



PERICLES_D5.3_v1.doc
Dissemination Level: PU



2020-SC6-CULT-COOP-2016-2017

PrEseRvIng and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions

Project no.: 770504

Project full title: PrEseRvIng and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions

Project Acronym: PERICLES

Deliverable number:	D5.3
Deliverable title:	Integration and coordination of Cultural heritage policies within ICZM and MSP
Work package:	WP5
Due date of deliverable:	M21 (January 2020)
Actual submission date:	03/02/2020
Start date of project:	01/05/2018
Duration:	36 months
Reviewer(s):	QUB
Author/editor:	UOY
Contributing partners:	UOY, QUB, AAU, UAVR

Dissemination level of this deliverable	PU
Nature of deliverable	R

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770504. Further information is available at www.pericles-heritage.eu.

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1. Executive Summary

Historically cultural heritage management has not been integrated in coastal policies. Some examples from Southern European countries are available, but usually natural heritage has been the main concern for integrated policies.

An analysis based on policies, legislation, scientific reports and academic papers show that cultural heritage has penetrated with difficulties integrated coastal zone management (ICZM) strategies implemented in the PERICLES countries. However, the compulsory requirement of the EU Directive on Marine Spatial Planning (MSP) has accelerated the inclusivity of cultural policies and actors' engagement within marine (and in some cases) coastal plans. This shows the importance of spatial planning that offers a perspective that can be exported to heritage from the more traditional implementation designed to manage cities, ecosystems and landscapes, filling the gap left by ICZM that rarely has acknowledged heritage issues to any significant extent.

An investigation on the integration of cultural heritage (CH) management within ICZM and MSP has been carried out by a checklist of indicators piloted in four PERICLES countries (Northern Ireland, Portugal, Denmark and Scotland). From the pilot test, it is evident how the current CH management reflects a broad perspective and is supported by the implementation of a series of tools (such as the environmental and strategic impact assessment) that facilitate the integration with other policies. However, elements of an integrated strategy based on adaptive management and involving concerned parties are less considered. Moreover, the lack of support and coordination at vertical and horizontal scales by public bodies and of mechanisms that facilitate the exchange of information remains quite relevant.

The integration of the literature review and the pilot test results shows that planning and management of CH are taking place in coastal zone and that a framework for considering CH into ICZM strategies is emerging. However, several approaches required by an ICZM governance are not in place. The partial coordination between government bodies, formal partnerships or other mechanisms facilitating stakeholders' interventions and community voice are currently limiting the possibility of a transition to a participatory approach. This result is backed-up by the analysis of policy formation reported in the PERICLES Deliverable D5.1 that suggests how across the PERICLES regions policy is led by government by a top-down strategy. The policy formation analysis reported in the PERICLES Deliverable D5.1 evidences a shift towards more participatory and increasingly deliberative approaches in some countries like Northern Ireland, with extensive consultations, discussion documents, online forums and on-going stakeholder discourse encouraging partnerships and participatory processes. The latter approaches are considered necessary by PERICLES to guarantee a shift from 'government' to 'governance' and underpin an effective multi-actor framework for cultural heritage in key policy and planning arenas.

2. Introduction

PERICLES is an EU-funded project promoting sustainable governance of cultural heritage in European coastal and maritime regions to facilitate the understanding, preservation and sustainable use of maritime cultural heritage.

This report is closely linked to “Deliberative and Participatory Governance” one of the three pillars explored by PERICLES in the Deliverable D2.4 that describes the participatory approach to governance to facilitate activities at seas and oceans, to reduce overlap and conflicts by the integration of objectives and to foster planning. In the context of coastal management, this approach is commonly mentioned as Integrated Coastal Zone Management (here after ICZM), a process of governance to ensure sustainable coastal developments that relies on participation of stakeholders to improve the inclusivity of communities, dependent on coastal resources, in local governance.

Furthermore, this report is also based on the PERICLES Deliverable D5.1, which proposes a comprehensive analysis of cultural heritage policy in four PERICLES areas to identify actors and processes involved in policy formation and integration, stakeholders’ engagement, delivery and monitoring. In the deliverable D5.1, PERICLES has explored the integration of cultural heritage into maritime and coastal policies to identify narratives concerning coastal and maritime cultural heritage in key coastal and marine policies such as Marine Spatial Planning (here after MSP), ICZM and climate change adaptation.

This deliverable (D5.3) provides a narrative of ICZM and MSP measures for the PERICLES countries at broad scale (national). Then through a set of qualitative (discursive) indicators of good governance piloted in four regions (Northern Ireland, Scotland, Portugal and Denmark) it depicts the perception in the maturity of the integration of cultural heritage (here after CH) management within ICZM and MSP strategies. The collection of primary sources is a necessity due to the scarce information available in the literature on the principles that inspire the protection of CH within the remit and principles of ICZM. The approach used is similar to the ICZM evaluation promoted by the EU Working Group on ICZM indicators (WGID, 2003) and consists in a checklist of indicators exploring under several angles how CH management is embedded within the ICZM framework. Although these indicators can be interpreted in a subjective way, depending on the respondent’s role and scale of activity in CH management, the proposed checklist has the ambition to:

- 1) explore which elements of coastal/marine governance are in place to protect CH in the coastal regions of interest;
- 2) depict if factors such as natural, social and economic dimensions are considered to better achieve the preservation of the CH;
- 3) evaluate the state of ICZM formulation and the presence of major gaps between the piloted countries.

This report is divided in two parts: it presents before an introduction to ICZM and early experiences in Europe, and then more specifically examines how CH management is developed in the PERICLES countries within the ICZM/MSP framework by combining information from the literature and primary information from marine planners in four pilot countries (Northern Ireland, Portugal, Denmark and Scotland).

3. Coastal zone management and evolution

Coasts are unique environments not only for the value of their resources, but also for the high demand by coastal dwellers for subsistence use, recreation and economic activity (Kay and Alder, 1999). Since the end of the twentieth century, about two thirds of the world's population have been living within 60 miles of the coastline (Vallega, 1999). The growing population is causing problems such as increase in pollution, rapid depletion of non- and renewable resources, especially in those countries with fewer capital (built) infrastructures in place (Cicin-Sain and Knecht, 1998), and conflicts between uses and users. Furthermore, jurisdiction over various parts of coastal and ocean areas falls to different levels of government. It is required at least three levels of government (Cicin-Sain and Knecht, 1998; Vallega, 1999) for many stakeholders to achieve consensus on how to reduce conflicts.

Because of these problems, the single sector management approach proposed since the 1950s cannot be applied (Kay and Alder, 1999; Vallega, 1999). The realisation around the world that environments were being continually degraded by a rapidly expanding human population led to changing perspective for resource management (Kay and Alders, 1999). During the 1970s, a multi-disciplinary coastal management phase took off, tying both natural and social science with a particular emphasis for the former (Vallega, 1999).

During the early 1980s the concept of sustainable management (UN, 1987) was affirmed, requiring the economic principles to be complemented by the ecological principles of ecosystems. In this way, coastal management needs to define a set of measures to use ecosystems possibly without interfering with their organisations and ecological functional patterns (Vallega, 1999). As a result, an increasing number of experts in social science and marine biologists started working with physicists and engineers. Other paradigms, such as "complexity theory", based on a holistic rather than reductionist vision of the reality, contributed to direct the formulation of sustainable development in the integrated coastal zone management theory (Vallega, 1999:12).

4. Origin of Integrated coastal zone management

The concept of Integrated Coastal Zone Management (ICZM), although not in a formal way, was launched by the USA that introduced a national coastal management programme through the Coastal Management Act 1972 (Knecht and Archer, 1993, Beatley et al, 1994; Cicin-Sain and Knecht, 1998; Humphrey et al, 2000). The word integration was introduced during a workshop in Charleston (USA), 17 years later after having approved the USA Coastal Zone Management Act (CAMPNET, 1989).

This term was reaffirmed during the Earth Summit (1992) in the non-binding document Agenda 21, which at chapter 17 recommends that coastal management be "integrated in the context and precautionary in ambit" (UNCED 1993: 17.1). During the same period, several guidelines were produced by different international agencies to assist practitioners towards the implementation of a new approach not well defined in its practical implications (Vallega, 1993; World Coast Conference, 1993; Asian Development Bank, 1995; UN Environment Programme, 1995; World Bank, 1996; FAO, 1998).

ICZM should be a multi-sectoral process to improve development planning and resource conservation through integration and co-operation of the interests of coastal economic sectors (Clark, 1992: 9-11). An essential ICZM scheme should be characterised at least (ibid: 9) by: 1. Arrangements (policies, goals, legal authorisation and enforcement mechanisms); 2. Coordination (coordinating institutions and mechanisms); 3. Review (project review, permit mechanisms and disincentives for law infringements). Analogue consideration is expressed by Cicin-Sain (1993; 1998). This definition and model of coastal management are consistent in the above-mentioned international ICZM guidelines and reflect consensus on what integration is (Cicin-Sain, Knecht, 1998).

5. ICZM in Europe

At EU level, no binding measures have been introduced which specifically concern the coastal zone. Furthermore, despite the importance of marine affairs, a high-level policy planning body for ocean and coastal management is not in place.

The majority of instruments adopted comply with specific or sectoral interests and although useful, they may not be effective because of the lack of co-ordination between the numerous users and stakeholders influencing the development of the coast (Julien, 1996). In addition, there is no legal definition and reference to the coast in the EC Rome Treaty (1957), even though at article 3(4) it is stated that activities of the Community must include common policies in the sphere of the environment. Moreover, the same Treaty at art.175 lists several general objectives such as the preservation, protection of human health, protection and improvement of the quality of the environment and the prudent and rational utilisation of natural resources. The EC Treaty of Amsterdam (1997) has introduced in the EU policy the requirement to include “a harmonious, balanced and sustainable development of economic activities and a “high” level of protection and improvement of the quality of the environment” (art. 2). In addition, environmental protection must be integrated into the definition and implementation of other European community policies. However, any measures to promote ICZM must be consistent with the principles of subsidiarity and proportionality prescribed by the art. 6 of the EC Treaty of Amsterdam, which imposes some practical limitations on the potential scope of the EC legislation in ICZM. Overall, the principles that inform the action of EU environmental policies (and in turn ICZM) are those elaborated and accepted in international laws such as the precautionary approach, the polluter pays principle and the correction of environmental damage (art 191 of Treaty of Lisbon on the functioning of the European Union).

The interest for coastal management at European level is considered of great importance for the existence of problems having European dimension, which cannot be resolved by a single country, and for the influence that EU policies may have to overcome the development of coastal zone under the current sectoral policies (Julien, 1996; Belfiore, 2000). A demonstration programme, articulated around three key words, co-ordination, co-operation and concertation, was launched in 1995 (CEC, 1995) with the aim to show how to apply in practice the principle of integration and subsidiarity, and to increase the effectiveness of existing legal instruments (Belfiore, 2000). The EU demonstration programme showed that common problems affect European coastal zones such as unplanned development of sectoral activities, decline of traditional fisheries, coastal erosion and marginalisation of island areas (CEC, 1999a). The demonstration programme case studies showed to be affected by problems relating to lack of knowledge, inappropriate

and uncoordinated laws, failure in involving stakeholders and lack of coordination between the relevant administrative bodies (CEC 1999a,b). Parallel to the pilot case studies, several thematic studies (Gibson, 1999; King, 1999; Capobianco, 1999; Humphrey and Burbridge, 1999; Wilkinson, 1999; Doody et al., 1998; Doody, 1999) showed also that main difficulties of an integrated approach to coastal management are due to the rigid administrative structures, the limited knowledge of coastal ecosystems and physical processes and the limited funds to support coastal management initiatives. On the institutional and policy side, a better integration of environmental coastal problems as well as co-ordination amongst different sectoral policies was considered a necessity (CEC, 1999b), but mechanisms to facilitate coordination were not specified.

Based on the experience of this program, the EC adopted a Communication from the Commission to the Council and the European Parliament (CEC, 2000a). In this Communication, the following definition of ICZM was adopted:

Integrated Coastal Zone Management (ICZM) is a dynamic, multi-disciplinary and iterative process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision-making, management and monitoring of implementation. ICZM uses the informed participation and co-operation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. ICZM seeks, over the long-term, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics (CEC, 2000a).

Integration must be reached not only at EU level but also at national and local tiers of government, where EU recognises problems can be easily resolved, in accordance with the subsidiarity principle (Belfiore 2000: 126-127). Because of the importance of the national role in resolving coastal problems through the most correct and appropriate management scheme and the diversity of members states' legal and administrative systems, the European Commission showed interest for non-binding legal instruments. Thus, the EU Commission considered a council directive a too prescriptive instrument (Belfiore, 2000; Gibson, 1999, 2003; CEC, 2000b, c) and in 2002 a Recommendation (2002/413/EC) for the Implementation of ICZM in the EU was adopted by the Council and Parliament (CEC, 2002). In this document it is suggested the need of "support and involvement of relevant administrative bodies at national, regional and local levels amongst which appropriate links should be established or maintained with the aim of improving coordination of the various existing policies". In other terms, this demands good communication among governing authorities (local, regional and national). The Council Resolution (CEC, 2002), appearing in the form of a guidance code, introduces the basic principles by which a sustainable development should be achieved (chapter II) and prescribes stocktaking for each country at national and sub-national scale of actors, laws, and institutions affecting the coastal management (chapter III). The document encourages the use of international conventions (chapter V), and calls upon the Commission to review the recommendation and member states to report on their own implementation within 45 months from its publication (chapter VI). In the Recommendation, eight principles form the basis of an effective coastal zone management:

<p>Principle 1: A broad overall perspective (thematic and geographic) which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas.</p>
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Principle 2: A long-term perspective which will take into account the precautionary principle and the needs of present and future generations.

Principle 3: Adaptive management during a gradual process which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone.

Principle 4: Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.

Principle 5: Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.

Principle 6: Involving all the parties concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.

Principle 7: Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of the various existing policies. Partnership with and between regional and local authorities should apply, when appropriate.

Principle 8: Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.

These principles have been critically analysed by McKenna et al. (2008) but in general, they have been accepted. These principles provide a picture of ICZM as a strategy for an integrated approach to planning and management, in which all policies, sectors and, to the highest possible extent, individual interests are taken into account, with proper consideration given to the full range of temporal and spatial scales and involving all coastal stakeholders in a participative way. ICZM demands good communication among governing authorities (local, regional and national) and promises to address all three dimensions of sustainability: social/cultural, economic and environmental. It thus provides management instruments that are not per se included in policies and directives in such comprehensiveness (Rupprecht Consult-Forschung & Beratung GmbH, 2006).

Notwithstanding years of experimentation at different scales and valuations of experience around Europe (Breton et al., 2006; Ballinger et al., 2010; Reis et al., 2014; Koutrakis et al., 2010;2011; Martino, 2016), coordination of sectors remains a critical issue in ICZM. The on-line consultation process held in 2011 on the impact of a Directive on Maritime Spatial Planning (MSP) showed that cooperation between the different competent bodies at different scales in the maritime governance remains a challenge (EC, 2011). The incorrect use of the maritime space, caused by the lack of cross-sector coordination in granting sea spaces is considered one of the inefficiencies that could be compulsory addressed by the promulgation of a Directive (EC, 2013). In order to further promote sustainable development of coastal zones, the Commission adopted in 2013 a draft proposal for a Directive establishing a framework for maritime spatial

planning and integrated coastal management. This proposal was expected to have a strong impact for the sustainable use of the coasts and seas, requiring member states to map human activities at sea, to identify future spatial development in maritime spatial plans and to coordinate relevant policies affecting coastal areas and seas. The minimum requirements for the two approaches to work together are that MSP is coordinated with ICZM, all relevant stakeholders and authorities are appropriately consulted on draft plans and strategies, and have access to the results once available. In case of interference with other member states or third countries, an effective trans-boundary cooperation must be ensured. Plans and strategies must also be subjected to the procedure applicable to strategic environmental assessments. Finally, member states need to ensure that their maritime planning and coastal management support sustainable growth applying an ecosystem-based approach to facilitate the co-existence of and prevent conflicts between competing sectors.

This proposal came into force under a different perspective: the Directive 2014/89/EU established a compulsory framework for MSP, but not for ICZM. The decision of the European Commission to consider maritime spatial planning as a policy approach in the mid-2000s has clouded the ICZM agenda, with the attention of government and statutory agencies focused on the development of the formal marine planning system rather than non-statutory ICZM (Fletcher et al., 2014). However, to address some of the governance issues in the coastal zone, the Directive 2014/89/EU required coordinating the sectoral divide between marine sectors by using the principles provided by the ICZM. According to this directive, MSP must consider economic, social and environmental aspects to support sustainable development and growth in the maritime sectors, applying an ecosystem-based approach. This sustainable use (environmental, economic and social wellbeing) must be achieved taking into account land sea interactions, ensuring the involvement of stakeholders, trans-boundary cooperation between member states and cooperation with third countries. Consistency must be guaranteed with other plans and coherence with other relevant processes (including ICZM, if already implemented) in the coordination and productions of spatial plans for the sea.

It is evident from the EU ICZM definition, the principles developed under the EU Recommendation (2002) and the objectives of the MSP Directive the will to remove policy and sectoral divide between land-sea uses. The main difference between the two approaches is that ICZM is a governance process for coordinating policies and sectors, while MSP a planning activity aimed at regulating the spatial and temporal use of marine activities. However, ICZM and MSP have a common denominator identifiable in the requirement of achieving sustainability by applying the Ecosystem Approach (EA) (Haines-Young and Potschin, 2011). ICZM and EA have similar origins, and both strands of thought were heavily reinforced by the outcomes of the Rio Conference in 1992 such as Agenda 21. There are similarities in thought that inspired the two approaches: both ICZM and EA principles recognise the inherently dynamic nature of ecosystems and the uncertainties involved in any attempt to manage them. As with ICZM, the EA seeks to promote an integrated approach to management that operates across both natural and social systems, and between different ecosystems. EA deals with cross-sectoral issues and environmental limits, and the need to conserve ecosystem functioning. Both approaches underpin the propositions that highlight the need for broad spatial, thematic and temporal perspectives, and cross-sectoral institutional structures that respect environmental capacity. The importance of working with natural processes and within the carrying capacity of the coastal zone covers the EA idea of considering environmental and social aspects. These similarities have inspired the eight EU ICZM principles.

However, there are some differences between the two approaches (Haines-Young, Potschin, 2011): ICZM makes little explicit mention of the concept of ecosystem services, an idea that is included in the EA framework. Similarly, the issue of placing an appropriate value on the environment (and ecosystem services) does not feature strongly in ICZM. While the EA suggests that management should be at an ‘appropriate scale’, the ICZM principles envision a hierarchy of strategies operating at regional, national and local levels. In fact, it could be argued that once we attempt to deal with problems in a holistic and cross-sectoral way, there is no appropriate operational scale, because different social and environmental components have different spatial and temporal footprints. Other differences between the two sets of principles include the stronger emphasis that ICZM places on the processes of governance with respect to the EA. By contrast, the EA tends to stress the role of ecosystems and biodiversity more explicitly than ICZM does. A management perspective in the ICZM principles is somewhat more prescriptive than in the EA principles that promote sustainable use and conservation of natural resources, but issues of liability and restoration of ecosystem function are not particularly emphasised. Thus, the ICZM framework seems a valuable approach in taking the EA principles forward into an operational context.

The following box summarises some key similarities and differences between the two principles:

Similarities between ICZM and EA	Differences between ICZM and EA
Broad perspective	No ecosystem services concept in ICZM but in EA
Close coupling of social and ecological dimensions	More scale of application for ICZM
Dynamic nature of ecosystem and uncertainties	ICZM principles are more prescriptive
Long term sustainable perspective	Focus on governance for ICZM, while on ecosystem biodiversity for EA

6. ICZM and the evaluation framework

Key indicators for the valuation of the ICZM programme have been proposed by the scientific community (Olsen, 2003; Henocque, 2003; Belfiore, 2003) to assess the evolution towards an integrated “dimension” of coastal policy. There are different frameworks for assessing ICZM governance and its implementation. The methodology adopted by Knecht et al. (1996) consists in surveying different experts and stakeholders asking for rating indicators of ICZM governance along an ordinal scale (5 point Likert scale). The scores from each indicator are summed up and then averaged. A similar framework is proposed by Olsen et al. (1997) and Olsen (2003) who propose to distinguish between intermediate and end-outcomes. Intermediate outcomes refer essentially to the governance process and are split in three orders, whereas the fourth set of indicators refers to the end-outcome, or in other words the achieved sustainable development and quality of life.

EU recognised as important the need of finding effective ways to achieve conservation and sustainable use of marine and coastal biodiversity. A simple answer about the presence or absence of key indicators is used to determine the level or maturity achieved in the ICZM formulation process and identify impediments to further progress (Breton et al, 2006). A checklist of 31 indicators, provided by the EU Working Group on ICZM indicators (WGID, 2003), is grouped in four phases: 1) planning and management are taking place in the coastal zone; 2) a framework exists for taking ICZM forward; 3) most aspects of an ICZM approach are in place functioning reasonably well; 4) an efficient adaptive and integrative process is embedded at all levels of governance. The first phase contains six indicators that explore the extent to which planning and management are taking place. The second phase contains six indicators that test if sectoral approaches are brought together to discuss issues of common interest. The third phase has twelve indicators exploring the functioning of ICZM – based on planning and management, the presence of networks for coastal practitioners and the formulation of plans that recognise land/sea interaction. The final phase investigates through seven indicators if partnerships (made of statutory, private, voluntary and public sectors) take the lead in policy formulation and deliver actions on the ground. The set of 31 indicators can be employed at different scales at which ICZM is implemented and repeated at regular intervals (4-5 years) to monitor the progress and verify if gaps are filled.

This approach has been used in two relevant cases. Ballinger et al. (2010) have implemented the EU indicators during the COREPOINT surveys (a partnership of research centres, local authorities and coastal networks from Belgium, France, Ireland, the Netherlands and the United Kingdom) which evaluated the extent to which ICZM principles are addressed and interpreted throughout the North West European region. The surveys revealed rather mixed adherence to the EU ICZM principles, although there were some promising results related to the principles of local specificity and stakeholders' engagement. The principles providing the greatest challenge were those promoting the broad holistic approach, the long-term approach and adaptive management. Based on a preliminary version of the EU ICZM indicators, Martino (2016) proposed an analysis of the level of maturity in the ICZM path in Italy at regional scale, showing good achievements in the cooperation amongst institutions especially at vertical scale. A different set of questions, implemented to assess the achievement of the eight ICMZ principles, is tested under the EU FP6 SPICOSA project (Science Policy Integration for Coastal Systems Assessment). A survey of representatives from 14 European study sites involved in the SPICOSA project revealed that the ICZM approach had been effective at implementing some ICZM principles, particularly the "holistic one". However, not all principles were fully implemented at all sites and the most challenging to implement was the one dealing with a "long term view" (Reis et al., 2014).

7. ICZM and cultural heritage

The lack of EU directive has determined coastal management strategies characterised mainly by voluntary experience. Some countries like the UK have introduced voluntary non-statutory plans reflecting a strong interest in the natural environment. However, in terms of built heritage, these plans are rarely detailed (Goodhead, et al., 2007). Some pilot tests made in the EU during the demonstration programme called attention to the formulation of an ICZM framework to resolve conflicts between environmental issues and recreation. Overall, in the EU demonstration programme the preservation of heritage or culture did not

feature significantly (Vallega, 2003; Goodhead, et al., 2007; Tengberg et al., 2012; Khakzad et al., 2015). However, single case studies addressing specifically cultural heritage management can be reported such as the Durham Heritage Coast, England that was part of the ICZM programme evaluated in the COREPOINT survey (Ballinger et al., 2010). This situation has characterised the policy of the United Nations since the 1970s, providing a mere glimpse of cultural heritage and its significance on regional scale coastal policy. Ecological, socio-economic and cultural components appear in separate visions preventing cultural heritage from being considered as an element of the sustainable development. Regardless the approach used to implement coastal management, the lack of consideration of heritage is typically characterising Northern European countries, while some experiences of integration of cultural heritage into coastal management process have been developed in Southern Europe (Italy, Spain and Portugal) (Khakzad et al., 2015).

According to Vallega (2003), multidisciplinary evaluation approaches of coastal cultural heritage are necessary for integrating coastal cultural heritage as a resource in holistic coastal management plan. The stimulus to move to this direction came from the 2000s, when some changes in the European panorama started emerging. For instance, the European Code of Conduct of Coastal Zones (ECCCZ) considers cultural heritage together with ecological conditions, landscapes and seascapes as key subjects of coastal management. Activities in the coastal zone should be appropriate (commensurate) in relation to the natural, cultural and physical characteristics of the surrounding areas and should ensure the preservation of the local cultural heritage (Council of Europe, 1999). This means that new developments that have less dependency on the coastal environment (physical, cultural and social), should be located outside the coastal zone. Following from these principles, Vallega (2003) proposed the idea of a Code of Conduct for Coastal Cultural Heritage. Operationally, those involved in the decision making of cultural heritage should relate horizontally and vertically with those engaged in other aspects of the coastal system. Moreover, they should stimulate social awareness of the need to conserve coastal heritage and its associated landscape and seascape diversity, involve public and private landowners, the scientific community, media, individuals and civic groups, and implement a monitoring plan to prevent and mitigate adverse anthropogenic impacts.

These principles have informed the production of guidelines for the management of coastal cultural heritage (Callegari and Vallega, 2002), as adopted in the coastal zone of Liguria Region, Italy (Callegari, 2003). The guidelines provide operational approaches for decision makers at local scale to evaluate coastal cultural heritage in the framework of integrated policies (Vallega, 2001). Examples (from Spain) of integration of cultural heritage in coastal management plans recognise that the body regulating cultural heritage should be part in the decisions on the use and exploitation of the marine environment (Spain Ministry of Culture, 2009, cited by Khakzad et al., 2015). Moreover, Portugal has developed a set of coastal management plans (Taveira-Pinto, 2004) focussing on cultural heritage. With regard to other countries making part of the PERICLES project, those that showed a stronger integration of cultural heritage within ICZM are The Netherlands that have classified in the Spatial Planning Policy Document the coastal zone also for its cultural aspects (part of the Wadden Sea is placed on the UNESCO World Heritage List); Malta that has promoted land use zoning scheme for the protection amongst others of cultural heritage (especially the rural coast and the marine environment – up to 25nm); and Estonia that is developing a transboundary ICZM plan with Finland, mapping and promoting cultural heritage rich villages and landscape to promote the development of recreational economy. A summary of ICZM implementation and relational aspects with cultural heritage is provided in the Table 1.

These examples show that the inclusion of cultural heritage in ICZM is mainly promoted by planning as anticipated by Goodhead et al. (2007). Spatial planning in fact offers an interesting perspective because it can be exported to heritage from the more traditional implementation designed to manage ecosystem and pollution, removing the gap left by ICZM that rarely has acknowledged heritage issues to any significant extent. The implementation of MSP integrated within ICZM strategies that operate more clearly in terrestrial coastal areas can also contribute to take into consideration underwater cultural heritage. Heritage policies related to MSP are more evident in the PERICLES countries, as summarised in the Table 2, than is shown in the case of ICZM. This can be due to the more appropriate role of planning to deal with heritage, the higher awareness of heritage as integrative element to sustainable development and the requirements of the Maritime Spatial Planning Directive 2014/89/EU to develop marine plans. Although none of the PERICLES countries has achieved the stage of implementing marine spatial plans (to be enforced by 2021), some of them have in place policies developing spatial planning strategies for terrestrial and underwater cultural heritage.

The ICZM and MSP findings summarised in the Table 1 and 2 show that there is awareness of heritage management to be incorporated within regular planning process rather than operating on their own. This implies adopting CH management approaches that integrate social, ecological and physical dimension into planning (Tengberg et al., 2012, Khakzad et al., 2015). In terms of social dimension, the connection between people and heritage can be depicted by eliciting cultural memories, identities, sense of place (Cristinelli, 2002). This value-based approach uses systematic analysis of value and places great importance on the consultation of stakeholders (Tengberg et al., 2012). According to Harrison (2010), heritage is created through a top-down process of categorisation, but it is still embedded in bottom-up relationships with people, places, memories that create unofficial forms of heritage usually at local levels. For instance, ecological economics has proposed non-monetary value-placed approaches to explore the cultural aspects embodied in individuals and communities (Khakzad and Griffith, 2016; Khakzad, 2017). In addition, environmental economics provides insights into the protection of cultural heritage through methods used for the valuation of natural goods (such as choice modelling and contingent valuation approaches), but adaptable to the valuation of cultural heritage or to the valuation of marketed good that are indirectly related to cultural heritage (Throsby, 2005; 2010; Durán et al., 2015; Ropars-Collet et al., 2015). Thus, the notion of non-market values (services) can be used to determine new functions of heritage that have economic significance. In many cases these functions include, but are not limited to, tourism, education, reuse and re-vitalisation of traditional commercial activities (Rizzo and Mignosa, 2013). The combination of monetary and non-monetary indicators can be used to justify the benefits of preservation of cultural heritage in the framework of ICZM. Finally, we cannot forget to consider the relation with physical planning. The natural dimension influences the state of heritage (Murphy, 2009; UNESCO, 2008), the amount that can be preserved and how. To assess the impact of nature on cultural heritage, the sensitivity and vulnerability of natural landscape to process-driven geomorphologic changes (erosion, climate changes, sea level rise) must be determined (Khakzad et al., 2015) and a protection strategy working with the natural dynamics of the coast implemented.

Table 1: Integrated Coastal Zone Management (ICZM) in PERICLES countries and relation with Cultural Heritage (CH)

Country	ICZM	Relation with CH
United Kingdom	<p>Implementation of ICZM is responsibility of regional administrations. Integrated approaches are proposed in the Marine and Coastal Access Act 2009 that sets out Marine Policy Statement. The Act sets also a mechanism for national partnership functioning; provisions for marine planning at national and regional scales, licensing, extension and creation of marine conservation zones, enforcement mechanisms in territorial waters, the consolidation of Integrated Coastal Zone Management approaches to coastal governance, and the reduction in importance of coastal partnerships (Fletcher et al., 2014).</p> <p>The Marine Act 2010 includes equivalent provisions for Scottish onshore waters and the Northern Ireland Marine Bill (DEFRA, 2010a) sets similar objectives for Northern Ireland. Moreover, the UK wide Marine Policy Statement (HM Government, 2011) promotes ICZM throughout and seeks to embed consideration of the key ICZM principles within all relevant planning and decision-making.</p> <p>Early ICZM approaches implemented around the UK were mainly voluntary coordinated by local and regional partnerships and forums, reflecting a change in philosophy in the modern state towards more inclusive, participatory and joined up governance (Stojanovic and Barker, 2008). Each partnership performs services fulfilling local/regional needs and responding to local interests and issues. It is thus the principle of “local specificity” which has been taken forward most successfully. Much of this partnership work is directed at resolving conflicts and preparing local management strategies. At national level, discussions are of a more strategic nature and concerned with policy direction (Atkins, 2004). Local</p>	<p>The UK Marine Policy Statement (HM Government, 2011) ensures that people appreciate the diversity of the marine environment, its seascapes, and its natural and cultural heritage. Moreover, the use of the marine environment is planned that recognises the protection and management needs of marine cultural heritage. Local planning must take account of culture and aspiration.</p> <p>Some organisations are involved with both ICZM and CH management. For examples, the Inshore Fisheries conservation Authorities (IFCAs) is empowered by the Marine and Coastal Access Act 2009 to strengthen ICZM by working relationships with several public bodies dealing with coastal defence, flood management and cultural heritage protection.</p> <p>Local ICZM initiatives have been developed as pilot case studies for enhancing the protection of CH such as the Durham Heritage Coast (Ballinger et al., 2010). However, valuation of local ICZM initiatives in the UK has focused more on environmental rather than socio-economic and cultural aspects (Ballinger et al., 2010). Valuation of ICZM initiatives in Europe under the EU FP7 SPICOSA project shows that of the 18 case studies considered, only 7 involved conservation and heritage stakeholder engagement, but none was in the UK (Reis et al., 2014).</p>

	<p>partnerships activities are coordinated at national scale by the Coastal partnerships Working Group and the Annual Coastal Partnerships Forum (DEFRA, 2010b). Although still active, these partnerships upon which was placed the hope to deliver coastal integration (Ballinger, 1999) have reduced their activities because of lack of financial resources, and no formal role recognised by the Marine and Coastal Act 2009 (Fletcher et al., 2014).</p>	
Portugal	<p>There is a national ICZM strategy adopted since 2009. It is a 20-year timeframe vision for a harmoniously developed and sustainable coast, based on a systemic approach of resource use and identity values, operating under a model that integrates institutions, policies and instruments to ensure the participation of different stakeholders (Ministerio do Ambiente, 2010).</p> <p>The national ICZM strategy coordinates the maritime spatial planning with the terrestrial zone managed through coastal zone management plans (Pinto, Martins, 2013). Thus, ICZM can be considered mainly a spatial planning instrument (Pinto, Martins, 2013). This strategy is operationalised through the Litoral Action Plan XXI published in 2017 that contains also indicators to monitor its achievements and correct any deviations.</p> <p>The Coastal Zone Management Plans cover almost all the Portuguese coastal zone and consider “a terrestrial zone of protection” from the coast line until 500 m and a “maritime zone of protection” extending up to the bathymetry of 30 m (EU MSP platform, 2019b)</p> <p>The ICZM governance model is based on public-private partnerships. These partnerships converge interests through coastal zone, inter-sectoral responsibility of communities and stakeholders creating networks and forums on coastal issues. Stakeholders’ engagement is</p>	<p>The national ICZM strategy has clearly proposed the conservation of landscape as well as cultural heritage as a thematic objective (Pinto, Martins, 2013). In addition, it promotes the sustainable development of economic activities that contribute to the valorisation of specific resources (natural and built infrastructure) from coastal zone.</p>

	<p>considered important and this has been enhanced by consultation with communities and the general public on coastal planning and management issues (Alves et al., 2013).</p> <p>A key ICZM principle implemented in coastal zone management and national maritime spatial plans is the adaptive management.</p>	
France	<p>ICZM was launched in 2005 with the selection of 25 pilot projects. The majority of them were characterised by the protection of the environment, land/sea integration and partnerships between project stakeholders and the State. However, there was inadequate consideration of social issues, insufficient involvement of populations, and lack of coherence with pre-existing public territorial policies.</p> <p>During the 2000s, development of transversal approaches encouraged by inter-ministerial policies was initiated (Deboudt, 2012). The period from 2005 to 2007 was marked by local implementation of coastal zone planning and development policies. In 2007, the national government developed a new policy for the sea and the coastal territories where it is reaffirmed the commitment to a shared governance structure to build a national policy for the coastal territories (Deboudt, 2012).</p> <p>An important regulating tool for the ICZM is the Coastal Act (Loi Littorale). This is the highest in the legal hierarchy of urban planning. This Act requires that any new urban extension should be done in continuity with pre-existing towns and villages. Outside urban area, any new construction is banned in a 100-meter stretch from the shore. The second (and main) ICZM tool, though rarely implemented, is the Coastal Development Scheme. Its goal is to determine the vocation of various areas at sea and on land in those areas that have to deal with diverging interests regarding urban planning and conservation.</p>	<p>Interactions between ICZM and cultural heritage is not clearly mentioned in the early ICZM strategies and pilot case studies. More recently, influences between coastal zone management and cultural heritage management are evidenced in the National Strategy for the Sea and Coast (Ministry for an ecological and solidary transition, 2017). It is considered a priority to launch cultural initiatives related to the sea, and promoting the French maritime culture in the UNESCO World Heritage List to preserve sites, landscape and heritage.</p> <p>The National Strategy for the Sea and Coast, under the strategic axis “Developing sustainable and resilient maritime and coastal territories”, considers a priority the protection of the environments, achieving biological and ecological balance, and preserving sites, landscapes and heritage. Territorial projects must focus on local governance and long-term vision to enhance the value of ecosystems landscape and cultural heritage (built and intangible). This must be achieved by implementing maritime spatial planning to reconcile uses and seek synergies between activities.</p> <p>Under the axis “Support and optimise initiatives and remove obstacles”, goal is to assist the development of traditional activities towards sustainable and resilient models. Traditional sectors in the maritime and coastal economy such as fisheries and aquaculture should be helped to achieve sustainability by promoting their transformation and their economic competitiveness.</p>
Denmark	The 1994 Danish National Planning Act stipulates that new activities be	The Planning Act provides special rules for planning in coastal areas.

	<p>highly restricted within a 3 km protection zone landwards (Beeharry et al., 2014). Moreover, buildings construction is prohibited within 300 metres from the shoreline (Danish Ministry of the Environment, 2007). ICZM experiences in Denmark have embraced several typologies of projects with different focus (ecological and economic) and ways to engage and involve stakeholders (bottom up and top down implementation - Støttrup et al., 2017; Beeharry et al., 2014). The regulatory or institutional framework is an important element for ICZM. One major problem is the regulatory split between land and sea reflected in the distribution of powers (Beeharry et al., 2014). In 2002, a Regional Planning Committee was set up under the Ministry for the Environment with representatives from various authorities and organizations. The Committee recommended a continued focus on coastal zones in regional planning (Anker et al., 2004), and to hold a national level debate on ICZM strategy. However, since 2002, very little progress has been made (Beeharry et al., 2014). County councils and municipalities are respectively responsible for regional and local planning. The Danish Planning Act and the informal cooperation procedures established in Denmark form the basis of a high degree of integration between the authorities dealing with land-based coastal activities (Anker, 2004).</p>	<p>Denmark's coastal areas are to be kept as free as possible of development and installations that do not need to be located near the coast (Danish Ministry of the Environment, 2007). Although planning guarantees a certain level of integration between management levels, it is not supported by holistic coastal policies, including both land and sea territories and coastal activities, e.g. harbours, roads and railways, sailing, fishing, tourism, raw material extraction, wind mills, protection of nature and cultural heritage (Anker et al., 2004).</p>
The Netherlands	<p>ICZM strategy was set out in the Coastal Policy Guidelines (2007), the National water Plan (2009) and the North Sea Policy Document (2009) (see de Vrees, 2019). In addition, a range of projects has been implemented to put the EU Recommendation ICZM principles into practice. The regional government is responsible for spatial coastal development. Central government, provincial authorities, municipal authorities, water management authorities, and drinking water companies are also actively</p>	<p>The Spatial Planning Policy Document considers the coastal zone also for its cultural aspects. In fact, the definition of coastal zone comprises "the whole of coastal seas, beaches, dunes/sea dikes and the landward strip with a functional or cultural relationship with the coast". The Wadden Sea is placed on the UNESCO World Heritage List, mainly for its natural features. The main characteristics that deserved the awards from UNESCO are the landscape, the dynamism of dunes at all</p>

<p>involved. The national government is responsible for coastline movable defences, spatial planning legislation and policy, main infrastructures (ports) and nature policy. Regions set plan for the defence of water and set structure vision plans. Local authorities implement local zoning schemes. Private actors and non-governmental organisations are also clearly playing a role at the project level.</p> <p>The national water consultations are an example of broad consultations about national issues in the area of water quality, freshwater supplies and flood protection, with the involvement of the national government, regional authorities and municipal authorities. Broad-based communication and information provision are also crucial in this respect. The government has launched a range of initiatives since 2010 to meet the demand for information relating to integrated coastal zone policy and management.</p> <p>ICZM projects are mainly about sea defence, with coastal policy aimed at working wherever possible with soft sea defences to encouraging ecosystem restoration (EU MSP platform, 2019f). However, national government policy requires taking into account the numerous interests involved in the coastal area. One of the most important is the Delta programme. This is a national programme in which the government, provincial and municipal authorities and water management authorities joined forces with non-governmental organisations, the corporate sector and knowledge institutions. The Delta Programme includes both short-(from now to 2020) and long-term (until 2050, and looking on through to 2100) plans including three generic sub-programmes: 1. Freshwater supplies; 2. Protection / safety standards; 3. New building and restructured spatial planning (The EU recommendation concerning ICZM, 2010).</p> <p>Policies in the Dutch Sea Wadden Sea area have become more nature-</p>	<p>stages of development; abundance of flora and fauna adapting to the dynamic coast; and abundance of migrants birds (10-12 million migrant birds visit this area) (The EU recommendation concerning ICZM, 2010).</p> <p>In the last years, cultural heritage related to fisheries of the Wadden Sea has gained interest and attention. However, the need of connection between natural, heritage, nature-based tourism and lived heritage, as promoted by UNESCO, has not been achieved, as stakeholders seem to remain in their own camps (The EU recommendation concerning ICZM, 2010).</p>
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	oriented over the last decades yet they present generally a holistic view on conservation and use. Economic activities like fisheries and tourism are accepted if employed as sustainable co-use.	
Greece	<p>Greece has not officially institutionalised an ICZM strategy (Mexa, 2019). The basic elements of coastal policies can be found in general spatial or sectoral policies concerning land use and urban development control, tourism, industry and agricultural development, while conservation relies mostly on basic environmental law.</p> <p>Greek legislation does not provide a legal definition of the coastal zone. It only defines a narrow band of the coastal zone, the seashore (Mexa, 2019). Coastal management is controlled through the law on land-use planning 2508/97. A Special Framework of Spatial Planning and Sustainable Development for the Coastal Areas suggested since 1997 has not been implemented, while the integration of the objectives related to coastal zone management into different sectoral policies had been identified as a more preferable option (Mexa, 2019).</p> <p>Notwithstanding the lack of a legal framework, there are examples of ICZM initiatives. First, Greece made part with some pilot projects of the EU ICZM demonstration programme (Koutrakis et al., 2003). In this initiative, three main problems were discovered: (a) lack of data regarding the natural environment and human impacts, (b) complex jurisdictions of the bodies involved in the management of the coastal areas, and (c) insufficient level of environmental awareness. In the pilot project implemented in Strymonikos, a coordination scheme was established, and an Information Centre for coastal zones set up to support environmental awareness and promote cooperation (Koutrakis et al., 2003). In the Interreg IIC South Beachmed-e, Greece was involved with pilot sites in the region Macedonia East Trace dealing with coastal erosion (Koutrakis et al., 2010;2011). More recently, under the Interreg</p>	<p>Greek law is intended to regulate developments on the shore but does not secure the conservation of the natural shoreline, the protection of the functions of the coastal ecosystems or the restoration of the ecosystems. There is no reference in the coastal policy to tangible and intangible heritage. The sectoral law (3028/2002) on the protection of cultural heritage covers national heritage, both tangible and intangible, of all periods, regardless of their location (even in areas beyond the national jurisdiction). The law introduces protection zoning for assets found both on land and in the sea. Two kinds of protection zoning were introduced: zone A that delimitates the strict area of the monument or archaeological site where there is strict protection; and zone B, a buffer zone where planning must include land-use restrictions and regulations, ensuring that the monument is protected from any kind of visual, aural, and olfactory nuisance (Papageorgiu, 2019).</p>

	<p>V A Greece-Italy, a model of integrated coastal zone management between Puglia and Western Greece is under development to establish decision support tools for the protection of coastal areas and reduce the consequences of coastal erosion due to natural causes (www.greece-italy.eu).</p>	
Malta	<p>ICZM has been implemented by developing planning measures since the 1990s. The lead agency responsible for planning and controlling development, the Malta Environment and Planning Authority (MEPA), was in charge to draw and review the Structure Plan (MEPA, 2011), now superseded by the strategic plan for environment and development (SPED, 2015).</p> <p>The 2010 Environment and Development Planning Act called for the preparation of Strategic Plan for the Environment and Development, a strategic document regulating the sustainable management of land and sea resources. This strategy is translated in Local Plans that need to regulate urban development balancing out environmental, economic and social issues. These plans have policies that define the geographic extent of coastal areas that can be used for recreation and ensure public access. In some cases, local plans have policies to constraint the development of the shore and environmental measures that facilitate the land-sea boundary interactions (MEPA, 2011). A new legislation, the Development and Planning Act (2016) addresses these aspects, but also considers development at sea. The strategic policy behind the Development Planning Act is led by the Planning Authority (PA).</p> <p>A new generation of Strategic Plans for Environment and Development (SPED) have been produced to translate economic social, cultural and environmental policies in a geographical context. SPED must ensure that all factors in relation to land and sea resources and conservation are addressed (SPED, 2015). In line with the SPED, the PA has initiated a</p>	<p>A coastal strategy aims to identify the coastal issues that could be managed through the development planning process. The coastal strategy (Planning Authority, 2002) promotes land-use zoning scheme to direct development for the protection of coastal and marine habitats and biodiversity, cultural heritage, coastal uses that necessitate a coastal location and public access. The typologies of coastal areas where to predominantly safeguard heritage and landscape are the rural coast and the marine environment (up to 12 nautical miles).</p> <p>The coastal strategy (2002) suggests also to increase the space for informal recreational activities in order to avoid the loss of coastal heritage, both natural and cultural. Other strategies, indirectly related to the protection of heritage and reported in the National Tourism Policy (2015-2020), seek to support the development of coastal areas and marinas for both conservation and tourism exploitation, restoring the wreck ports and create renewed areas for diving activities. In addition, the Boat restoration scheme (2018) is designed to help fishermen in their transition to sustainable fishing, to support coastal communities in diversifying the economies, and to finance projects that create new jobs and improve the quality of life. This scheme can be used to revitalise traditional fishing activities carried out by boats named luzzu, characterised by design and colour that dated back to ancient times. These boats can be rejuvenated as heritage having high tourist value.</p>

	series of initiatives and tools to raise awareness and facilitate stakeholders to take action in coordinating activities required in coastal and marine resource management. SPED are discussed in Table 2 treating marine spatial planning.	
Estonia	<p>Coastline is pristine. Only 5% of the 200m wide belt is covered with artificial infrastructures. This strip of land is almost uninhabited. There is not any ICZM systematic activity, except for the Island Hiiumaa. The General Plan Estonia 2030+ does not mention the term ICZM. However, the Nature protection Act and Water Act contribute to set the rule of the protection of the coastal zone. Construction is prohibited in the 100 m wide coastal belt on the mainland and 200m on the islands. The 200 m belt is a zone with limited activity where forest clear cutting, mining and waste depositing are banned. Environmental Impact Assessment and Strategic Environmental Assessment contributes to create integration among policies and stakeholders. In municipal level planning, public participation is well organised and often results in finding a compromise solution.</p> <p>Municipal Planning is important for coastal zone management, but planning of marine areas has started recently and not completed yet (Coalition Clean Baltic, 2012).</p> <p>A recent experiment of ICZM in the Baltic is the 2016-2018 project SustainBaltic. This is a cross border initiative between Estonia and Finland to provide an ICZM plan for the Lääne-Viru region (SustainBaltic, 2018). The management plan is a knowledge-based guidance document that combines various development strategies and can be used in the development of plans and strategic projects connecting land and sea. It focuses on three main areas: a) ensuring the development of diverse maritime transport, ports, and maritime tourism, b) strengthening the viability of historic coastal villages and communities, c) using the natural</p>	<p>Good examples of coastal managements are reported for 2 national parks (Lahemaa in the North and Matsalu in the West) where nature protection is integrated with protection of cultural heritage (Coalition Clean Baltic, 2012).</p> <p>The ICZM plan in the Lääne-Viru region considers several criteria mapped in GIS such as natural areas, population process and cultural heritage (landscapes and heritage-rich villages). The development of recreation economy is a way of supporting local businesses and exhibiting the natural and cultural heritage of the region, with special focus on hiking trails, cycles and pedestrian tracks. Natural and cultural tourism (preservation of small coastal fishing activities, creating and developing cultural events) are seen as the attraction to keep a viable local community in the coastal zone (SustainBaltic, 2018).</p>

	<p>resources of the marine and coastal zones sustainably. Sustainability means diverse cultural and economic activities that are integrated with environmental values and do not harm nature and natural resources in the long term.</p> <p>The process for the preparation of the plan is complex and based on analysis of previous planning initiatives, expert interviews, discussion with stakeholders and public meetings.</p>	
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Table 2: Marine Spatial Planning (MSP) in the PERICLES countries and relation with Cultural Heritage (CH)

Country	MSP	Relation with CH
United Kingdom	<p>The UK places duties on national and regional marine planning authorities to establish marine plans in the UK marine areas. The formulation of Marine Policy Statement under the Marine and Coastal Access Act (2009) provides the framework for the development of marine plans to ensure consistency in policy goals, principles and processes, identifying a series of objectives that are guides to the planning process (Potts et al, 2012).</p> <p>Marine plans have to be consistent with the Marine Policy Statement, provide a clear spatial and locally relevant expression of Policy (Potts et al., 2012), be based on the ecosystem approach, be participative and informed by a wide range of data and stakeholders.</p> <p>Marine plans are drawn by regional governments reflecting the devolution of powers to Scotland, Wales and Northern Ireland (European MSP Platform, 2019a). In England, the Marine Management Organisation is the institution in charge of preparing marine plans for 11 predefined areas. Marine Scotland is the institution in charge of the Scotland's National Marine Plan (Marine Scotland, 2015), which provides a single framework for managing Scotland's seas. Aligned with the Marine and</p>	<p>The Marine and Coastal Access Act 2009 acknowledges several roles to the marine plan authorities such as reviewing the physical, environmental, social cultural and economic characteristics of the authority's region, including those peculiarities of the region that have historical or archaeological nature (Firth, 2013).</p> <p>The UK Marine Policy Statement (HM Government, 2011) ensures that people appreciate the diversity of the marine environment, its seascapes, and its natural and cultural heritage. Moreover, the use of the marine environment is planned to recognise the protection and management needs of marine cultural heritage.</p> <p>The Marine Policy Statement sets out the principle that decisions must be sensitive to any potential impacts on sites of particular interest including those designated in relation to cultural heritage. The Marine Policy Statement declares that heritage should be conserved through marine planning in a manner appropriate to their significance and states that substantial loss or harm to designated assets should not be permitted. Planning authorities should refuse consent for development unless it can be demonstrated that the harm</p>

	<p>Coastal Access Act 2009 and Marine Policy Statement, the Scotland's National Marine Plan sets out strategic policies for the sustainable development of Scotland's marine resources out to 200 nautical miles. Moreover, according the Marine Scotland Act (2010), the Scotland's National Marine Plan will be supplemented by 11 Regional Marine Plans. These will provide more detailed guidance for inshore waters (out to 12 nautical miles). Pilot plans are under development by the regions of Clyde, Shetlands, Pentland Firth & Orkney (European MSP Platform, 2019a). An important role in the formulation of these regional plans is played by the coastal partnerships that although not officially recognised as statutory bodies, have an essential role in the process of stakeholders' consultation and participation to the plan formation. These partnerships are coordinated under the Marine and Coastal Access Act 2009 by the coordinating body named Coastal Partnerships Working Group.</p>	<p>or loss is necessary to achieve substantial public benefits. Where the loss of the whole or part of a heritage asset is justified, the marine plan authority should identify and require suitable mitigating actions. The planning authority should take into account the potential for further heritage assets to be discovered. Heritage, an asset of social, environmental and cultural values, are considered a powerful driver for economic growth attracting investments. Tourism and recreation of underwater heritage exploration are an opportunity offered by the sea. In addition, the Marine Policy Statement recognises that heritage assets should be enjoyed for the quality of life they bring to this and future generations.</p>
Portugal	<p>The Law No. 17/2014 on 'marine spatial planning and management' was approved as the fundamental law for MSP for all the Portuguese maritime space, including the continental shelf beyond 200 nautical miles.</p> <p>The Decree-Law implementing the Law No. 17/2014 introduces the Situation Plan, a plan identifying the areas of the maritime space that need protection and preservation, and the temporal and spatial distribution of current and potential uses and activities from the baseline up to 200 nautical miles. It also introduces the Allocation Plan, the plan that defines private use of some areas or volume of the maritime space not considered in the situation plan (EU MSP platform, 2019b).</p> <p>Responsible for the production of the Situation Plan is the Ministry of the Sea, Directorate General for Natural Resources, Safety and Maritime Services (DGRM, 2018). The second version of the Situation plan has been recently completed and subjected to public discussion in January</p>	<p>The National Ocean Strategy (2013-2020) recognises the historical and cultural side of the ocean as an essential component of the identity of populations of the Country (Governo de Portugal, no date).</p> <p>The Situation Plan identifies the spatial and temporal distribution of uses (actual and potential), including natural and cultural values, the latter considered of strategic relevance for the environmental sustainability and intergenerational equity (DGRM, 2018). In addition, the Situation Plan goal is to contribute to the rationale and efficient use of marine resources guaranteeing the protection of natural and cultural heritage (DGRM, 2018).</p> <p>The national MSP framework establishes the regime for private use of the maritime space, including, amongst others, underwater natural and cultural heritage (EU MSP platform, 2019b), being Portugal one of</p>

	<p>2019.</p> <p>Plan preparation has involved several economic stakeholders, NGOs, and the public.</p> <p>The MSP process considers also the need of co-existence of uses. The National Ocean Strategy 2013-2020 (Governo del Portugal, no date) refers to marine activities related to natural living resources (fishing, aquaculture), non-living resources (mineral extractions, offshore renewable energy productions), and infrastructures (ports, shipping, and tourism). Of relevance is also the adherence of the marine plan to the National Strategy for Climate Change Adaptation and the land-sea interaction with particular reference to the coastal zone management plan, covering the terrestrial zone from the coastline until 500m inwards, and the marine zone up to the bathymetry of 30 m (EU MSP platform, 2019b).</p>	<p>the subscribing States to the 2001 UNESCO Convention on Underwater Cultural Heritage.</p>
France	<p>Article 123 of the law n. 2016-1087 has transposed the MSP EU directive 2014/89/EC and introduced the notion of maritime spatial planning. The strategic planning document is the main tool through which MSP is implemented. Art. 123 amongst others considers the implementation of other EU policies such as the integrated management of the land/sea interface and the sustainable development of a blue economy (EU MSP Platform, 2019c).</p> <p>The National Strategy for the Sea and Coast 2017 (Ministry for an ecological and solidary transition, 2017) sets out four long-term objectives: deliver the essential ecological transition; develop a sustainable blue economy; restore good environmental status and uphold France's ability to wield influence as a seafaring nation. The National strategy for the Sea and Coast sets also priorities for the integrated and concerted management of sea related activities with terrestrial uses. A territorial approach adapted to the sea and coastline</p>	<p>Elements of interaction between coastal zone management and cultural heritage management are present in the National Strategy for the Sea and Coast (Ministry for an ecological and solidary transition, 2017) where it is stated that building a maritime society can be achieved by considering science, technology and maritime cultural heritage. It is considered a priority to launch cultural maritime initiatives for the sea in the UNESCO World Heritage List, preserving sites, landscape and heritage.</p> <p>The National Strategy for the Sea and Coast, under the strategic axis "Developing sustainable and resilient maritime and coastal territories", sets the goal of protecting the environments, providing biological and ecological balance, and preserving sites, landscapes and heritage. Territorial projects must focus on local governance and long-term vision to enhance the value of ecosystems landscape, and cultural heritage (built and intangible).</p>

	<p>must ensure the promotion of stakeholders' involvement.</p> <p>The French Ministry for an ecological and solidary transition is responsible for planning the maritime space at national scale, while at regional tier four directorates for the sea are responsible for the East Channel, West Channel, South Atlantic, and Mediterranean. Four sea basin strategy planning documents for the four regional seas have been formulated by 2018 and subjected to public consultation in 2019 (Ministère de la Transition écologique et solidaire, no date). The actual plans, covering the outer space of 200 nautical miles, are expected to enter into force in 2021. These documents specify the conditions for implementing the national strategy according to local specificities.</p>	<p>Under the axis "Support and optimise initiatives and remove obstacles", goal is to assist development of traditional activities towards sustainable and resilient models. Traditional sectors in the maritime and coastal economy such as fisheries and aquaculture should be helped to achieve sustainability by promoting their transformation and their economic competitiveness. In addition, recreational boating should be supported because of the high attractiveness of the coast, landscapes and maritime heritage.</p>
Denmark	<p>Denmark does not have a comprehensive spatial plan for its seas. However, a range of sectoral plans exist (e.g. energy infrastructure, fisheries, nature protection, etc.), and these will comprise key input to the coming maritime spatial plan. The Danish Parliament has adopted in 2016 the Act on Maritime Spatial Planning (Act 615/2016), which contains provision for implementing the Directive 2014/89 EU. The coming national spatial plan (expected in 2021) will apply to the marine internal waters, territorial sea and the EEZ (EU MSP platform, 2019d).</p> <p>The proposed model for spatial planning consists of two designation categories: general use zone; and reserved development zone. The general use zone is the default zone-type, which can include any activities that does not require fixed installations/structures (activities such as sailing, fishing, recreational activities, and tourism).</p> <p>The marine planning process is being delivered under the principles of the ecosystem-based approach, with emphasis on land-sea interaction. In fact, municipalities reaching the coastline are not only in charge of terrestrial planning, but they can plan for certain uses in coastal waters. Other principles followed to prepare the plans are broad stakeholders'</p>	<p>The Act on Maritime Spatial Planning contributes to sustainable development in the energy sector, maritime transport, fishing and aquaculture, extraction of raw materials from the sea, and preservation, protection and improvement of the environment. There is not explicit mention to cultural heritage. However, the Planning Act has special rules for planning in coastal areas that can facilitate the protection of CH. For instance, Denmark's coastal areas are to be kept as free as possible of development and installations that do not need to be located near the coast (Danish Ministry of the Environment, 2007), and the coming national marine plan will have to be integrated with coastal plans with the aim to facilitate the protection of coastal and maritime heritage.</p>

	involvement and trans-boundary cooperation (countries adhering to OSPAR and HELCOM conventions).	
The Netherlands	<p>The Dutch Ministry of Infrastructure and Water Management is responsible for coordinating integrated North Sea policy and management, and thus MSP. The Interdepartmental Directors' Consultative Body North Sea supports the Minister when it comes to elaborating the Integrated North Sea Policy, and is considered to be the lead planning agency (EU MSP platform, 2019f).</p> <p>The National Water Plan provides a policy framework for MSP based on the Water Act and includes the Policy Document for the North Sea 2016-2021 (Dutch Ministry of Infrastructures and Water Management, 2016). The latter document sets out the framework for the spatial use of the North Sea. It applies to the Dutch EEZ and the non-administratively classified Territorial Sea (EU MSP platform, 2019f).</p> <p>The Policy Document includes the integrated maritime spatial policy map, along with the Marine Strategy for the Dutch Part of the North Sea for the period 2012-2020, a programme of measures to achieve the desired good environmental status by 2020. The priority activities of national interest are oil and gas, shipping, sand extraction, cable and pipelines, fishing and aquaculture, renewable energy, tourism and defence. Protection of archaeological values is considered one of the national spatial challenges for the North Sea and the Policy Document for the North Sea (2016-2021) contains information on the underwater cultural heritage.</p> <p>The implementation of the plan is carried out taking into consideration the interaction between land and sea, and between users within the country and with neighbouring countries. During the process of formulating the Draft Policy Document, stakeholders representing users of the seas and environmental NGOs were informed on the scope of the</p>	<p>The Policy Document for the North Sea 2016-2021 (Dutch Ministry of Infrastructures and Water Management, 2016) contains information on underwater cultural heritage, in particular shipwrecks whose protection is stated in the Malta Convention (1992). The latter considers archaeological heritage as a source of European common memory and as a resource for historical and scientific study.</p> <p>The Policy Document for the North Sea 2016-2021 requires positioning cultural heritage in spatial development (inventories in the space). The conservation of underwater cultural heritage is considered when taking spatial planning decisions on marine activities. Items of archaeological and cultural-historical value are considered in the EIA process and in granting permits for projects development in the North Sea such as mining.</p>

	document and consulted on specific issues (EU MSP platform, 2019f).	
Greece	<p>Greece has always had a sectorial approach to maritime spatial planning (with the exception of the two marine national parks of Zakynthos and Alonnisos, whose management plans were the first to use a place-based planning approach) (Papageorgiou, 2019).</p> <p>There is not yet a legally binding national MSP plan in Greece. MSP issues are addressed in Special Frameworks for Spatial Planning covering specific sectors. In particular, the sectoral plans to date elaborated are specifically addressing aquaculture and tourism (the latter under modification) sectors. Additionally, the Special Framework for Renewable Energy sets the strategic guidelines for offshore wind parks development (EU MSP platform, 2019e).</p> <p>Law 4546 (GG 101/A/12-June-2018) transposes the EU MSP Directive (2014/89) into the Greek legal system. The main responsibility for (Maritime) Spatial Planning at the national and regional levels lies within the competences of the Ministry of Environment and Energy that is currently partner in the pilot project THAL-CHOR 2 (ΘΑΛ-ΧΩΡ 2) (9/2018-8/2021) funded in the framework of Interreg V-A "Greece-Cyprus 2014-2020". A key deliverable of this project will be the formulation of National Spatial Planning Strategy for marine space and a maritime spatial plan for a specific insular area (EU MSP platform, 2019e).</p>	<p>MSP will holistically encompass uses such as marine protected areas, fisheries and aquaculture, coastal and sea tourism, cruise, yachting, seaports, under water cultural heritage, shipping, oil and gas, military areas. The orientation of MSP from a sectorial-based approach to a place-based approach (limiting user-user and user-environment conflicts) should ensure better organization and regulation of maritime activities that may directly or indirectly affect underwater cultural heritage (Papageorgiou, 2019).</p> <p>The sectoral law (3028/2002) is dealing with the protection of national heritage, both tangible and intangible, of all periods, regardless of their location (even in areas beyond the national jurisdiction). The law introduces protection zoning for assets found both on land and under the sea. Two protection zones were introduced: zone A that delimitates the area of the monument or archaeological site, where strict protection must be guaranteed; and zone B, a buffer zone where planning must include land-use restrictions and regulations, ensuring that the monument is protected from any kind of visual, aural, and olfactory nuisance (Papageorgiou, 2019)</p>
Malta	<p>Spatial planning in Malta is regulated by the Development Planning Act (2010), amended in 2016 that also addresses development at sea. The Strategic Plan for Environment and Development (SPED, 2015) is the overarching document for planning issues on land and at sea in an integrated manner (EU MSP platform, 2019g). Development within 12nm is identified and regulated by the Planning system entrusted to the Planning Authority, while marine uses such as fisheries, navigation,</p>	<p>SPED (2015) considers the built heritage, archaeological remains and cultural landscape an asset to be protected from the expansion of built areas, industrial and coastal development and human activities. In addition, to traditional marine activities (fishing and aquaculture in particular), SPED recognises social and cultural importance of heritage that far outweighs its economic contribution to the national GDP. Amongst the several policies adopted in the SPED, one of the thematic</p>

	<p>tourism, etc. are governed by the relative governing bodies (EU MSP platform, 2019g).</p> <p>The Planning Authority has a Council and a Technical Committee expected to provide support and make recommendations to the Council on policy development, licensing and permitting, data management stakeholders' engagement and international cooperation. The main regulatory entities involved in MSP include the Department of Fisheries and Aquaculture, the Environment and Resources Authority, Transport Malta, the superintendence of Cultural Heritage and the Continental Shelf Department (EU MSP platform, 2019g).</p> <p>The SPED formulates the strategic spatial policy framework for environment and development up to 2020, covering coastal and marine zones (up to 25 nautical miles), thus facilitating the land-sea interactions. This plan takes over the structure plan adopted in 1992 developed in a context where development was undertaken without strategic guidance and with no serious consideration of its impacts on the environment (SPED, 2015). With the introduction of SPED, land use planning has been broadened to encompass the concept of spatial planning that translates economic, social, cultural and environmental policies in a geographical context. SPED is now leading an ICZM strategy, previously addressing only land uses, towards the integration of land and sea policies. The new policy direction is aimed at prioritising legitimate coastal uses, minimising user conflict, protecting biodiversity, cultural heritage, landscapes, and public access, safeguarding against coastal erosion, and increasing resilience to climate change impacts.</p>	<p>objectives is to enhance biodiversity and cultural heritage by re-appraising the value of the character of sites designated for their built heritage, by controlling activities, which might have an impact on lands, buildings, built infrastructures, and by avoiding the demolitions of scheduled buildings.</p> <p>The coastal strategy (Planning Authority, 2002) promotes land-use zoning scheme to direct a new development that is not encroaching coastal and marine habitats and biodiversity, and is not hampering cultural heritage and its visual access. The typologies of coastal areas where to predominantly safeguard heritage and landscape are the rural coast and the marine environment (up to 12 nautical miles).</p>
Estonia	<p>Marine waters are public under the Water Act of Estonia. They are owned by the states and local authorities do not have rights at sea. Planning on land and in marine waters is regulated by the Estonian Planning Act (2015). There are two pilot marine plans initiated as a result</p>	<p>The two current regional pilot plans consider amongst others under water cultural heritage protection.</p> <p>Cultural heritage is diverse in different areas of the country and is related to different aspects of the local communities. Coastal waters</p>

<p>of the BaltSeaPlan (EU MSP platform, 2019h) and promoted at regional (county) scale. The two county plans are legally binding. However, with the adoption of the Estonian Planning Act (2015), maritime spatial planning will be carried out at the state level and the two county plans will be absorbed by the coming national plan.</p> <p>Currently there is not any binding national plan. A draft has been produced in 2019 for consultation. The final plan will cover both the territorial waters and the EEZ (Rahandusministeerium, 2019). Subjects covered in the MSP are infrastructure (e.g. for energy, transport), sustainable use of fisheries, marine protected areas and measures for maintaining the good and healthy status of the environment.</p> <p>The two current regional plans have been inspired by the ecosystem-based approach and aim to guarantee the co-existence of uses. In addition, the solutions for reducing conflicts among uses have been guaranteed by an ample stakeholders' involvement through ad-hoc stakeholder groups, conferences and workshops, online public consultation, and formal comment procedures. The two plans do not cover terrestrial areas and do not set any legally binding terms for the land areas. They state the need for developing an ICZM scheme that is under development in the initiative SustainBaltic (2018).</p> <p>The current main uses considered in the plans are shipping and fisheries. Future uses that will be considered in the national plan will be shipping, renewable energy, cables/pipelines, protection and tourism, and aquaculture.</p>	<p>include both valuable landscapes (e.g. Neugrund shallow), wreck-abundant areas as well as marine areas used for water sports. According to these variegated cultural resources, the national plan will implement different policies for the protection of cultural aspects according to their locations, pondering how the decisions affect the local community whose well-being, income and identity depends on the coast and sea (Rahandusministeerium, 2019).</p> <p>Shipwrecks make up the largest part of the cultural heritage in the marine area of Baltic: 41 of 380 archaeological shipwrecks have the status of cultural monuments. Spatial priorities is the coexistence of traditional and new marine culture, such as the reinforcement of traditional harbour culture and the planning of diving parks to facilitate the visitation of wrecks (Rahandusministeerium, 2019).</p>
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8. Methods: assessing the level of integration of cultural heritage in ICMZ and MSP

This section proposes an approach based on a checklist of qualitative indicators to depict the level of integration of CH management within ICZM and MSP. The ICZM indicators proposed by the EU ICZM working group on indicators (WGID, 2003) have been adapted to emphasise the role of CH in coastal management and the three dimensions (environmental, social and economic) relating ICZM to CH as illustrated by Khakzad et al. (2015). This new set of indicators is divided in four phases (or groups) and to each indicator is associated the ICZM principle that the indicator is supposed to abide by (Table 3). The first group contains a set of indicators to depict if planning and management of cultural heritage are taking place in the coastal zone. These indicators explore the presence of legal instruments, planning tools and *ad hoc* actions tailored to the specific context. The second group reports indicators exploring the presence of ICZM strategies delivering cultural heritage protection. In particular, the presence of guidelines, policies and programmes for the coast linked to management plan for cultural heritage, as well as formal mechanisms for interested parties to collaborate at least occasionally, is considered. The third group is about integrated approaches for cultural heritage within a consolidated ICZM strategy. Here indicators explore the presence of a full stocktaking of coastal and marine stakeholders, open channel of communication between stakeholders, and community engagement facilitation. In addition, it is inspected if cultural heritage planning is ensured within standard land use planning process. The last group of indicators investigates if adaptive and integrative processes are delivering: 1) sustainable use of the coast with the presence of effective political and financial support for cultural heritage and ICZM; 2) routine cooperation across users including cultural heritage stakeholders; 3) consideration into ICZM strategies of natural, social, and economic aspects of managing cultural heritage; 4) constant revision of CH policies embedded in coastal zone management to achieve long run sustainable use of cultural heritage. These indicators are reported in Table 3. In the questionnaire survey, it is specified that the proposed indicators for the management of CH in ICZM and MSP have been designed to depict how CH informs and is informed by the natural environment and generates positive impacts on society such as recreational and cultural experiences. In particular, when the indicator introduces the term “CH management”, it generally refers to a series of interventions such as technical projects, valuation or risk assessment, surveillance and monitoring. More specifically, for the built and archaeological heritage, these interventions refer to research, recording, designation, reconstruction, removal, etc. The interviewee is advised to specify if the indicator is achieved, not achieved or partially achieved, according to the knowledge she has in her operational field and the practical experience matured in dealing with policies, programmes, and relationships with stakeholders, etc. Each interviewee is also asked to specify the scale of operation (national, regional or local), the role performed in her working activities, and the type of management intervention on CH so far implemented. In total, we have tested the checklist with four partners from which we have received one observation each. For Northern Ireland, observations have been provided by the Queen’s University of Belfast that has combined answers from NGOs and Government departments (PERICLES Deliverable D5.1). Two replies are provided by the marine spatial planning unit of the University of Aveiro (Portugal) and Aalborg (Denmark) that have filled the checklist providing a national scale

perspective based on personal knowledge of coastal and marine related policies. Finally, we have the regional perspective provided for the Shetland (Scotland, UK) by NAFC Marine Centre (University of Highlands and Islands).

Table 3: Indicators for the management of cultural heritage in relation to ICZM and MSP

ICZM principle	Indicators for the management of Cultural Heritage (CH) in relation to ICZM and MSP	Achieved - YES Not achieved- NO Partially achieved - P
1. Planning and management of CH are taking place in the coastal zone		
P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other coastal/marine uses	
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	
P6	CH and other coastal and marine stakeholders meet on ad hoc basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	
2. A framework exists for taking CH management into ICZM strategy		
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that directly or indirectly affect CH	
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH conservation	
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural heritage (tangible and/or intangible) is in place	
3. Most approaches for CH management within ICZM context are in place		
P1- P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	

P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	
P6 - P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH, and coastal uses at all levels of government (horizontal and vertical coordination)	
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	
P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	
4. Efficient, adaptive, integrative process is delivering sustainable use of the coast		
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	
P1-P2	CH management encourages the development of sustainable strategies that take consideration of benefits for future generations	
P7	Cooperation across coastal and marine users including CH planners and managers is regular	
P1-P2- P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	
P2-P3- P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review plan/programme	
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and marine zone	

Source: our elaboration

ICZM Principles [Recommendation 2002/413/EC]

P1: broad overall perspective	P5: work with natural processes
P2: Long-term perspective	P6: involve all parties concerned (agreements)
P3: Adaptive management	P7: support and involve relevant admin. bodies (partnerships)
P4: Specific solutions and flexible measures	P8: use a combination of instruments

9. Results

The answers received show a higher number of positive (“Y”) replies (achieved indicator) from Portugal, followed by Northern Ireland and Scotland, while the highest number of negative answers (“N”) is provided by the Northern Ireland. Denmark and Scotland are the country with the least number of positive answers but with the highest number of partially achieved responses (“P”). Considering that the 28 indicators (divided in 4 groups) show different levels of maturity in the evolution of ICZM, it is not surprising that we obtained a higher number of positive replies in the first group (*Planning and management of CH are taking place in the coastal zone*). In particular, the three most mentioned indicators are the presence of independent legal tools for coastal and CH management, a planning system that includes not only statutory protection for the natural environment but also for CH, and the recording of natural, social and economic indicators for CH decision making. In the second group (*A framework exists for taking CH management into ICZM*), indicators commonly selected are the presence of ICZM guidelines advising on potential impacts on CH conservation and the presence of coastal policies addressing not only physical planning, but also CH management (the latter achieved by Portugal and Northern Ireland, but in progress for the other two countries). In the third group of indicators (*Most approaches for CH management within ICZM context are in place*), the most cited approaches are the strategic environmental assessment to measure the impact of policies and plans on CH management and the integration of CH management in coastal or marine planning. It is relevant to observe that CH stakeholders and other relevant parties involved in ICZM are identified. Within the last group (*Efficient, adaptive, integrative process in delivering sustainable use of the coast*), the most cited indicator is the regular cooperation across coastal and marine users. The least mentioned indicators make part of the group 3 and 4, as expected. In particular, under the third group is evident the lack of open channels of communication between levels of government. Under the fourth group, it is reported the lack of an effective political and financial support in the ICZM process and the lack of a commitment to review plan/programmes in implementing CH strategies. The indicator relating to a stocktaking of responsibility in coastal management (in the second group) has also received a negative reply. Amongst the indicators in progress, it is commonly mentioned the development of tools for CH management that are flexible enough to consider coastal issues such as erosion, pollution, conflict for space (second set of indicators), and a sustainable strategy for the coast which considers natural dynamics of the coast into CH management. Not yet fulfilled are the indicators manifesting consolidated mechanisms for communications and exchange of information between stakeholders, and the formulation of adaptive

strategies (local solutions) for CH conservation. In progress is also the status of those indicators showing natural, social and economic aspects of the coast when dealing with CH management.

Some indicators mark a big departure between the piloted countries. Portugal is characterised by the presence of channels of communications between institutions and the recognition of natural processes and economic indicators in CH management strategies. Northern Ireland is the country better addressing future sustainability by mentioning future generations in relation to natural and cultural heritage. Conversely, Denmark and Scotland show some progress towards the formulation of mechanisms (e.g. coastal partnerships) that facilitate stakeholders to provide input for CH protection. Finally, the Shetlands are the only pilot case that mentioned the review of marine plans and programmes as a stated objective.

With regard to the principles informing the indicators selected in the first and second group, we can find a relevant presence of the first (broad overall perspective), the second (long-term perspective), and the eighth (use a combination of instruments). This is not reflected in the indicators mentioned in the third and fourth group that mainly mirror the third (adaptive management), fifth (work with natural processes) and sixth (involve all parties concerned) principle. The indicators linked to the seventh principle are the least represented in the set of answers received. From the pilot test, it seems that the current CH management reflects a broad perspective and long-term vision and is supported by the implementation of a series of instruments to facilitate integration with other sectors and policies. However, the lack of support and coordination at vertical and horizontal scale by public bodies and mechanisms that facilitate the exchange of information seems quite relevant.

Table 4: Answers to the checklist provided by Northern Ireland (NI), Portugal (PT) and Denmark (DK).

Legend: "Y" means that indicator is achieved; "N" that the indicator is not achieved; "P" means in progress.

In green are highlighted the most selected indicators; in amber the highest number of in progress indicators; and in red the least selected indicators

ICZM principle	indicator	NI	DK	PT	SC	Total Y	Total N	Total P
	1. Planning and management of CH are taking place in the coastal zone							
P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other coastal/marine uses	Y	P	Y	Y	3	0	1
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	N	Y	Y	Y	2	1	0
P6	CH and other coastal and marine stakeholders meet on <i>ad hoc</i> basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	Y	P			1	0	1
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	Y	N	Y	Y	3	1	0
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	Y	Y	Y	Y	4	0	0
	2. A framework exists for taking CH management into ICZM strategy							
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	Y	P	Y	Y	3	0	1
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	Y	P	Y	P	2	0	2
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	N		N		0	2	0
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that directly or indirectly affect CH	N	P		P	0	1	2
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH conservation	N		P		0	1	1
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural (tangible and/or intangible) heritage is in place	Y	P	P	P	1	0	3
	3. Most approaches for CH management within ICZM context are in place							
P1-P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	P	Y	Y	Y	3	0	1
P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	P	N	Y	Y	2	1	1
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	P	P	Y	Y	2	0	2
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	Y	P	Y	Y	3	0	1
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	Y	P	Y	Y	3	0	1
P6-P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH coastal uses at all levels of government (horizontal and vertical coordination)	N	N	Y	P	1	2	1
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	N	P		P	0	1	2
P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	N		P		0	1	1
	4. Efficient, adaptive, integrative process is delivering sustainable use of the coast							
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	N	N		P	0	2	1
P1-P2	CH management encourages the development of sustainable strategies that take consideration benefits for future generations	Y	P		P	1	0	2
P7	Cooperation across coastal and marine users including CH planners and managers is regular	Y	N	Y	P	2	1	1
P1-P2-P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	P	P	Y	P	1	0	3
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	N	P		P	0	1	2
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	N	P	Y	P	1	1	2
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	P	N		P	0	1	2
P2-P3-P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review plan/programme	N	N		Y	1	2	0
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and marine zone	N	P		P	0	1	2
	total YES	11	2	15	11			
	total No	12	7	0	1			
	total P	5	14	1	15			

10. Summary of findings and conclusions

There are not many examples of CH management implemented within the ICZM framework. First attempts date back to the beginning of the 2000s from Southern European countries (Vallega, 2003; Callegari, 2003; Khakzad et al., 2015). From a review of ICZM strategies implemented in the PERICLES countries, Portugal has been the first to develop a set of coastal plans focussing on cultural heritage (Taveira-Pino, 2004), while Estonia started addressing the issues of integrated coastal management only recently pointing on high level of stakeholders engagement. This is preferably organised in a transboundary context with Finland, with the aim to map and promote CH-rich landscape for promoting the development of recreational economy. There is not any inclusion of CH management in the early regulatory ICZM approaches developed by France, while more recently this relation has been evidenced in the National Strategy for the Sea and Coast (Ministry for an ecological and solidary transition, 2017). The UK Marine Policy Statement (HM Government, 2011) mentions the need to appreciate the diversity of the marine environment and seascape and the cultural heritage, but the UK ICZM voluntary initiatives (carried out mainly at local scales) have focussed largely on environmental rather than cultural aspects. Similar considerations can be made for The Netherlands, where the UNESCO classification of coastal landscapes (e.g. dunes) is mainly achieved by virtue of their ecological importance (e.g. the Dutch Wadden Sea). In addition, until recently, the connection between natural, nature-based-tourism and lived heritage as promoted by UNESCO was considered not achieved as stakeholders seem to remain in their own camps (The EU recommendation concerning ICZM, 2010). If Greece has proposed ICZM initiatives since the EU demonstration programme on ICZM, it has never developed a coherent ICMZ strategy. Similar considerations can be made for Denmark, where the Planning Act, requiring coastal areas to be kept free of development installations, is not drafted on holistic coastal policies (Anker et al., 2004). Conversely, Malta pointed on CH management within the planning process (Planning Authority, 2002) to promote land use zoning protecting coastal and marine habitats, biodiversity and cultural heritage.

The integration of CH with coastal and marine policies seems more promising under the MSP Directive that requires to implement plans for the sea coordinated (where available) with coastal ICZM policies. Although none of the PERICLES countries has completed the formulation of a binding national marine plan (deadline for all EU maritime countries is 2021), care is taken to include cultural heritage as coastal/marine use and implications for management. For example, the UK Marine Policy Statement (HM Government, 2011) asserts that heritage must be conserved through marine planning in a manner appropriate to their significance. Harm or loss to CH caused by development should be justified only to achieve substantial socio-economic benefits. Other PERICLES countries have also designed national policies addressing the integration of marine uses and CH, as reported in Table 3, and spatial considerations of a broad set of marine uses are under formulation. In Portugal, the “situation plan” identifies the spatial and temporal distribution of uses, considering cultural values of strategic relevance to achieve sustainability (DGRM, 2018). France and UK are addressing marine planning at different scales, promoting also the development of specific plans for regional seas. Denmark is moving towards the integration of the current marine sectoral plans into a maritime spatial plan defining “general uses of the sea” (for example navigation) and “reserved areas” for fixed installations (for example renewable energy). However, amongst the uses, no specific mention is made of CH and integration with coastal policies. The Netherlands, in the Policy Document for the North Sea 2016-2021, propose an integrated map of maritime uses with consideration for underwater cultural heritage, in

particular shipwrecks that must be spatially georeferenced in inventories. Strong protection of underwater cultural heritage is also advocated by Greece that promotes zoning of the area surrounded by the heritage, while maritime spatial plans are available only for specific sectors such as aquaculture and tourism. Malta has developed a strategic plan for environment and development (SPED, 2015) that addresses coastal and marine development up to 25 nautical miles and includes built heritage, archaeological remains and cultural landscape. Finally, Estonia is currently undertaking marine planning at regional scale: there are two pilot marine plans originated by the “BaltSeaPlan” project (EU MSP platform, 2019h), both covering amongst others under water cultural heritage, but they will be replaced by a national plan as stated in the Planning Act (2015). These examples show that the compelling MSP Directive is facilitating the integration of uses within the marine environment (sometimes integrating land and marine planning as it happens for Malta) with attention to both land and underwater heritage.

The pilot test has provided further evidence (at national scale for Northern Ireland, Portugal and Denmark, and at regional scale for the Shetland Island (Scotland)) of the integration of CH in ICZM/MSP policies and the adherence to the eight ICMZ principles proposed by the Recommendation 2002/413/EC. Portugal, Scotland and Northern Ireland are the countries fulfilling the highest number of indicators, while Denmark shows mainly a “working progress” situation, reflecting a limited level of maturity in the ICMZ formation as also depicted in the ICZM outline provided in the Table 1. Nearly all the indicators making part of the first group, showing some types of planning and management strategies for CH in the coastal zone, are mentioned. The accomplished indicators reveal largely the availability of legal frameworks for the protection of both CH and natural assets, the consideration of land dynamics for CH decision making and land use planning that includes protection strategies for CH. The latter indicator is mentioned by all countries. Guidelines for coastal management and integrated policies (considering also consequence on CH) are also available for the piloted countries with the exclusion of Denmark. For example, the policy “Towards an ICZM Strategy for Northern Ireland 2006-2026” (Northern Ireland Executive, 2016, cited by the PERICLES Deliverable 5.1) includes commitment to the preservation, maintenance and enhancement and promotion of natural and built resources through legislation, good practice mechanisms and through the concern and interest of the public, Government, and industry. Overall, several indicators provide a picture of CH integrated with regular planning process rather than operating as isolated entities, reflecting a “broad overall perspective” of coastal management processes. For instance, Northern Ireland has a series of Planning Policy Statements (PPS) that relate to cultural heritage. PPS 16 protects tourism assets, including those not already subject to protection, from development that would cause an adverse impact; PPS 6 provides specific protection to cultural heritage assets belonging to the built environment; and PPS 23 regulates development permission in those circumstances where it is expected to bring significant long-term benefits and when conservation is unviable (for more details and reference see PERICLES Deliverable D5.1). Tools like SEA are also used to examine effects of coastal and marine plans (sectoral or integrated) on CH. However, some fundamentals that could facilitate CH management into a full ICZM initiative are not yet verified. For example, referring to the Khakzad et al. (2015) integrative framework for the evaluation of coastal cultural heritage, inclusivity of natural, social and economic dimensions within CH management is far from being achieved, with Portugal willing to consider mainly recreational (economic) aspects, and Denmark and Scotland showing working progress solutions for all the three dimensions. Furthermore, the limited use of informal and formal mechanisms (partnerships/forums) facilitating stakeholders’ interventions, the lack of coordination between government bodies or other mechanisms legitimating community voice are limiting the possibility of a

transition to an ICMZ participatory approach. The policy formation analysed in the deliverable D5.1 suggests that dominant actors in policymaking are similar across the PERICLES regions and that in the majority of cases, policy is government-led, or led by the organisation commissioning it. Top-down approaches prevail, although they are often supplemented by expert input and at least some forms of public consultation. There is evidence of a shift towards more participatory and increasingly deliberative approaches in Northern Ireland encouraging partnerships and participatory processes (as evidenced by PERICLES Deliverable D5.1), however this is not well captured by the checklist where a more formal presence of mechanisms for the participation of stakeholders and community to coastal and marine governance is requested. Similar situation is characterising the other countries: Portugal has not provided any reply to these indicators and according to the policy formation analysis (PERICLES deliverable D5.1) is making use of public consultations through partnerships/forums only after plans have been shaped. The checklist also shows that Denmark and Scotland have not yet a full implementation of mechanisms for stakeholders and community participation. The latter approaches would be necessary to guarantee a shift from 'government' to 'governance', to compliment top-down state-led forms of steering with forms of collaboration that leads to more effective solutions (PERICLES Deliverable D2.4) and underpin an effective multi-actor framework for cultural heritage in key policy and planning arenas (PERICLES Deliverable D5.1).

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Appendix I: replies from the pilot regions

The following checklist proposes indicators for the management of cultural heritage (CH) in relation to Integrated Coastal Zone Management (ICZM) and Marine Spatial Planning (MSP). CH in this context is seen as physical asset having strong relation with the natural environment. CH informs and is informed by the natural environment and generates positive impacts on society such as recreational and cultural experience. CH management refers to a vast series of interventions such as technical projects, valuation or risk assessment, surveillance, monitoring, and for built and archaeological heritage, research, recording, designation, reconstruction, removal, etc.

The interviewee replied according to the knowledge that she has in her operational field and the practical experience matured in delivering her role especially when dealing with policies, programmes, relationship with stakeholders, etc.

Country: Northern Ireland

Institution: Combined answers – NGOs, Govt. departments

Type of management intervention on CH: Various

Checklist refers to CH management at:

1. Local scale
2. Regional scale
3. National scale X

ICZM principle	Indicators for the management of Cultural Heritage (CH) in relation to ICZM and MSP	Integration between CH and ICZM – Achieved - YES Not achieved- NO Partially achieved - P
<i>1. Planning and management of CH are taking place in the coastal zone</i>		
P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other coastal/marine uses	Y
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	N
P6	CH and other coastal and marine stakeholders meet on ad hoc basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	Y
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of	Y

	the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	Y
2. A framework exists for taking CH management into ICZM strategy		
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	Y
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	Y
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	N
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that directly or indirectly affect CH	N
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH conservation	N
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural (tangible and/or intangible) is in place	Y
3. Most approaches for CH management within ICZM context are in place		
P1- P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	P
P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	P
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	P
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	Y
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	Y
P6 - P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH coastal uses at all levels of government (horizontal and vertical coordination)	N
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	N
P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	N
4. Efficient, adaptive, integrative process is delivering sustainable use of the coast		
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	N
P1-P2	CH management encourages the development of sustainable strategies that take consideration benefits for future generations	Y
P7	Cooperation across coastal and marine users including CH planners and	Y

	managers is regular	
P1-P2-P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	P
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	P
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	N
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	P
P2-P3-P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review plan/programme	N
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and marine zone	N

ICZM Principles [Recommendation 2002/413/EC]

P1: broad overall perspective	P5: work with natural processes
P2: Long-term perspective	P6: involve all parties concerned (agreements)
P3: Adaptive management	P7: support and involve relevant admin. bodies (partnerships)
P4: Specific solutions and flexible measures	P8: use a combination of instruments

Country: Portugal

Institution: CESAM & Universidade de Aveiro

Type of management intervention on CH: MSP

Checklist refers to CH management at:

1. Local scale ___
2. Regional scale ___
3. National scale X

ICZM principle	Indicators for the management of Cultural Heritage (CH) in relation to ICZM and MSP	Integration between CH and ICZM – Achieved - YES Not achieved- NO Partially achieved - P
<i>1. Planning and management of CH are taking place in the coastal zone</i>		
P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other coastal/marine uses	YES
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	YES Spatial information on underwater CH is available in the scope of MSP.
P6	CH and other coastal and marine stakeholders meet on ad hoc basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	YES In the scope of MSP, the underwater CH has been identified and mapped. As they are administrative easement areas, new uses and activities may be limited or restricted in these areas.
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	YES, in the sense that underwater CH is an administrative easement.
<i>2. A framework exists for taking CH management into ICZM strategy</i>		
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	YES
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	YES MSP integrates the national legal framework and international commitments regarding CH. It identifies conflicting uses and activities with CH and defines a set of good practices when exploiting these areas (e.g., for scientific research, visits to underwater archaeological sites)
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that	? MSP can be seen as a tool for managing space conflicts, and underwater CH are integrated. But I wouldn't characterize it as

	directly or indirectly affect CH	a tool for CH conservation
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH conservation	? During the elaboration of the MSP, 6 working groups were created to support this process. One of them was concerning "Recreation, Sports, Tourism, Underwater Cultural Heritage and Shipwrecks" and included the Directorate General for Cultural Heritage (DGPC, Direção-Geral do Património Cultural), among others.
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural (tangible and/or intangible) is in place	YES/P The first objective of the Sea Strategy (2013-2020) is to reaffirm the national maritime identity in a modern, proactive and entrepreneurial framework
3. Most approaches for CH management within ICZM context are in place		
P1- P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	YES
P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	YES Underwater CH is an administrative easement in MSP.
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	YES MSP identifies and maps the underwater CH. Underwater CH is an administrative easement and may limit or restrict certain uses and activities. MSP identifies conflicting uses and activities with CH, and defines a set of good practices when exploiting these areas (e.g., for scientific research, visits to underwater archaeological sites).
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	YES
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	YES
P6 - P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH coastal uses at all levels of government (horizontal and vertical coordination)	YES
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	

P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	
4. Efficient, adaptive, integrative process is delivering sustainable use of the coast		
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	YES? There are national strategies, as well as plans and programmes concerning coastal zone and maritime space. They have been developed and implemented, therefore I would say YES...
P1-P2	CH management encourages the development of sustainable strategies that take consideration benefits for future generations	
P7	Cooperation across coastal and marine users including CH planners and managers is regular	YES The planning process (e.g. MSP and ICZM) is usually multidisciplinary, involving several (or all) interested parties (e.g., sectors of activity, nature conservation, CH, health)
P1-P2- P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	YES
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	I don't know
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	Tourism related indicators, YES. Non-use values, I don't think so.
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	YES? The MSP in an adaptive process. Regarding CH, it needs to be adapted in case new underwater sites are found, for example
P2-P3- P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review plan/programme	YES? The MSP may be amended at any time by several reasons, namely the creation of new administrative easements (where underwater CH are integrated).
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and	

	marine zone	
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ICZM Principles [Recommendation 2002/413/EC]

P1: broad overall perspective	P5: work with natural processes
P2: Long-term perspective	P6: involve all parties concerned (agreements)
P3: Adaptive management	P7: support and involve relevant admin. bodies (partnerships)
P4: Specific solutions and flexible measures	P8: use a combination of instruments

Country: Denmark

Institution: Aalborg University

Type of management intervention on CH: Mostly through planning authorities

Checklist refers to CH management at:

1. Local scale X
2. Regional scale_(not existing)
3. National scale X

PLEASE OBSERVE: It should be noted that ICZM has not officially been implemented in Denmark. This is mostly due to the fact that there is a strong distinction between planning on land (municipalities and the national authorities) and strategies and plans at sea (national authorities). Integration between land-based and sea-based planning is very limited in Denmark. Hence, coastal zone planning is land-based in Denmark, while at sea we talk of marine spatial planning and blue growth strategies.

ICZM principle	Indicators for the management of Cultural Heritage (CH) in relation to ICZM and MSP	Integration between CH and ICZM – Achieved - YES Not achieved- NO Partially achieved - P
<i>1. Planning and management of CH are taking place in the coastal zone</i>		

P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other coastal/marine uses	P
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	?? (What is meant by spatial coverage?)
P6	CH and other coastal and marine stakeholders meet on ad hoc basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	P
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	NO
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	YES (on land)
2. A framework exists for taking CH management into ICZM strategy		
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	P (on land)
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	P (on land)
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	?? Stocktake?
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that directly or indirectly affect CH	P
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH conservation	?? (sorry, this is contradictory and too vague)
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural (tangible and/or intangible) is in place	P (emerging in some places)
3. Most approaches for CH management within ICZM context are in place		
P1- P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	YES (on land)
P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	NO (not when following EUs ICZM account)
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	P (on land)
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	P
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	P
P6 - P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH coastal	NO

	uses at all levels of government (horizontal and vertical coordination)	
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	P
P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	P
4. Efficient, adaptive, integrative process is delivering sustainable use of the coast		
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	NO
P1-P2	CH management encourages the development of sustainable strategies that take consideration benefits for future generations	P
P7	Cooperation across coastal and marine users including CH planners and managers is regular	NO
P1-P2-P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	P
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	P (however in general very little)
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	P (very little, but increasingly)
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	NO
P2-P3-P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review plan/programme	NO
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and marine zone	P (at best)

ICZM Principles [Recommendation 2002/413/EC]

P1: broad overall perspective	P5: work with natural processes
P2: Long-term perspective	P6: involve all parties concerned (agreements)
P3: Adaptive management	P7: support and involve relevant admin. bodies (partnerships)
P4: Specific solutions and flexible measures	P8: use a combination of instruments

Country: UK (Scotland)

Institution: NAFC (University of Highlands and Islands)

Type of management intervention on CH: MSP

Checklist refers to CH management at:

1. Local scale____
2. Regional scale_X_
3. National scale___

ICZM principle	Indicators for the management of Cultural Heritage (CH) in relation to ICZM and MSP	Integration between CH and ICZM – Achieved - YES Not achieved- NO Partially achieved - P
<i>1. Planning and management of CH are taking place in the coastal zone</i>		
P8	There is a legal framework that is able to protect in an independent manner coastal and marine CH by specific legal instruments even if this is done without any explicit link to other costal/marine uses	Yes
P8	Spatial coverage of CH is available and operating in coastal area and/or at sea, but is not linked yet to coastal management	Yes but is linked to coastal management
P6	CH and other coastal and marine stakeholders meet on ad hoc basis (under voluntary approach) and have the chance to discuss coastal and marine issues also in relation to CH management	No on a formal basis but not at set intervals
P2-P3	Aspects of the coastal and marine zone, such as land and sea dynamics, erosion, water quality, etc., but also economic and social indicators of the local coastal zone (jobs, population density, average income, wellbeing, etc.) that can be relevant to formulate policy and manage CH are recorded and used in CH decision making	Yes
P1-P5	Planning on the coast includes not only the statutory protection of the natural environment, but also includes protecting strategies for CH	YES
<i>2. A framework exists for taking CH management into ICZM strategy</i>		
P4-P8	Guidelines have been produced by national, regional or local governments which advise on the management of the coast and takes into consideration effects/impacts on coastal and marine CH	Yes
P1-P2	Integrated coastal policies are available and address not only physical, developing and conservation planning strategies, but also CH management	P-room for improvement!
P6	A stocktake of coastal management, identifying who is responsible for what has been carried out, is available	No
P3-P8	Current tools used in CH conservation are flexible to consider coastal and marine management issues such as erosion, pollution, conflicts for space, etc., that directly or indirectly affect CH	P
P7	There is a formal mechanism whereby stakeholders meet in a non-systematic way to discuss a range of issues including CH	P

	conservation	
P1-P2	A sustainable development strategy for the coast that includes references to both natural and cultural (tangible and/or intangible) is in place	P
3. Most approaches for CH management within ICZM context are in place		
P1- P2	Integration of CH into coastal (terrestrial) planning and management is ensured within regular planning process rather than operating on their own as isolated entities	Yes
P1-P5	CH management is included in a statutory or non-statutory integrated coastal zone management	Yes
P8	Marine spatial planning is set and appropriate types of protection such as zoning or restriction are in place to protect CH on land and under water	Yes
P8	Strategic Environmental Assessment (SEA) is used to examine coastal management policies and or plans (for examples for Offshore Wind farm) that have an effect on CH	Yes
P6	CH stakeholders and other coastal relevant parties concerning the ICZM framework have been identified	Yes
P6 - P7	There are open channels of communication between those responsible for the conservation of coastal and marine CH coastal uses at all levels of government (horizontal and vertical coordination)	P
P7	Coastal partnerships or other mechanisms have been set up and allow local stakeholders to provide input. They are consulted routinely about coastal CH management in relation with other uses	P
P4-P6	Adequate mechanisms are in place to allow coastal communities to take a participative role, provide local knowledge and understanding of CH into the coastal management process	P
4. Efficient, adaptive, integrative process is delivering sustainable use of the coast		
P2	There is effective political and financial support in the ICZM process considering both natural and CH protection	P
P1-P2	CH management encourages the development of sustainable strategies that take consideration of benefits for future generations	Yes
P7	Cooperation across coastal and marine users including CH planners and managers is regular	P
P1-P2-P5-P8	CH management takes account of indicators relating to natural processes in the coastal and marine environment (sea level rise, coastal erosion, etc.) and anthropogenic impacts. These indicators are monitored	P
P4-P8	CH management takes account of social indicators such as the connection with the coastal communities, people wellbeing, sense of place, memory identity, etc. These indicators are monitored	P
P4-P8	CH management strategies take account of economic indicators with reference to recreational values such as tourism and non-use values such as existence and bequest values. These indicators are monitored	P
P3-P4	CH conservation strategies are based on adaptive management through evaluation and feedback of specific solutions (i.e. solutions reviewed and adjusted locally as problems and knowledge develop), in particular in relation to the evolution of the coastal zone	P
P2-P3-P7-P8	Review in implementing CH strategies embedded in coastal zone management is a clear stated object leading to a timely review	Y

	plan/programme	
P2-P5	Monitoring shows a trend towards sustainable use of CH in the coastal and marine zone	P

ICZM Principles [Recommendation 2002/413/EC]

P1: broad overall perspective	P5: work with natural processes
P2: Long-term perspective	P6: involve all parties concerned (agreements)
P3: Adaptive management	P7: support and involve relevant admin. bodies (partnerships)
P4: Specific solutions and flexible measures	P8: use a combination of instruments