities that have a completely different institutional mandate, such as the Capitaneria di Porto-Guardia Costiera (Port Captaincy-Coast Guard).

Therefore, a widespread work of information and awareness seems essential, with the creation of thematic tables and the discussion on methods and measures already experienced in other contexts with the presence of Soprintendenze (Conservation Offices), local authorities and all stakeholders.

In Croatia there seems to be a more widespread familiarity with laws and regulations and the few available data are congruent with the decrease in the plundering of underwater sites, in particular, the wrecks with cargos of amphorae; the situation of the coastal sites is more problematic.

- Do the stakeholders/people know the regional museums, exhibitions and digital productions devoted to the UCH?

The stakeholders generally know the museums and the permanent or temporary exhibitions in their areas, with few exceptions that regards larger and many important museums.

Museums with educational content and strong communicative intent, directed to a wider audience and not only to professionals, and museums that combine archaeological heritage with natural heritage are particularly appreciated as well as digital communication. In some cases (for example Museum of the Ancient Sea of Nardò, Museum - Aquarium of S. Maria al Bagno, National Museum of the Sea Archaeology of Caorle) these museums are the result of rigorous research projects conducted by the Universities, proving that the diffusion of knowledge and the effective enhancement is closely related to a preventive and profound research action.

The analysis conducted on the status quo in the Italian regions reveals widespread misinformation on places of culture linked to the submerged heritage or the culture of the sea, especially by tourism and sports operators, such as diving centres that do not have enough consciousness about the potential of their own territory. Therefore, communication strategies and good practices that can be borrowed from consolidated experiences are essential.

The Croatian report seems to mirror a better situation of greater knowledge and familiarity with museums and exhibitions but also this difference is probably due to the selective sample.

- What do the stakeholders/people think about the VR / AR enhancement of the UCH?

Many of the stakeholders do not know virtual reality and augmented reality or digital and interactive products, but all of them consider this technology attractive and useful for the knowledge and enhancement of UCH.

The necessity to create multimedia productions, with innovative technological solutions, is certainly an important objective, in fact, it is considered a priority in the *UnderwaterMuse* project. However, it should be reiterated that these are tools that cannot be separated from the accuracy of historical research, from the strength of the storytelling and from the type of audience which they are addressed to; it is always the strength of the contents and the ideas that determine their effectiveness.

- Do the stakeholders/people know if and how the underwater archaeological sites are protected? Do they know the responsible authorities?

The issue of protection is essential and as such it is perceived; about this topic the difference between the two nations is significant.

Not all Italian stakeholders correctly identify the protection bodies and primarily the regional Conservation Offices of the MiBACT and almost none of them knows physical protection measures and methods. A targeted action of information should be realised to find good management opportunities in the project's training activities.

In Italy, the theme of protection intersects the theme of community involvement: the research/knowledge, conservation/protection, management/enhancement, fruition/communication chain must be acted by all the actors to be efficient; a binding and non-proactive protection that does not involve and does not empower the heritage community will never be efficient, especially concerning the underwater dimension. One of the answers to the question about the identification of the safeguarding responsible has been particularly interesting: "all citizens together with the authorities in charge".

In Croatia, the collected data indicates that the participants are familiar with almost all protecting methods of the underwater cultural heritage in the region. The methods include iron protective cages and video surveillance, but also legal actions to protect individual sites and underwater archaeological areas.

Surely, the communities in Croatia feel more involved and responsible, they perceive the heritage as their own and as an asset to be preserved and enjoyed. This feeling is the result of policies of involvement and awareness put in place by the institutions; these policies in Italy still encounter resistance.

- Do they know if the sites are really accessible? Do they consider the existing protection measure enough for the site and the underwater ecosystem? Do they consider the public access really compatible with the site preservation?

Again, the analyses show a significant gap between the two involved nations, due to a substantial difference: many of the underwater sites - only in some cases protected by metal cages - in Split-Dalmatia County, as in other areas of Croatia, are already accessible through authorized diving and others will be shortly available after the investigation. In Italy, the sporadic experiences of authorized access with guides do not have a common framework of reference.

The Croatian model is certainly a best practice to follow because almost all Italian stakeholders consider that the access could be compatible with protection, especially if this is controlled and mediated by guides. About the vulnerability of the sites, the analyses show that research and the touristic use are not perceived as a threat, if they are regulated, controlled and managed with suitably authorized and trained diving guides, who can "educate" the underwater tourist; the lack of intervention has to be considered the greatest danger, causing the loss of important historical elements and development opportunities.

- Do they know GIS, portal, websites, social networks, local events concerning the UCH (if any)?

Numerous stakeholders generically know some catalogues and mappings of underwater archaeological sites online, for example on ArcGIS platforms (webGIS); few, however (e.g. cultural SMEs that work in the archaeological field or MPAs) know specific UCH documentation tools (such as Site Recorder, Photoscan, Multibeam, Side Scan Sonar, Magnetometers, ROV).

The answered questionnaires contain numerous indications regarding the channels useful for promotion: the web and social networks such as Facebook or Instagram are considered very efficient to promote UCH, followed by other media, such as TV, radio, videos, magazines, including specialised magazines and online newspapers; school education is rightly considered another important tool for communication.

- *What do the stakeholders/people think about underwater tourism and its sustainability?*

The vision of underwater tourism capable of combining leisure, sport, culture and ecology is widely shared by the stakeholders, who also generally agree on the other aspects: it is high quality, experiential, slow and sustainable tourism, with low environmental impact. It requires specialization, even if snorkelling on shallow sites increases the number of visitors. It needs an integrated tourism system, a real network of excellence, which brings together all the environmental and cultural resources of the area, included in a management plan shared between public and private entities (a strategic tourism plan); this network must have some information points and a "single ticket" which includes a series of integrated quality services aimed at promoting and enhancing the environmental and cultural heritage.

Essential points shared by the stakeholders are represented by the control and the training of the guides and by the investments in the research and enhancement of the sites.

Final remarks

The investigation and the analysis strongly confirm the premises that inspired this project and the identified the international scenario: cooperation as incentive and legitimization of an efficient enhancement of the underwater heritage. In other words, from operational and legislative point of view, the collaboration with Croatia, which has already introduced tools and administrative good practices for the protection and use of the sites, can encourage future similar planning in the Italian involved regions. The current Italian situation, characterized by discrepancies and discretions, represents a demanding challenge for the objectives of the *UnderwaterMuse* project, in particular of WP5; strategies and guidelines for the cultural policies of the regions involved will be provided by the development of a best practices handbook and a toolkit that includes rules to regulate the establishment of submerged and widespread archaeological or eco-museum parks and that includes shared and participatory management models, together public and private (just as the Croatian experience teaches, with the efficient involvement of operators).

The pilot projects - suitably diversified - may be the scenarios to test and calibrate these models, while the meetings with the Regional Stakeholders Groups will be the future opportunities for discussion, planning and concertation.

Some insufficient aspects must be enhanced in both nations: accessibility for people with disabilities which, with the exception of a few virtuous exceptions linked to the organization of companions, associations, etc., is practically nonexistent; information and communication, still too limited, have to be enhanced, especially on the web which is the fastest and most effective tool; the development of remote use and museum standards, through the increasingly use of interactive technologies, virtual and augmented reality and storytelling; the targeted investment of public institutions (and the development of the Puglia Region can be an example) together with the ability of the operators to intercept funds and development measures.

In Italy, the training/qualification of archaeological guides (also for the issue of the wider accessibility), of diving centres and of tourists appears to be a priority. Furthermore, in Italy, underwater tourism requests an evolution of current strategic tourism plans to include it in the offer of experiential and quality tourism, based on the network of excellence of the territories. The thematic tables that will follow in the project activities, with the participation of the entities and operators of the tourism sector, may suggest new proposals.