Integrating Cultural Heritage into Maritime Spatial Planning in the BSR

Final publication of the Baltic Sea Region Integrated Maritime Cultural Heritage Management Project 2017-2020

BalticRIM
Interreg Baltic Sea Region
BalticRIM
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

Integrating cultural heritage into maritime spatial planning in the BSR
Final publication of the Baltic Sea Region Integrated Maritime Cultural Heritage Management Project (BalticRIM) 2017-2020

Editors:
Marianne Lehtimäki, Sallamaria Tikkanen and Riikka Tevali, Finnish Heritage Agency

Authors **in bold** and contributors:
Susanne Altvater, **Robert Aps**, **Leyla Bashirova**, **Nerijus Blazauskas**, **Larisa Danilova**, **Kristjan Herkül**, **Krista Karro**, Krzysztof Kurzyk, **Liisi Lees**, **Marianne Lehtimäki**, Paweł Litwinienko, **Matthias Maluck**, **Magdalena Matczak**, Joanna Pardus, Iwona Pomian, Janusz Różycki, **Mailis Roio**, **Lise Schrøder**, **Laura Seesmeri**, Łukasz Szydłowski, **Riikka Tevali**, **Sallamaria Tikkanen**, Jakub Turski, Joanna Witkowska, Kamila Zalesiak, **Jacek Zaucha**, **Vladas Zulkus**, **Daniel Zwick**.

Layout and graphic design: Mainostoimisto KMG Turku

Cover photo: Wreck of Korpoström Alf, Parainen, Finland. Photo: Maija Huttunen

Contact persons for the BalticRIM project: Matthias Maluck, Lead Partner State Archaeology Department of Schleswig-Holstein and Coordinator Susanne Altvater, s.Pro
Contact person for cultural heritage: Sallamaria Tikkanen, Finnish Heritage Agency
Contact person for MSP: Jacek Zaucha, University of Gdańsk
Contact person for BalticRIM Data Portal: Lise Schrøder, Aalborg University

Disclaimer: The publication is a result of the project "BalticRIM– Baltic Sea Region Integrated Maritime Cultural Heritage Management" (2017–2020). Part-financed by the European Union (European Regional Development Fund). Report content is the sole responsibility of the authors and can in no way be taken to reflect the views of the European Union.

Foreword

Water connects us, and culture unites. This Council of Baltic Sea States' motto can be applied as an overall theme for the BalticRIM approach, too. The slogan capsulizes the project's commitment to safeguard social and heritage assets of the Baltic Sea through the long-standing tradition of a culture of cooperation in the region.

The BalticRIM project developed Baltic Sea wide principles and elaborated national practices for integrating maritime cultural heritage into maritime spatial planning. The project strived for contributing to a culture of sustainability, where the diversity and accessibility of maritime attractions and landscapes will strengthen the well-being of citizens and visitors, and raise the awareness for and the protection of the Baltic Sea.

The project idea was born in the minor Pro BSR project conducted by the Baltic Sea Region heritage networks in 2016. This project updated the strategy for Baltic Sea Region cultural heritage cooperation and elaborated a related Action Plan for maritime cultural heritage. The Action Plan set the goal of integrating maritime cultural heritage into ongoing maritime spatial planning in accordance with the EU Maritime Spatial Planning Directive of 2014. The CBSS funded the Pro BSR project from its Project Support Facility.

As a first steppingstone in this initiative, the CBSS Secretariat assisted with establishing the contacts to HELCOM and VASAB. For the development of the project application, the Baltic Sea Region Expert Working Groups on underwater and on coastal cultural heritage combined their expertise with the Submariner Network for Blue Growth EEIG. The Submariner Network works in dialogue with the Joint HELCOM-VASAB Maritime Spatial Planning Working Group.

Thanks to strong stakeholder support and cross-discipline and -sectoral cooperation, the BalticRIM project initiative was given the EUSBSR PA Culture Flagship status, and the project received funding from the Baltic Sea Region Programme (Interreg).

The Blue Growth Agenda for the Baltic Sea Region endorsed in 2014, highlights the extraordinary potential for developing the maritime economy thanks to the vast capacity for innovation and competitiveness and a strong tradition of transnational cooperation in the region. The Agenda ranks tourism and maritime experience industry as an emerging area with high potential. The results of the BalticRIM project will contribute to the sustainable exploitation of this potential.

Dr Kaarina Williams
Senior Advisor for Regional Identity,
Council of the Baltic Sea States

> We the ministers
>
> - consider the Baltic Sea itself a fundamental factor for communication, exchange and cooperation throughout history between all the countries surrounding it and therefore consider the maritime heritage essential for a common Baltic Sea identity.
> - agree that the Baltic Sea should be a safe place for underwater heritage.

An extract from the framework statements on areas of main interest formulated by the Baltic Region Heritage Committee, and approved by the Ministers of Culture of the member states of the Council of the Baltic Sea States 1999.

Keri Island in Estonia. Photographer S. West.

Contents

Abbreviations

BalticRIM	Baltic Sea Region Integrated Maritime Cultural Heritage Management -project
BG	Blue Growth
BRHC	Baltic Region Heritage Committee
BSAP	HELCOM Baltic Sea Action Plan
BSR	Baltic Sea Region
BSS	Baltic Sea States
BSR CH WG	BSR Coastal Heritage Working Group (linked to the BRHC)
BSR UCH WG	BSR Underwater Cultural Heritage Working Group (linked to the BRHC)
CBSS	Council of the Baltic Sea States
CCIs	Cultural and creative industries
CoE	Council of Europe
CoE EPA	Enlarged Partial Agreement on Cultural Routes of the Council of Europe
CSA	Culturally Significant Areas
DAPSI(W)R(M)	An Integrated Approach to Marine Management
EC	European Commission
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMD	European Maritime Days
EU	European Union
EU MSP Directive	European Union Maritime Spatial Planning Directive 2014/89/EU
EUSBSR	European Union Strategy for the Baltic Sea Region
EUSBSR PA Culture	EUSBSR Policy Area Culture
EUSBSR PA Tourism	EUSBSR Policy Area Tourism
GIS	Geographic Information System
HELCOM	The Helsinki Commission
HELCOM-VASAB MSP WG	Joint HELCOM-VASAB Maritime Spatial Planning Working Group
ICZM	Integrated Coastal Zone Management

LSI	Land Sea Interaction
MCH	maritime cultural heritage
MEA	Millennium Ecosystem Assessment
MSDI	Marine Spatial Data Infrastructure
MSP	maritime spatial planning
SEA	Strategic Environmental Assessment
UNWTO	World Tourism Organization of United Nations
UCH	underwater cultural heritage
UWL	BalticRIM Underwater Landscape
VASAB	Vision and strategies around the Baltic Sea
WHS	World Heritage Site

Introduction

Maritime cultural heritage (MCH) encompasses all physical and intangible remains of historical sea uses on the water, under water and on land. Today, however, this heritage is increasingly under pressure by ever-growing uses of the seas. The Baltic Sea is one of the most heavily used seas worldwide. The construction of the infrastructure of renewable energy sources, other maritime infrastructure in the form of ports, pipelines or submarine cables, as well as the exploitation of other raw materials are overtaking traditional uses, such as fishing or even shipping. Furthermore, the Baltic Sea is heavily polluted by, for example, the input of fertilizer from the surrounding countries, by the sea use itself and by ammunition disposed of during and after the wars.

The UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2001 established a comprehensive legal framework for the preservation, protection, and management of underwater cultural heritage (UCH). To date, Estonia, Lithuania and Poland have ratified this convention in the Baltic Sea region. According to the European Union Maritime Spatial Planning Directive (2014/89/EU), UCH is one possible activity, use and interest in planning of maritime space. Spatial planning provides an outstanding tool to mediate between diverging interests and mitigate the conflicting uses.

BalticRIM (acronym for Baltic Sea Integrated Maritime Cultural Heritage Management) sought to integrate MCH into MSP. It promoted the significance of maritime cultural heritage (MCH) in the MSP community. The project looked for ways to incorporate safeguarding and sustainable utilization of MCH into MSP processes, practices and plans. In order to synchronize the interdisciplinary attempts, instruments to serve integration were developed for both disciplines. BalticRIM has facilitated cross-sectoral dialogue with different stakeholders to identify conflict areas and created applicable solutions. Furthermore, the knowledge, compiled in this project, promotes a sustainable use of MCH in terms of blue growth.

The project brought together experts of both disciplines of MCH and MSP around the Baltic Sea to find new solutions and approaches for sustainable management, protection and use of MCH. Working methods and tools for integrating cultural heritage aspects in MSP were developed and applied in national and transboundary pilot cases. The partnership comprised of public authorities, museums, expert institutes and universities from Denmark, Estonia, Finland, Germany (Schleswig-Holstein), Lithuania, Poland and Russia.

BSR cultural heritage cooperation between state agencies on cultural heritage (BRHC) initiated the BalticRIM as a lighthouse project. The project received the status of Flagship Project of the EUSBSR PA Culture. The European Commission selected BalticRIM as a project under the European Year of Cultural Heritage 2018. Several BSR macro-regional organisations, such as the CBSS, the EUSBSR PA Culture Coordinators, and the **HELCOM-VASAB WG on MSP**[1] encouraged and supported project preparation, implementation and stakeholder cooperation.

This publication provides a synopsis of the legal and administrative situation and of the practises concerning the management of MCH with respect to MSP across the Baltic Sea states. Analyses deal with the first round processes of MSP during 2017-2020. The BalticRIM recommendations are tailored separately for both cultural heritage administration and MSP. In addition, this publication considers the role of MCH in current blue growth initiatives across the BSR and the development perspectives, focussing on tourism.

BalticRIM data portal displays the spatial data regarding both the MSP pilots and gathered blue growth information and **BalticRIM WIKI** presents MCH and UCH terminology with attached definitions. A separate handbook provides an overview of the solutions (chapter 3) concisely.

Roedvig harbour in Denmark. Photo L. Schrøder.

”The first sentence of Rule 1 of the UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2001 states: ‘The protection of underwater cultural heritage through in situ preservation shall be considered as the first option’ is the core of this rule. The consideration given to preservation in situ by the Convention and its Annex is based on the recognition of the importance of the interplay between the site, its story and its context.

In situ preservation is the first option, because

- The site of a historic event is authentic,
- Context defines significance,
- Heritage is finite, and
- Many sites cannot be preserved in situ. ”

unesco.org homepage / Manual for activities directed at UCH

Remains of trees, found on the seabed in the depth of 25 m in Lithuanian waters, inside the BalticRIM pilot planning area. These trees used to grow about 10500 years ago. Photo V. Žulkus, Klaipeda University.

1. BalticRIM Starting Points

1.2 Baltic Sea cultural heritage reflects connections

On the shores of the Baltic Sea, we have a common sea, diverse cultures and common maritime heritage. We owe part of our wealth, prosperity and success to past maritime industries and cultures. Therefore, we have an abundant, varied and often well-preserved MCH and UCH to enrich our lives, which must be protected and used in a sustainable way. The diversity of this heritage appears in its most fascinating form from the pan-Baltic perspective as an assemblage of multi-narratives, unique even on a global scale. Baltic Sea space should be taken account as a valuable asset.[2]

Maritime routes have played a key role in creating and shaping regional and national cultures. Through the centuries-long maritime and coastal interaction between people, towns and regions, the Baltic Sea forms a multifaceted and millennia old cultural area in the same way as the Mediterranean or Black Sea. The MCH has great potential to demonstrate the connectedness of the BSR. Both tangible and intangible heritage illustrate the flow of goods, crafts and cultural influences.

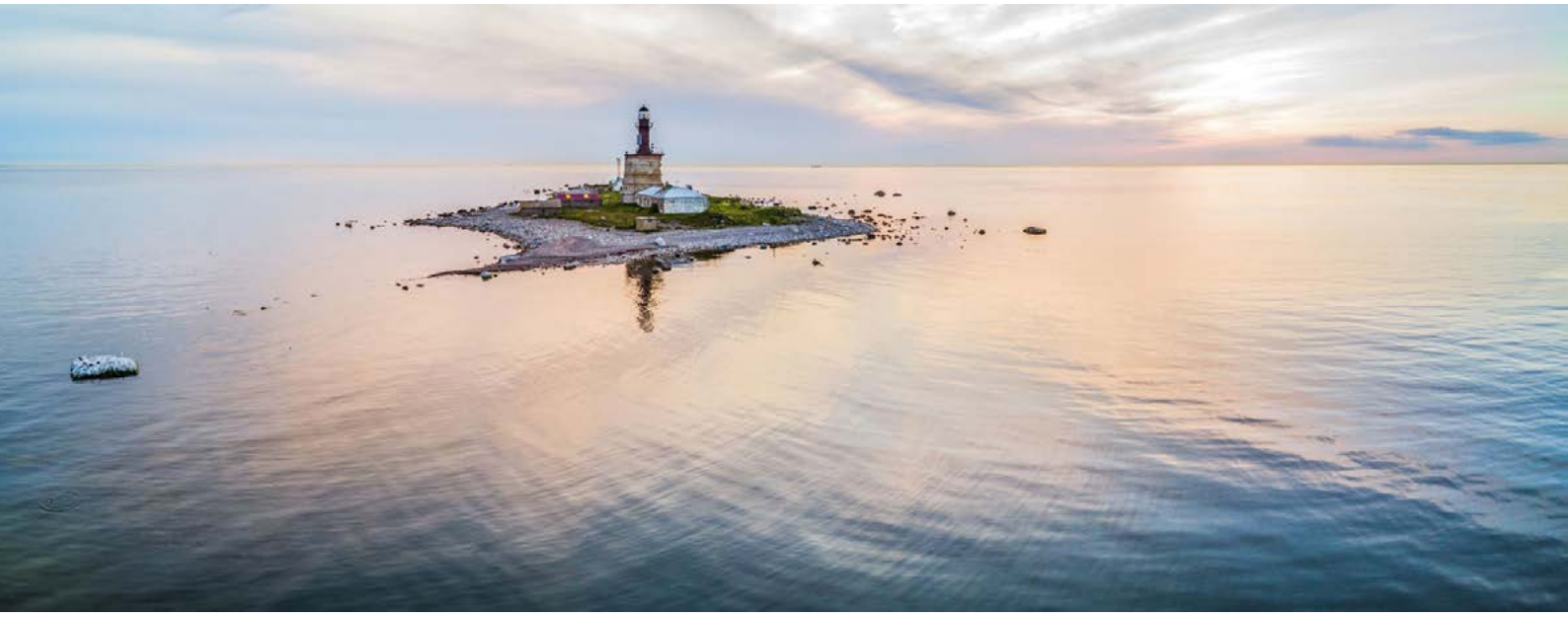
Tangible cultural heritage encapsulates the physical and material elements of heritage. Intangible heritage refers to "practices, representations, expressions, knowledge, skills – as well as instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage".[3]

The BalticRIM as a MSP project concentrated mainly on the tangible cultural heritage with fixed coordinates and recorded physical features, such as archaeological sites, monuments, and buildings, but with less information regarding intangible values. For promoting the intangible values and significances of underwater sites and spaces, the project worked on the Concept of Underwater Landscape (chapter 3.3).

1.2 Cultural heritage as a part of maritime spatial planning

Directive 2014/89 of the European Parliament and of the Council establishes a framework for MSP aimed at promoting the sustainability in terms of growth of maritime economies, development of marine areas and use of marine resources. This directive refers to UCH as a possible activity, use and interest of maritime space.[4] Thereby UCH should be considered in the planning of maritime space, along, for example, with transport, nature and tourism.

The MSP directive notices only UCH, and consequently, this is also the case for many MSP processes.[5] However, MSP should also consider a



Estonian Keri lighthouse. Photo Kaupo Kalda.

> Heritage has a specific role in achieving sustainable and inclusive growth, due to its social and economic impact and its key contribution to environmental sustainability. Culture and cultural heritage can be perceived not only as a structural component, but also as a necessary agent in moving towards a more sustainable society.
>
> Soini, K., Dessain J. Culture-Sustainability Relation: Towards a Conceptual Framework 2016:6

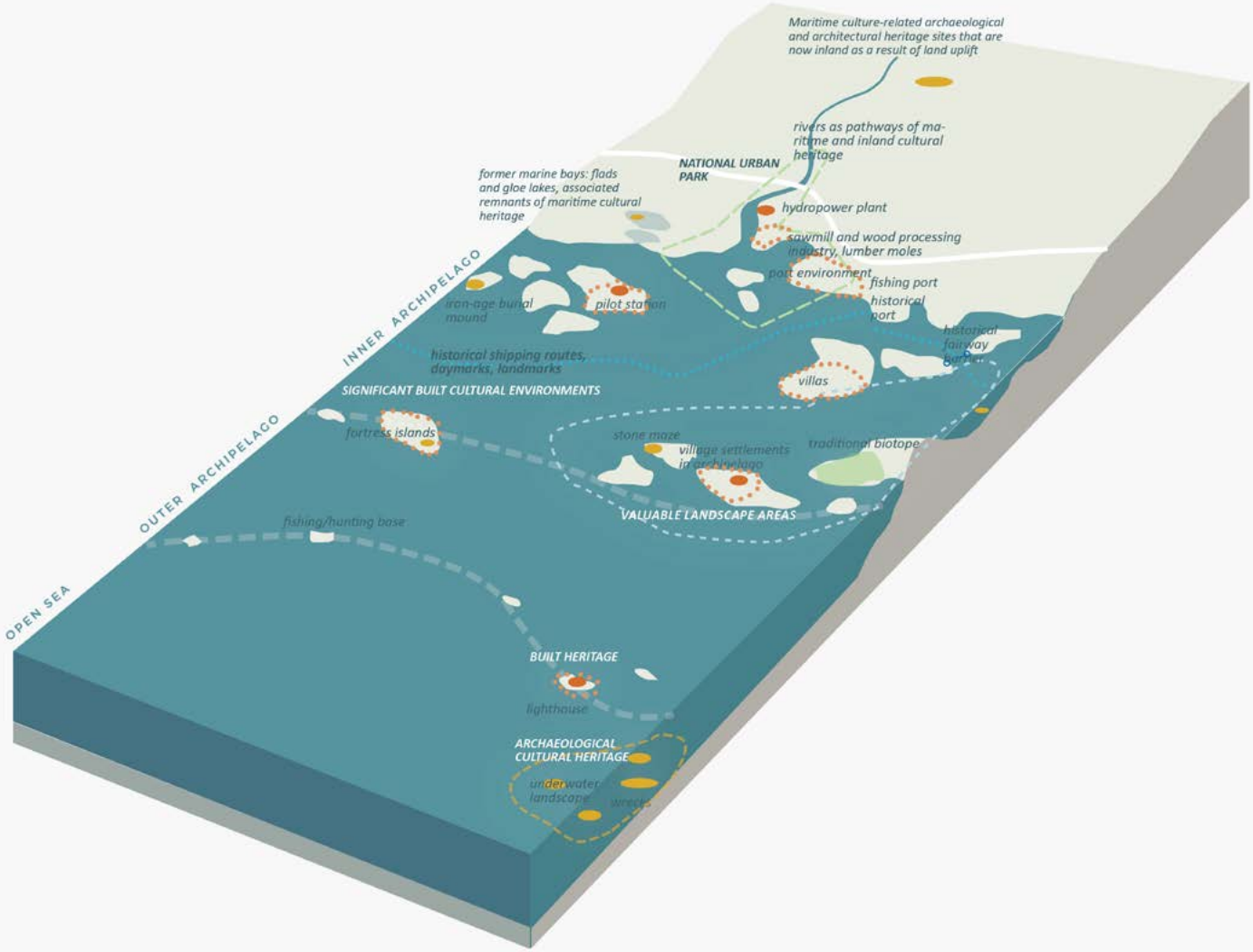
broader concept of MCH to have a more comprehensive view of heritage sites. The holistic perspective on maritime assets would better contribute to a successful blue economy.

For heritage managers, the MSP directive created a unique opportunity and momentum to integrate MCH and UCH into the ongoing macro-regional MSP policy developments, recommendations and national plans. Cultural heritage is the clear responsibility of modern states.[6] It is an essential activity, use and interest in MSP. Nevertheless, as a sector, cultural heritage is often lacking in MSP.[7]

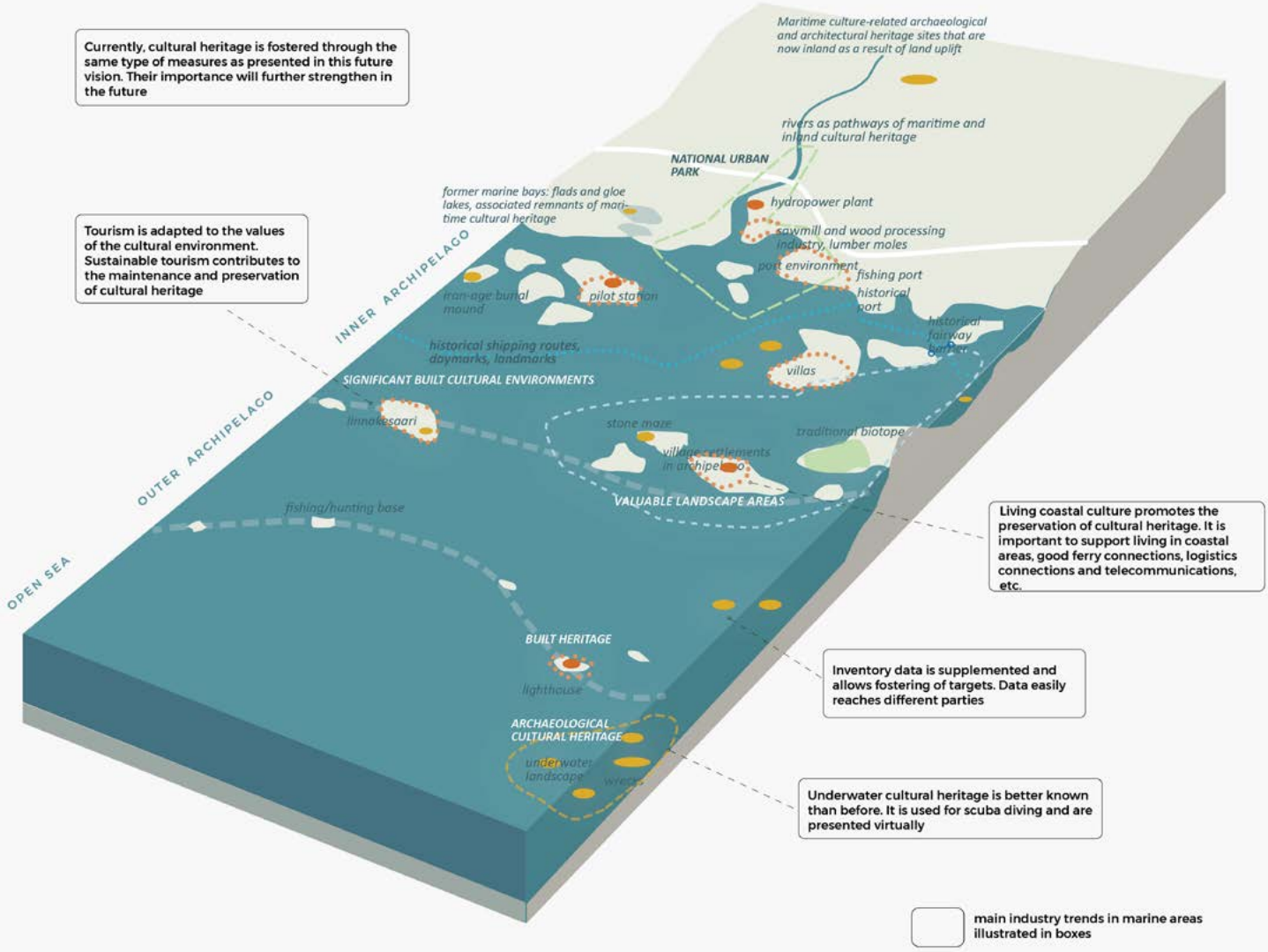
Cultural heritage is not static, but constantly changing and living. Our notions of heritage are tied to current social values, attitudes, interpretations and assessments. In the context of MSP, it is noteworthy to recognise that many phenomena of MCH and UCH both at sea and on the coast, such as lighthouses, shipyards, shipwrecks and fishing villages, manifest the history of current maritime activities and sectors such as transport, shipbuilding, maritime transport and fishing. In this way, historical sites represent the maritime sectors of past. Modern maritime activities, such as wind farms or maritime safety devices, will eventually become a part of the MCH of the future.

The consultation proposal of the Swedish Marine Spatial Plan in 2018 pointed out that historical sites and environments on land often explain and characterize cultural values of the sea.[8] This is emphasized in heritage sites, which are located on the waterfront and are often deliberately rooted in the waterline, taking advantage of both marine and terrestrial benefits. In other words, traditional livelihoods and industries such as maritime trade, fishing and shipbuilding were established in places, where they had the necessary link to both sea and land. Within MCH management, Land Sea Interaction can be understood as activities on land affected by the sea and activities at sea affected by land. From this point of view, it was clear that the BalticRIM project should consider the concepts of Land Sea Interaction and the Integrated Coastal Zone Management as well as their application to MCH and UCH phenomena.

> Underwater cultural heritage should set conditions for MSP in the same way as nature.
>
> Head of the VASAB Secretariat Talis Linkaits at the Pro BSR project meeting in Tallinn 27 August 2015.



In the Finnish MSP process the identifying cultural values, including cultural heritage and landscape values, started by analysing legislative framework, information and elements of maritime heritage, landscape and nature. Descriptive illustration by the Finnish MSP coordination and WSP Finland.



The Finnish MSP process took into account maritime cultural heritage as one of the sectors of blue growth throughout the whole process; in preparatory documents, part of scenarios, as a topic in numerous open workshops that prepared a vision for cultural heritage, and in other stakeholder approaches. The BalticRIM project provided additional resources for the Finnish Heritage Agency to be actively engaged in all phases. Here illustration of the Finnish MSP vision for 2030 regarding cultural heritage as a blue growth sector by the Finnish MSP coordination and WSP Finland.

1.3 The significance of seas and cultural heritage for society

Cultural heritage plays an important role in creating and enhancing quality of life, sense of place, social capital and blue growth. Maritime cultural heritage connects people and generations, and helps us to understand the past, present and future of humanity's relationship with the seas and oceans.[9]

The seas and oceans have a strong human dimension as places for heritage, imagination and projection.[10] Indeed, we are dealing with a number of overlapping sea spaces, which act as social, communication and cultural spaces. Marine space is a multi-dimensional concept requiring a multidisciplinary approach by physicists, biologists, geographers, economists, political scientists, spatial planners, sociologists, philosophers and humanists.[11] Landscape research and maritime archaeology can be added to the list of sciences, which are interested in the maritime "vital space" [12].

There is a strong current trend of the "blue humanities", which engage scholars in sociology, cultural and literary studies as well as other disciplines to lively debates reconsidering terms, concepts and vocabulary.[13] Emerging discourses provide fresh perspectives to the idea of a "blue planet"[14] and of the human - sea relationship.[15] A key message of this research is that "the sea is not a material or metaphorical void, but alive with embodied human experiences, more-than-human agencies and as well as being a space in and of itself that has material character, shape and form".[16] This approach is suitable also for MSP as it takes into consideration non-human agencies such as flora, fauna and the sea as water. It also points out that our life depends on the well-being of the oceans and seas.

Cultural heritage forms a finite, non-renewable, fragile and irreplaceable assembly.[17] If destroyed, whether intentionally, accidentally or by "over loving"[18], the invaluable information and potential of the heritage sites will be lost forever, and cannot be recovered. Heritage sites have intrinsic spiritual, symbolic, historical, and cultural values. [19] As a resource, sites have also instrumental value for creating a sense of identity for locals and raising economic well-being through tourism and recreation.[20]

Cultural heritage is relevant to the whole spectrum of **United Nations Decade of Ocean Science for Sustainable Development 2021 – 2030** objectives, themes and priorities. In general, archaeological and wider cultural heritage approaches provide information on human activity on the marine space over millennia, which help to design future strategies.[21] Old and new narratives and recognition of cultural heritage are fascinating to the public and enable engagement with many themes of Ocean Literacy.[22]

In general, cultural heritage contributes to the feeling of continuity and the crisis resistance of communities. It also has a role in planning planetary sustainability. These are all necessary qualities, when we are heading towards a post-Covid 19 society, with a shared responsibility to implement more sustainable land use- and consumption patterns.

The wreck of the Icebraker Pollux Sputh in eastern Baltic Sea. Photo by V. Malysh. Copyright Museum of World Ocean, Kaliningrad.

Fishermen's sheds in Kauko, Pyhäjoki, Finland. Photographer S. Tikkanen. Finnish Heritage Agency.

The societal objectives of the Decade of Ocean Science for Sustainable Development 2021 - 2030:

- A clean ocean where sources of pollution are identified and removed
- A healthy and resilient ocean where marine ecosystems are mapped and protected
- A predictable ocean where society has the capacity to understand current and future ocean conditions
- A safe ocean where people are protected from ocean hazards
- A sustainably harvested ocean ensuring the provision of food supply
- A transparent ocean with open access to data, information and technologies

The Baltic Sea in front in Hanko, Finland. Photo S. Tikkanen, Finnish Heritage Agency.

1.4 Maritime cultural heritage in the Baltic Sea

The four compass points of Baltic Sea

The northern Baltic Sea is characterized by archipelagos divided to outer, middle and inner archipelagos with the islands becoming smaller and sparser the further one gets to open sea. The human adaptation to the environment is visible in the cultural history and the archaeological remains. The Bothnian Sea has a very different environment and a different sea from the southern parts. Fishing villages dot the archipelagos in the south along with pilot stations and lighthouses. In the Bothnian Sea, the coasts are always new due to the isostatic land uplift, which carries the historical coasts inland and makes new islands.

There is a strong tendency in **the eastern Baltic Sea** countries to consider cultural heritage in the shores of the large rivers and inland, where most of the great manors, castles and ancient hillforts are situated along with the historic towns. The long shallow beaches have made it difficult to board ships, so traffic and towns have conglomerated along the large rivers, Narva, Daugava and Neman /Nemunas. The view from the eastern Baltic Sea is unlike from the other shores, with the open sea as long as the eye can see and long sandy beaches with no obstacles, like along the Curonian Spit.

The western Baltic Sea consists of the coasts and islands of Sweden, Germany and Denmark. The sea is saltier than in the north, where water is almost sweet. The Baltic Sea has inundated land since the Stone Age, leaving large settlement sites underwater today. The busy route of sailing and commerce through the Sound has brought hundreds of wrecks from all eras to the coasts and open sea. However, most have vanished due to the woodborers, which eat away the wooden ships leaving only the parts covered by the sandy bottom untouched.

In ancient times, the south coast extended much further north. Today, remains of ancient settlements or remains of ancient forests are under water. **The southern Baltic Sea** has a coastline dotted with extensive river systems as well as lagoons, sealed off from the sea by sandy spits, thus forming sheltered navigable waters in the coastal zone, which became important for fishing and local transport. From the Early Medieval emporia along rivers, large towns were first established on the coasts of the Baltic Sea in the Middle Ages, where it was possible to gaze towards new shores and possibilities. The ancient and important towns in the southern coast include massively built waterfronts, harbours and warehouse structures, not to mention the wrecks testifying of the importance of the region.

The 100 list - the complexity and diversity of underwater cultural heritage

The BSR Working Group on Underwater Heritage produced a list of the 100 most interesting underwater heritage in the Baltic Sea in 2006 as part of activities of an international project called Rutilus Light.[23] Besides shipwrecks, the List includes Stone Age submerged settlement sites, sea battle areas, historical harbours and different types of underwater structures. The selected sites are examples of the rich, diverse and shared Baltic Sea underwater cultural heritage.

When the sites are viewed as an entity, they give an overview of the history of the Baltic Sea and the human relationship to the sea. The Rutilus 100 List sites are displayed in the BalticRIM Data Portal (https://balticrimdataportal.eu/). Some of the sites on the List have been used in BalticRIM as case study sites, and in planning and blue growth exercises, such as the Kronprins Gustav Adolf wreck park in Helsinki. The BSR Working Group on Underwater Heritage is currently updating the 100 List, where the current situation, research, findings and insights are considered.

"The 100 List" *describes the underwater sites as "a treasure trove" located at the bottom of the Baltic Sea. Together they form a giant outdoor underwater museum and UWL located in the depths of the Baltic Sea. Some of the sites can be visited on site, digitally or the stories are told in museums.*

Baltic Sea country/ region	BalticRIM partner	Number of wrecks in BalticRIM survey	Number of wrecks in national register (*) or Rutilus-report (**)	Number of all UW sites in Rutilus-report 2006
Denmark	x		7415 (*)	7247
Schleswig-Holstein, DE	x	82	217 (*)	750
Mecklenburg-Vorpommern, DE				1000
Poland	x		97 (*)	66
Lithuania	x	3	111 (*)	25
Estonia	x		528 (*)	213
Latvia			323 (**)	337
Russia/ South-Eastern Baltic Sea and Gulf of Finland (ABIORAS)	x	28		
Russia/ Leningrad oblast			54 (*)	
Russia/ Institute of the History of Material Culture in St. Petersburg				220
Finland	x	21	1668 (*)	1802
Sweden			6183 (*)	11 518
Altogether		134	16 596	23 178

In 2006, the Rutilus-project calculated that jointly the registers of the partner countries included ca. 15 600 underwater cultural sites and monuments. In 2018, the BalticRIM project conducted a questionnaire of UCH/MCH registers in the partner countries to discover, which heritage categories are used and how many known heritage sites exist. As a result, it came out that we have only one UCH category in common: the wreck. To come up with the known wreck sites, the numbers in national registers and the Rutilus report were added together (16 542 wrecks). In early 2020, a column was added for the wrecks discovered in BalticRIM fieldwork (134 wrecks).

As the Rutilus 2006 report included all underwater sites (23 178), not just shipwrecks, it is evident that in the last 15 years the recognition and research of shipwrecks has increased significantly. Still, we should be aware that registered information on UCH is not publicly available in all countries around the Baltic Sea, and even the available registers are incomplete. The UCH information is fragmentary and limited everywhere, and new UCH discoveries are made every year.

Wrecks are the most well-known archaeological remains in the Baltic Sea. The wreck of a Dutch 17th century fluyt was found in the Finnish EEZ in 2020. The photographer is Jouni Polkko, a member of the Badewanne diving group. Copyright Badewanne.

2. BalticRIM Analyses

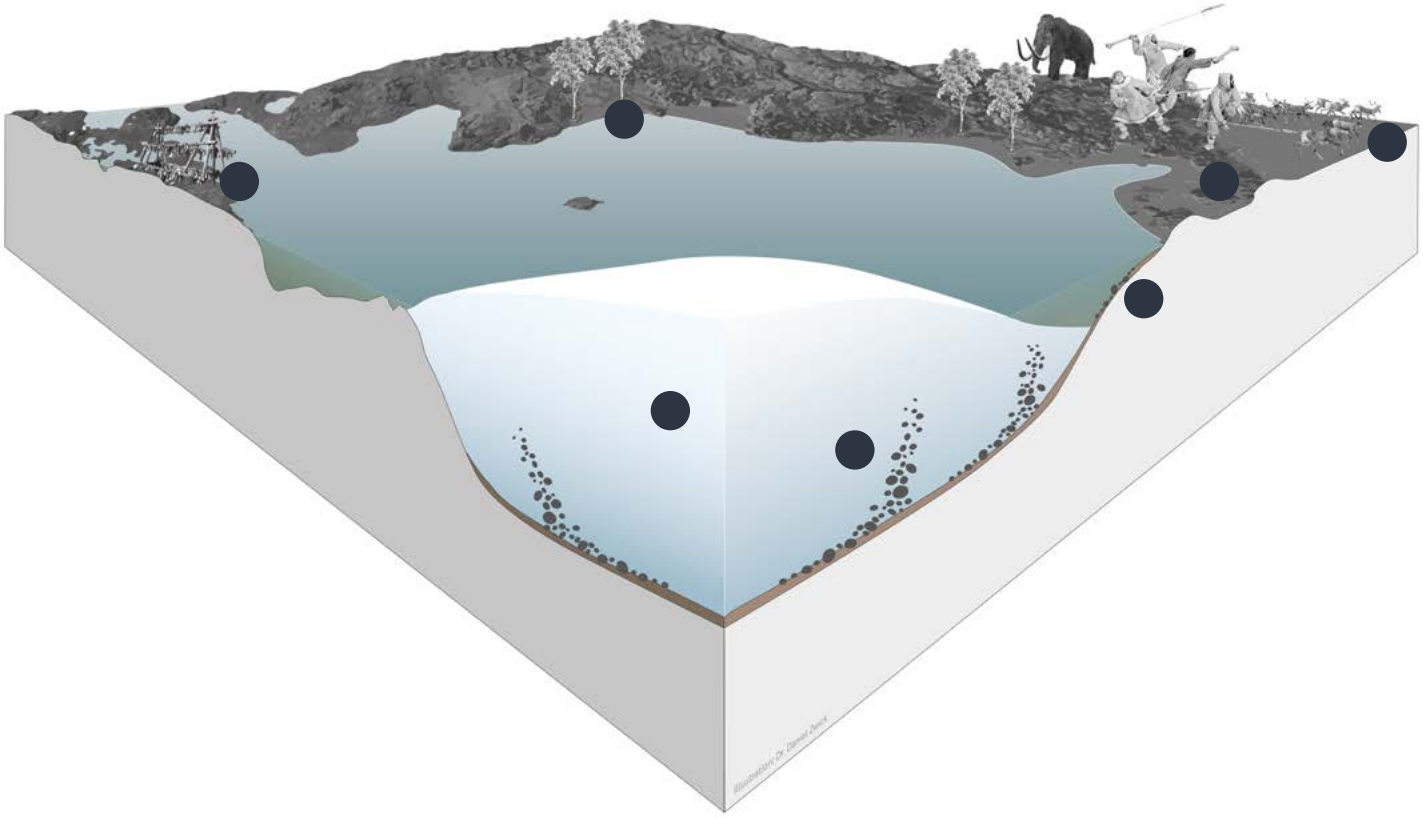
2.1 Baltic Sea as an environment for underwater cultural heritage

The Baltic Sea is a young sea. In its current form, it has existed for some 7000 years, and it does not remain static. It is an urban sea, and its small size and shallow waters make it particularly vulnerable to the consequences of people's actions. The ecosystem of the Baltic Sea is regressing due to eutrophication and global warming. In time, the Sea will be less salty and will have less oxygen. Regarding its ecosystems and ecological condition, the Sea is probably one of the most well researched seas in the world. More research is needed on the archaeological remains in the Baltic Sea to understand how these transformative processes affect the UCH and MCH.

The Baltic Sea is a cold and dark sea, where the level of salinity is low. The shipworm Teredo navalis does not thrive in the northern Baltic Sea, but it is found near the Sound. These factors have contributed to the remarkable and unique preservation of organic materials in the Baltic Sea. The conditions of shipwrecks vary from piles of planks to intact vessels. The most complete shipwrecks are situated in the northern Baltic Sea's deep waters, 30–100 meters, while the wrecks in shallow waters are likely to have been damaged by storms, salvage operations, or pack ice.

Due to current, almost optimal preservation conditions for wooden structures in the northern Baltic Sea, there are remains of wrecks, fishing structures, remnants of ancient harbours and trading sites, defence structures and bridges. Every summer new finds are made. This "age of discovery" is a result of accessible remote sensing equipment and an increase in the number of hydrographical surveys and infrastructural projects around the Baltic Sea.

Illustration by Daniel Zwick.



The early Holocene

was marked by global warming and the gradual retreat of the Weichselian glaciation ca. 9700 BC. The Baltic Sea basin was covered by glacial meltwater and the shores of the newly formed lake - once covered and shaped by the ice-sheet - were becoming inhabitated by Mesolithic hunter-gatherers.

1 The glacier on the Fennoscandian Shield has compressed the earth crust. The territories of the northern Baltic Sea area were significantly lower than today and are now affected by the post-glacial uplift.

Boulders and other glacial deposits were eroded from the Scandinavian bedrock and transported by the movement of the glacier to the southern shores. With the melting of the glacier they became deposited in the undulated morainic landscape and the sea-bed.

Originally a glacial meltwater lake, the pre-stages of the Baltic Sea as we know it today changed between freshwater lakes to brakish seas, whenever it was connected to the oceans. This is not only reflected by the sedimentary stratigraphy and benthic fossils, but also the species caught for sustenance by hunters and fishermen. For much of the Mesolithic Period it was a freshwater lake. The Ancylus Lake (7500-6000 BC) was named after the freshwater snail ‚Ancyllus fluviatilis' (pictured here).

Along the southern coast of the Baltic Sea, south of the Ringkobing-Fyn High, the coastline has retreated since the early Holocene as a consequence of the post-glacial rebound.

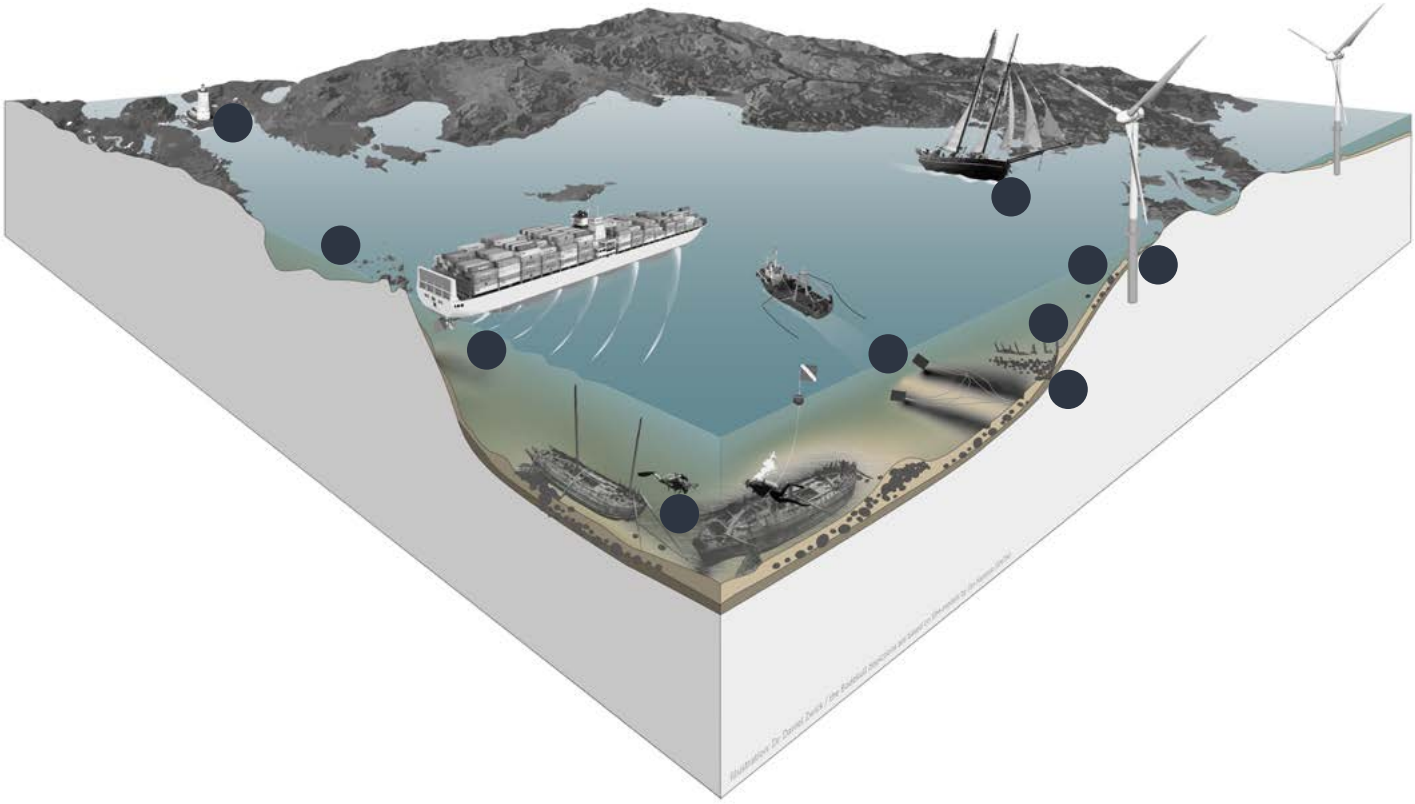
4 Coastal settlement sites of the Late Mesolithic and Early Neolithic in the south-western part of the Baltic Sea region have become inundated. One of the best documented prehistoric underwater sites is in Tybrind Vig (Denmark) in the Little Belt, dating ca. 5500-4000 BC. Due to the favourable preservation conditions under water for organic matter, artefacts have come to light that would have not survived on land. The site is characterised by hundreds of animal bones, weapons and tools, an entirely preserved logboat as well as ornamented paddles.

5 At this time extensive areas of today's North Sea were terrestrial too. This sunken landscape is called Doggerland, which once connected the British Islands with Continental Europe and which was crossed by seasonally migrating reindeer herds and mamooths. Tusks, antlers and prehistoric tools are occasionally dragged up by fishermen.

6 The post-glacial rebound affects a continous depression of the earth crust in the entire southern part of the Baltic Sea region: As a result of this effect as well as limnic (Ancylus) and marine (Littorina) transgressions, primeval forests have become inundated and are verified in the waters of Lithuania, Poland, Germany and Denmark.

7 The post-glacial rebound affects a continous rise of the earth crust in the entire northern and north-eastern part of the Baltic Sea region (Fennoscandian Shield): As a consequence prehistoric coastal sites, like a fishing camp on the Island of Pensaskari (Finland) or Bronze Age petroglyphs near Nynäshamn (Sweden) are situated today at a considerable distance to the shoreline. Despite their terrestrial location these sites form part of the maritime cultural heritage.

Illustration by Daniel Zwick.



Today's impact on the Underwater Cultural Heritage

8 Due to the continued post-glacial uplift in Fennoscandinavia, new islands are emerging and existing islands become larger, like the Kvarken Archipelago (Finland) or the Estonian Islands.

Sea traffic in shallow coastal waters may pose a threat to the underwater cultural heritage as sediment covers are whirled up by ship propellers. For example, the wrecks of ships sunken in the Battle of Svensksund of 1790 are affected by sea-traffic to Kotka's nearby container terminal.

In the north-eastern part of the Baltic Sea, in situ preservation conditions are particularly good due to the absence of marine borers and the cold climate. Entire shipwrecks have survived the centuries. Some are testimony to historic sea battles. Others, like the wreck of the 17th-century BODEKULL (Dalarö Dykpark, Sweden) are managed heritage sites where a diving infrastructure has been created. In general, looting at shipwreck sites is still considered a potential threat.

11 Fish-trawlers can adversely affect cultural heritage covered by sediments, as the otter boards penetrate the sea-bed. Ancient shipwrecks can be torn apart by trawling gear, especially if trawlers are fitted with powerful engines. The situation is aggravated further by the habit of fishermen to intentionally seek out the vicinity ofwrecks, as these are artificial reefs and thus habitats for marine life.

12 The coastline in the southern part has retreated as a consequence of the post-glacial rebound as well as consecutive marine transgressions, of which the ‚Littorina Transgression' (6900-4900 BC) was the last. It was named after the common periwinkle ‚Littorina littorea' (pictured here) which migrated from the Atlantic Ocean and thus reflects the process when the Baltic Sea emerged in its present form as marine environment. This period was marked also by a gradual sea-level rise, in which wake Mesolithic and early Neolithic sites have become inundated along the Baltic Sea's southern coast.

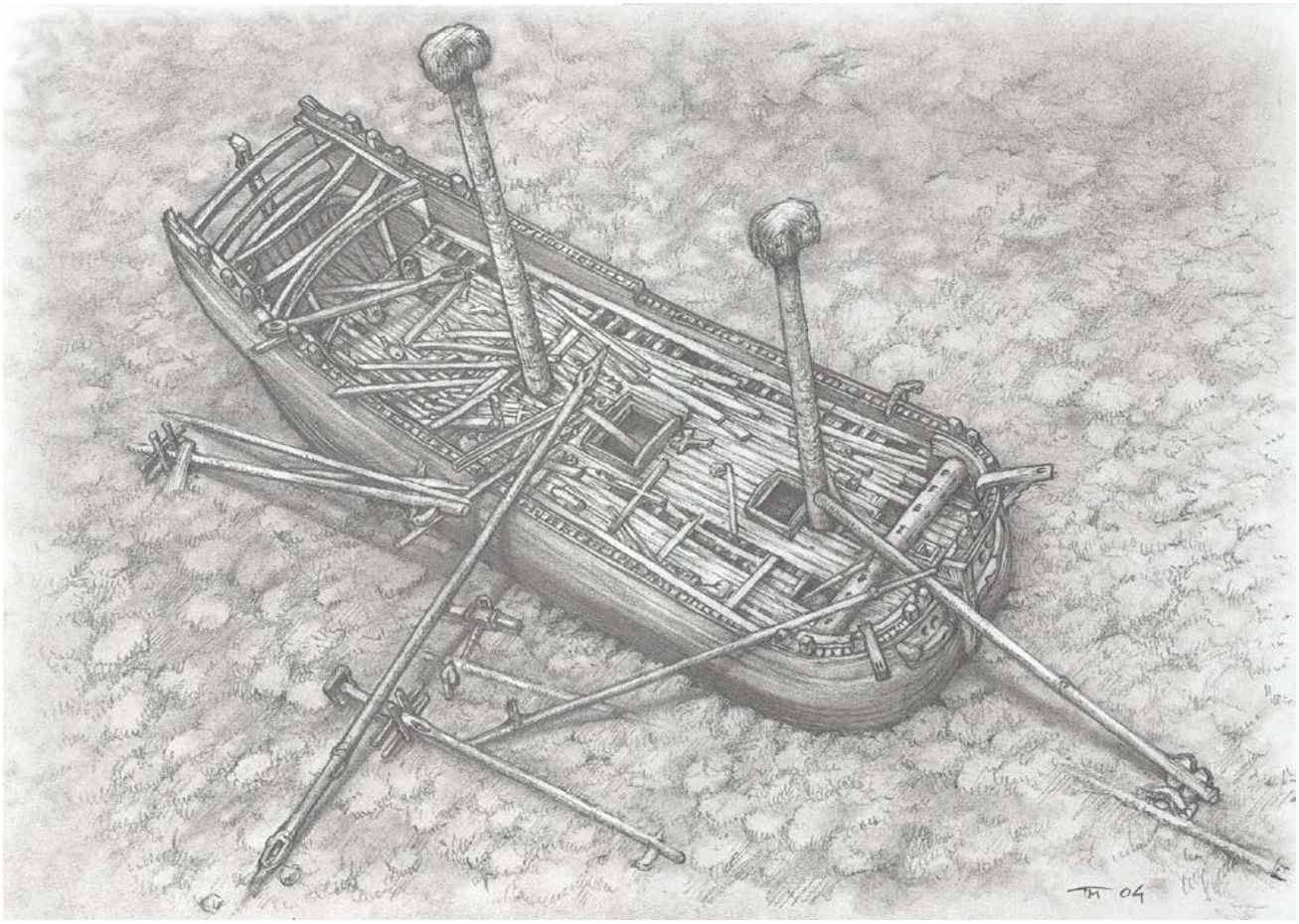
13 Although a brakish sea, the salinity in the south-western part of the Baltic Sea is still high enough for marine borers who destroy wooden structures not covered by sediments, such as wrecks. The most commonis ‚Teredo navalis'.

As a consequence of the aforementioned aspect, wooden wrecks in the south-western part of the Baltic Sea are not as well preserved as in the north. Only sections covered by sediments usually survive. These wrecks are often invisible and their position only revealed by ballast stones, which are often mistaken for glacially deposited boulders.

15 Marine engineering projects have a considerable impact on the sea-bed, like monopile foundations of offshore wind energy systems. It is not only the foundation itself through which archaeologicallayers may be affected, but also by associated cables, anchoring construction vessels, as well as subsequent scouring.

An important part of the maritime cultural heritage is also of non-archaeological nature, such as the continuation of maritime traditions: the intangible cultural heritage. In the Baltic Sea traditional clinker-boat building and the tall ship community are strongly represented and an important factor for coastal identity and tourism.

17 Built heritage in the coastal zone, like historic lighthouses, harbour sites or bridges, complement the archaeological heritage and is often even contextually intertwined. The Tolbukhin lighthouse, for example, was built in 1719 by order of Tsar Peter the Great to guide ships to his newly established city: St. Petersburg. From this time, an extensive coastal area in both the Finnish and Russian archipelago is characterised also by quarries and shipwrecks, laden with the building material mined here, for this city.



Drawing by Tiina Miettinen, Finnish Heritage Agency.

*At the site of Vrouw Maria environmental data was collected during the **MoSS Project** 2001 - 2004. Related to condition change monitoring theme of the project, the data recording sensors measured environmental data such as temperature, conductivity, redox potential, pH, turbidity, and current periodically. The results in short: environmental conditions in the vicinity of the wreck of the Vrouw Maria are essentially stable and satisfactory as concerns the preservation of both the ship itself and its contents. BalticRIM homepage includes a template of main environmental factors and human impacts, which have an effect to the UCH and MCH in the Baltic Sea, and should be considered in management, monitoring and conservation activities of UCH.*

Jussarö's ship trap area seen from the sea level in the summer of 2018, when a maritime archaeological inventory of the BalticRIM project was carried out there to develop the Ship Trap Index method. Jussarö Gaddarna on the horizon. Photo R. Tevali, Finnish Heritage Agency.

The concept of maritime cultural heritage (MCH) offers a wider scope of heritage for the inte gration of heritage assets into MSP. The definition of underwater cultural heritage (UCH) is more restricted, but is frequently used in legislative and policy texts, such as the MSP Directive and the UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2001.

Integrating MCH together with UCH, instead of UCH only, into MSP contributes to:

- **engaging coastal communities to link their environmental values and concerns into MSP**
- **promoting cross-sectoral areal approach in local development**
- **blue growth potential**
- **creation of a common brand for BSR**

2.2 Maritime cultural heritage approach for MSP

Both maritime and underwater cultural heritage have been defined in various ways according to different national management systems, academic disciplines, and research.[24] In the BalticRIM project, MCH is defined as cultural heritage[25] that is formed by material and immaterial remains of seafaring and the use(s) of sea located on dry land and under water:

"Maritime cultural heritage is both tangible and intangible, and is associated with the connections people have with the sea and the resources originating from the different maritime communities in the past.

Maritime cultural heritage refers to the traces of people and the elements in the natural environment; the remains of the everyday lives of human beings living in interaction with nature constrained to maritime areas such as the coast, archipelago and open sea, and the elements, objects and places that are either terrestrial or partly or fully under water.

Maritime cultural heritage refers to both concrete traces of maritime cultural heritage in the landscape as well as skills and beliefs, customs and practices related to maritime issues passed from generation to generation and extended to different communities in order to present, construct and maintain their identities.

Maritime cultural heritage is associated with the settlement of coastal areas and archipelagos, seafaring and navigation, fishing and other hunting cultures by the sea, diving, and habits and beliefs related to maritime issues that connect humans to marine features and landscape, among others".[26]

The UCH is a part of a broader concept of the MCH.[27] According to the **UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2001**, UCH is defined as all traces of human existence having a cultural, historical or archaeological character which have been partially or totally under water, periodically or continuously, for at least 100 years.

The same definition and age limit were adopted for "The Code of Good Practice for the Management of the Underwater Cultural Heritage in the Baltic Sea Region (**COPUCH**)", which was elaborated within the Baltic Sea Heritage Cooperation in 2008.

In the **BalticRIM WIKI**, UCH is defined as the material remains of seafaring and other forms of MCH, which are situated under water.

2.3 Cultural heritage data registers

As a rule, cultural heritage organisations keep registers of their data. The registered MCH and UCH data is far from complete, as none of the Baltic Sea states have carried out systematic surveys in their sea areas. Maritime archaeology as a discipline has only been built up since the 1960s. In most countries, wrecks and other underwater sites have been acknowledged as cultural heritage only since the 1970s. Therefore, UCH sites have been mostly incorporated and included in the existing registers intended for terrestrial sites. The registers are still being adjusted to accommodate also underwater sites.

Heritage data is the result of field surveys, documentation and research. It often consists of a description and location of a site. According to the description, a site is allocated to a category. There is only one common UCH category, which all BSR national registers contain: the wreck. This site type has also dominated the maritime archaeological research.

Heritage registers consist of several heritage categories, which mirror the national history. In order to understand the logic and relevance of the heritage data in register, one needs to understand the context and administration systems of each country in question. Similar to the MSP, also the heritage assessment, registers and policies are "deeply embedded in a country's history, geography, cultural traditions, political orientation, prevailing ideology, and states of economic and urban development, constitutional government structure or legal constitutional framework."[28] The data in registers is supplemented and utilized in various surveys and listings, which in turn may be linked to the protection status of the sites.

Annex lists **major inter-governmental conventions** that guide the cultural heritage policies and practices implemented in the management and safeguarding of maritime cultural heritage.

2.4 The first MSP round: country-specific conditions in the integration of MCH to MSP

The following descriptions highlight the conditions and specific barriers that each BalticRIM partner country is facing regarding their integration of MCH in the MSP process during the first round. This is followed by different types of solutions for the integration on a national basis, as well as concluding remarks. These analyses display the situation on MSP and MCH integration during 2018-2020 – before the closure of the first MSP round by the end of March 2021.

The INSPIRE directive provides a framework to open spatial data sets online. The directive has been implemented in many ways, and not all BSR countries have opened their data yet. Usually, the sites of the data sets of the cultural environment have also been geocoded on a map either as points corresponding to locations or as delineated areas. These points and areas form the spatial data of the sites.

Denmark

Conditions for integrating MCH into MSP

Cultural heritage will not be regulated by the plan. MCH will be taken into account by its addition to the Danish Marine Spatial Data Infrastructure (msdi.dk), a service layer supplementing the completely digital plan.

MSP is still under development. The lack of political will to support the integration of MCH into the current plan may change as awareness starts to rise concerning the need for doing an MSP, as well as the development of MSP as a planning tool.

Possible ways to integrate MCH into MSP

Denmark will develop sector specific, map-based service layers, including cultural heritage and recreational sites to support the MSP process. This opens the opportunity to work in parallel on MCH maps and provide input from BalticRIM experience and results:

- approach other sectors and promote MCH actively
- try to include as many aspects of MCH as possible into the frame MSP text.

Conclusion

The current sectoral approach in MSP is difficult to overcome. It may change in near future due to an increased political will to include the ecosystem-based approach into planning. This approach could also take co-location and multi-use potentials more into account.

The focus is on blue economy sectors, such as renewable energies. Tourism and MCH are not as prominent yet.

UWL and CSA have not been taken into account so far, though these kinds of planning concepts are well-known from Danish spatial planning on land. Future planning of the coastal zone might contribute to the implementation of these kinds of concepts from a land-sea interaction perspective.

Estonia

Conditions for integrating MCH into MSP

MCH in general is not under legislative protection as the cultural monuments are. Estonian Heritage Conservation Act protects underwater cultural monuments, which are mostly shipwrecks. Protected cultural monuments are managed through setting guidelines and conditions in the MSP.

The MSP does not designate specific maritime culture areas due to the strategic nature of the spatial development document at the national level. Both intangible and tangible maritime culture are valued by planning through setting guidelines.

Practical ways to integrate MCH into MSP

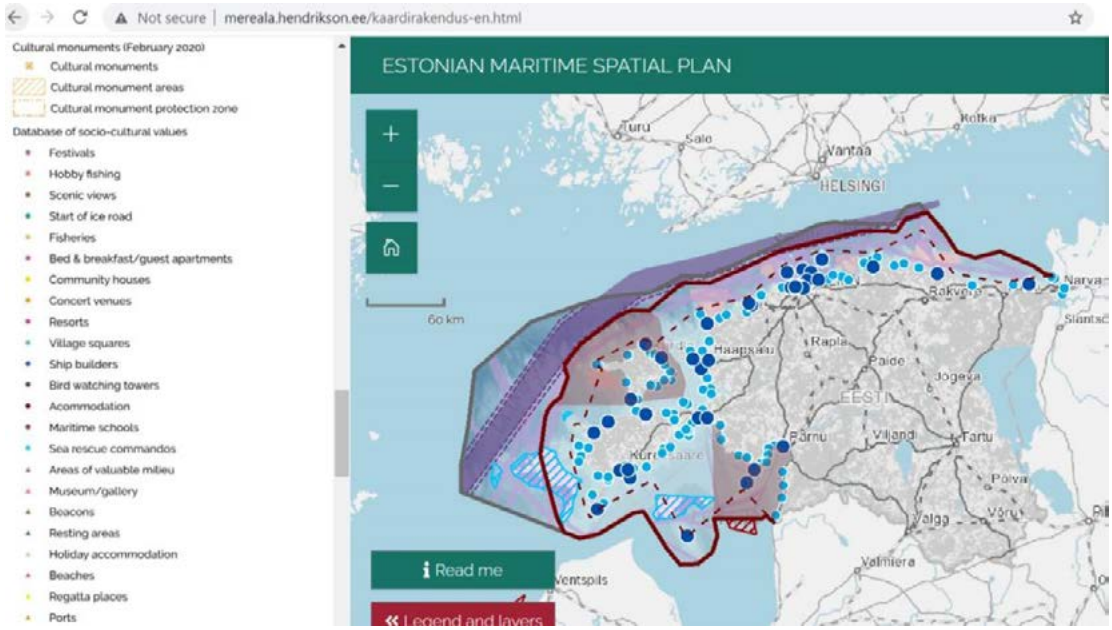
The Ministry of Finance as MSP authority and the National Heritage Board of Estonia (ENHB) as the MCH authority, are co-operating based on the provisions of Estonian Planning Act. The ENHB has participated in the MSP stakeholder meetings. It has been directly involved in the evaluation of the planning issues related to cultural monuments protection. Furthermore, the ENHB is one of the stakeholders, who approve the plan.

An interesting addition in the Estonian MSP is the collaboration with local communities and organisations, whose activities are related to marine and coastal culture. They give information on the important recreational and traditional sites on the coast.

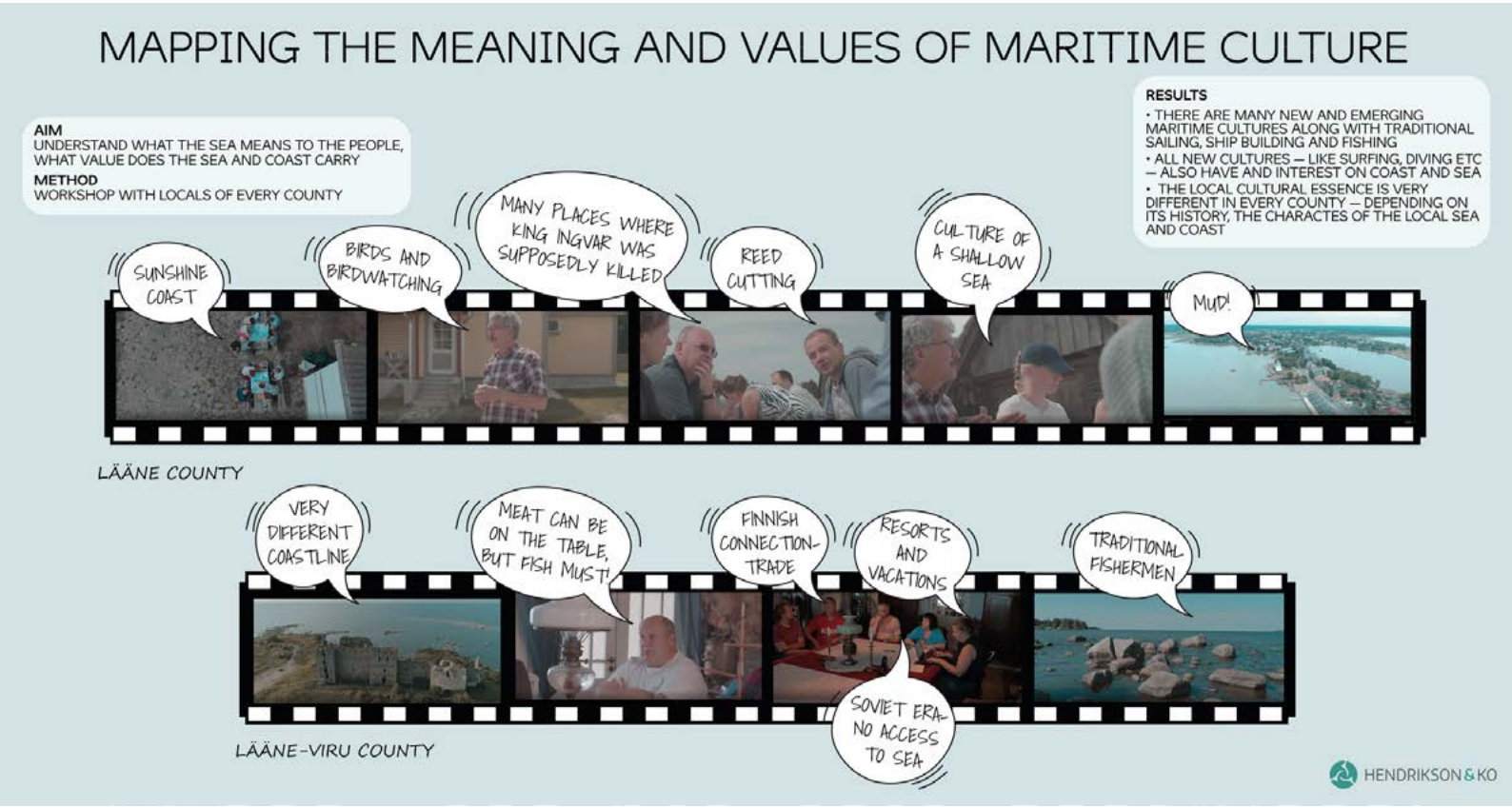
An example of the stakeholder engagement is the mapping of the marine cultural values in the Lääne County and the Lääne-Viru County. This information, together with the results from the methodological overview of available data, has been used in preparation of the county plans. County plans are one-pagers created to give a quick overview of the main sea uses and general information of the county. In the county plans, special features of each county are highlighted. These special features are mostly connected to local cultural heritage tradition such as identity, landscapes and history. Currently these county plans are available in Estonian only. One related stakeholder event is posted to YouTube: **https://cutt.ly/ht09e70**

Conclusion

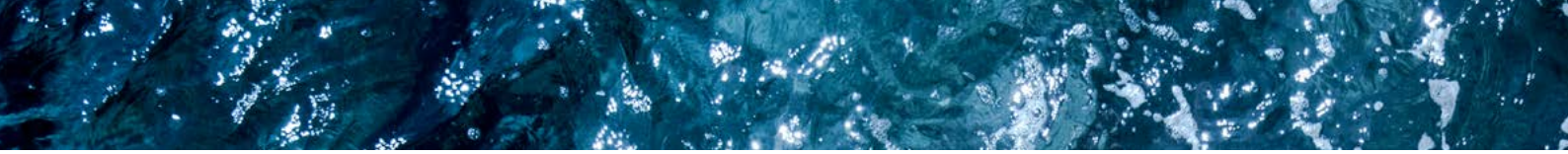
The ways to integrate MCH into planning and management are available. The efficient co-operation between the MCH and MSP authorities is based on the provisions of the Estonian Planning Act. Specific sectoral maps are seen as an appropriate factual background to integrate MCH interests into the on-going MSP process, including the lessons-learned and scientific data derived from the BalticRIM planning cases and cross-border pilot case with Finland.



The spatial data of Estonian MSP is reflected in the map application available on the MSP portal at ***mereala.hendrikson.ee/en.html.***



An illustration of MSP stakeholder engagement in Estonia. By Ministry of Finance of Estonia.



Finland

Conditions for integrating MCH into MSP

The map-based digital plan is displayed on a scale of 1:750 000. Significant clusters of cultural values are indicated with a "cultural values"- area. The background materials are also visible in the digital map and they include many cultural information points and areas, such as protected archaeological sites including wrecks, UNESCO World Heritage Sites and Nationally Significant Built Cultural Environments. There is an option to zoom into scale of 1:577 000, which makes it possible to observe the location of point-based MCH from the background material.

Practical ways to integrate MCH into MSP

The plan is strategic and not legally binding. Environmental impact assessment is part of the planning process. Cultural heritage, including MCH and UCH, is one of the themes in the Finnish MSP.

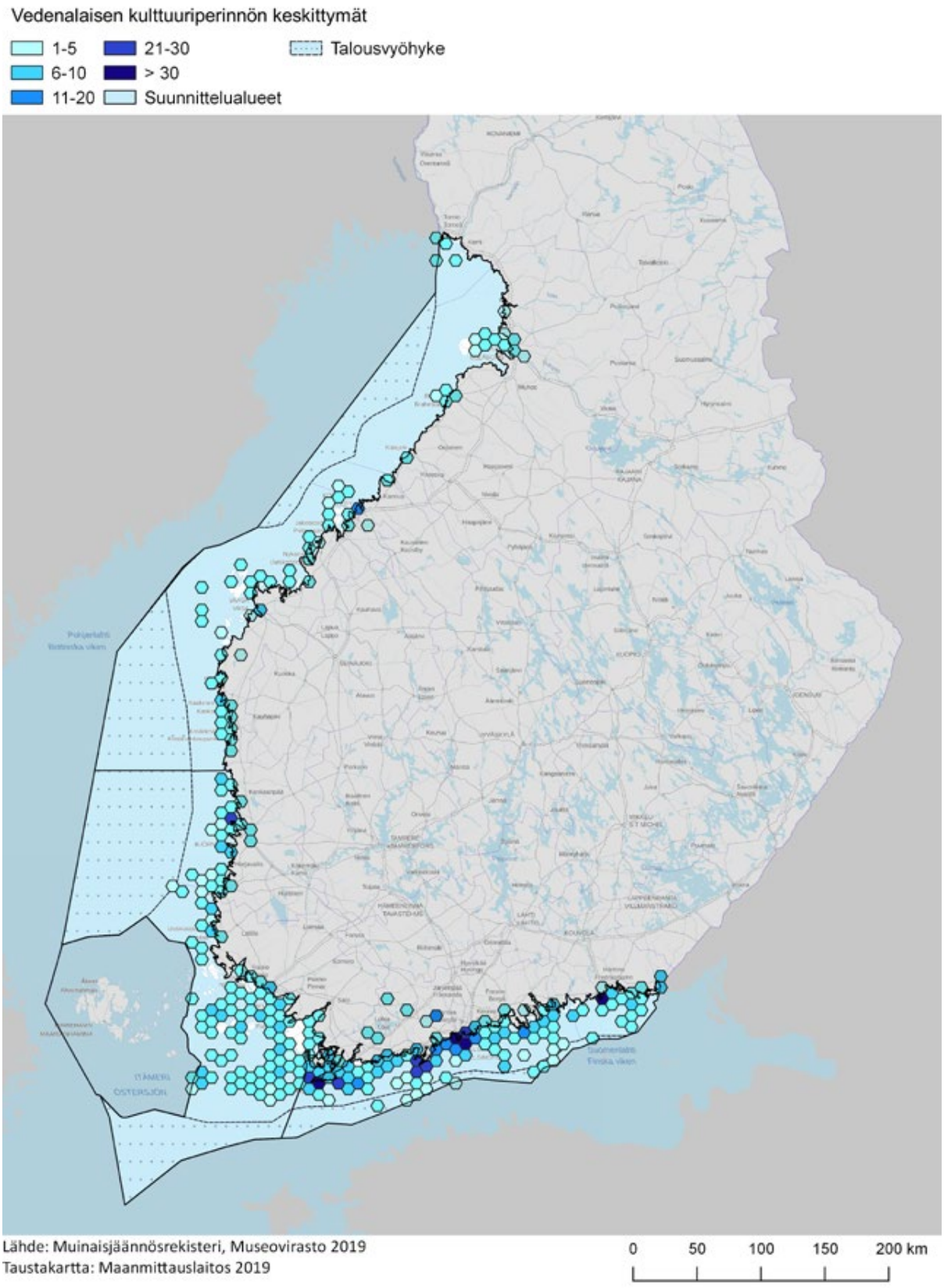
The Finnish Heritage Agency (FHA) and the museums with regional responsibility have an official role and mandate to participate in the MSP in terms of statements and stakeholder meetings. The Finnish MSP process is open for stakeholders, interested parties and individuals. A "Report on maritime cultural heritage", produced by the FHA, provides a review of the available data on MCH, including UCH. The report was utilized in the different MSP outputs.

MCH sites are included in the Cultural Values -marking in the digital map. The Svensksund sea battle area has been indicated on the plan due to its large scale.

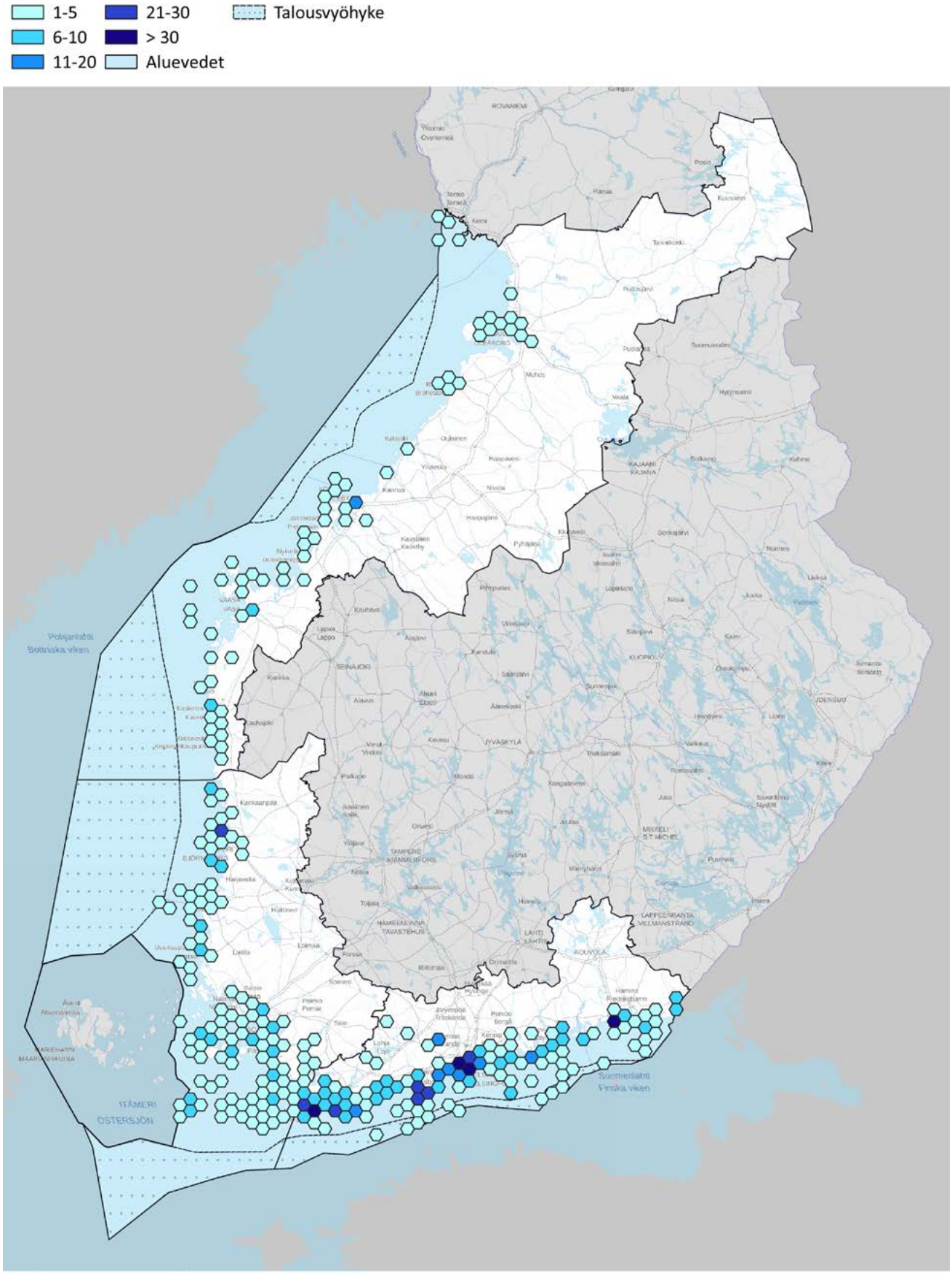
The Concept of Underwater Landscape has been included in the MSP proposal. Thus, the plan promotes the goals of European Landscape Convention of the Council of Europe, which Finland has ratified.

Conclusion

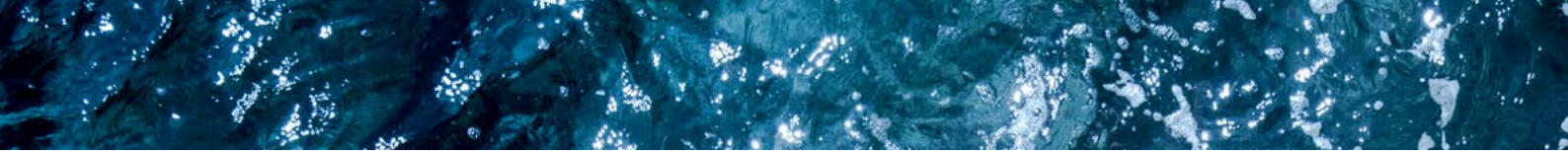
A strong regional approach and stakeholder participation process act as driving forces to incorporate MCH into the MSP process in an efficient way. Open heritage registers with WMS/WFS interfaces and downloadable data are useful tools for MSP as spatial information on MCH sites. Taking into account the Finnish MSP objectives, its scale and strategic nature, the maritime spatial plan 2030 proposal of Finland published online in autumn 2020, highlights the cultural heritage adequately, appropriately and interestingly.



During the BalticRIM project, Finnish Heritage Agency prepared ***a Maritime Cultural Heritage report*** *as background material for MSP process in Finland. In the report, the spatial data in cultural heritage registers was thematised through overviews and map presentations. As examples of these, on left a map displaying the wrecks, which are widely recognised as UCH. The other map displays historic shipbuilding sites, which information is still incomplete.*



Lähde: Muinaisjäännösrekisteri, Museovirasto 2019
Taustakartta: MML 2019



Germany

Conditions for integrating MCH into MSP

The MCH has been hitherto taken into account near the end of the decision-making cycle of project planning through EIA legalisation, e.g. in the context of the Fehmarn Belt Fixed Link (Schleswig-Holstein) and the Nord Stream pipeline (Mecklenburg-Vorpommern). This allowed only for reactive actions focussed on averting or mitigating direct impacts on the MCH, but did not allow for a pro-active cultural heritage management. The BalticRIM project provided the first opportunity to integrate MCH issues into MSP in a more systematic and thus sustainable way.

Because cultural politics are within the domain of the German federal states ("Kulturhoheit der Länder") and not the German national government, the legislation and responsible authorities differ between the territorial waters of each state, as well as the EEZ. For this reason, different approaches are necessary.

In territorial waters:

- The territorial waters in all German states are legally defined as a federal waterway, and the freedom of navigation is the overriding policy by default. Any in-depth sea-space planning conflicting with this policy therefore cannot take place, which generally reduces the applicability of MSP in German waters. As a result, the MSP cannot be as detailed as elsewhere and is restricted in terms of sector prioritising. Maritime interests mainly come from the shipping sector and existing rights assure undisturbed trade relations.

In the Exclusive Economic Zone (EEZ):

- There is no UCH authority for the German EEZ because of the aforementioned fact that cultural politics are within the domain of the German federal states, but not the German state per se.

- Therefore, UCH legislation on the national level does not exist, apart from the Cultural Property Protection Act (KGSG) regarding illicit trade with archaeological artefacts.

- The UCH in the German EEZ is only nominally protected by UNCLOS (Art. 303) as well as through EIA legislation. Therefore, the UCH is often only taken into consideration in a late phase of the planning cycle, i.e. during subsoil investigations, for example for corridors and routes for cables, which is very late in the planning process.

Potential ways to integrate MCH into MSP

In the waters of the federal state of Schleswig-Holstein:

- Although a consideration of the UCH / MCH in the determination map (1: 300 000) is out of question due to relevancy, scale and statutory protection status, there is a possibility to include UCH / MCH in regional plans in the long-term, if a spatially relevant protection status for UCH/MCH sites can be enforced.[29]

- The default perimeter protection status of listed monuments is not deemed sufficient to consider UCH/MCH sites as priority or reservation areas in MSP, therefore the ALSH has to designate greater areas for which a protection status has to be issued.

- The legal instrument for the designation of MCH areas is already existent in regard of Cultural Landscapes protection, which could be arguably also applied in a maritime and/or ICZM-context.

- In principle, the integration of MCH into MSP should be seen primarily as a political, not a technical issue: although it would be theoretically possible to include UCH / MCH on a legal basis, there needs to be a political mandate for the decisive impetus for implementation.

In the EEZ:

- The precondition is a legal protection status of UCH sites, with an emphasis on in situ protection. In theory, this can be legislated already on the basis of UNCLOS Art. 303 by the Federal Republic of Germany.

- As long as the regulatory vacuum with regard to the UCH in the EEZ continues, the heritage protection authorities of the three German littoral states of Lower-Saxony, Schleswig-Holstein and Mecklenburg-Vorpommern ought to contribute to the EIA and SEA reports in lieu.

- The lack of UCH data was identified as a serious problem to contribute to EIA and SEA reports. Therefore it is a desideratum to facilitate data exchange with regard to sea-bed core sampling and other marine data.

- If the UNESCO Convention on the Protection of the Underwater Cultural Heritage were ratified by Germany, there would be a legal requirement for in situ protection of UCH sites in the EEZ.

Conclusion

Several interim goals could be achieved within the framework of the BalticRIM project: UCH/ MCH issues are integrated into the text version of the currently updated Land Development Plan of Schleswig-Holstein, which includes the official MSP. Moreover, a statement of the ALSH written in conjunction with colleagues from the responsible archaeological heritage authorities from the two other littoral German states of Lower Saxony and Mecklenburg-Vorpommern will enter the EIA- and SEA-reports currently updated by the BSH for the German EEZ.

In general, the integration of MCH into MSP should be seen as a political and not a technical issue. Strong efforts of co-operation between MCH and MSP authorities on EEZ and federal state level are ongoing and seem to have positive effects for the integration

Lithuania

Conditions for integrating MCH into MSP

The plan with introduced potential MCH sites has been approved in 2014. The new edition of the plan is currently in the final stage of development and is submitted for approval later this year (2020).

So far, there are first signs of potentially good collaboration between sectorial experts and the responsible MSP ministry. The heritage database and assets' evaluation are in the hands of experts at the Department for Protection of Cultural Heritage under the Ministry of Culture of Lithuania, which could push the proper documentation of the MCH findings as well as the recognition of the UWL as a valuable asset. Currently, the formal register is oriented to land-based heritage. The MCH/UCH categorization is in the development stage.

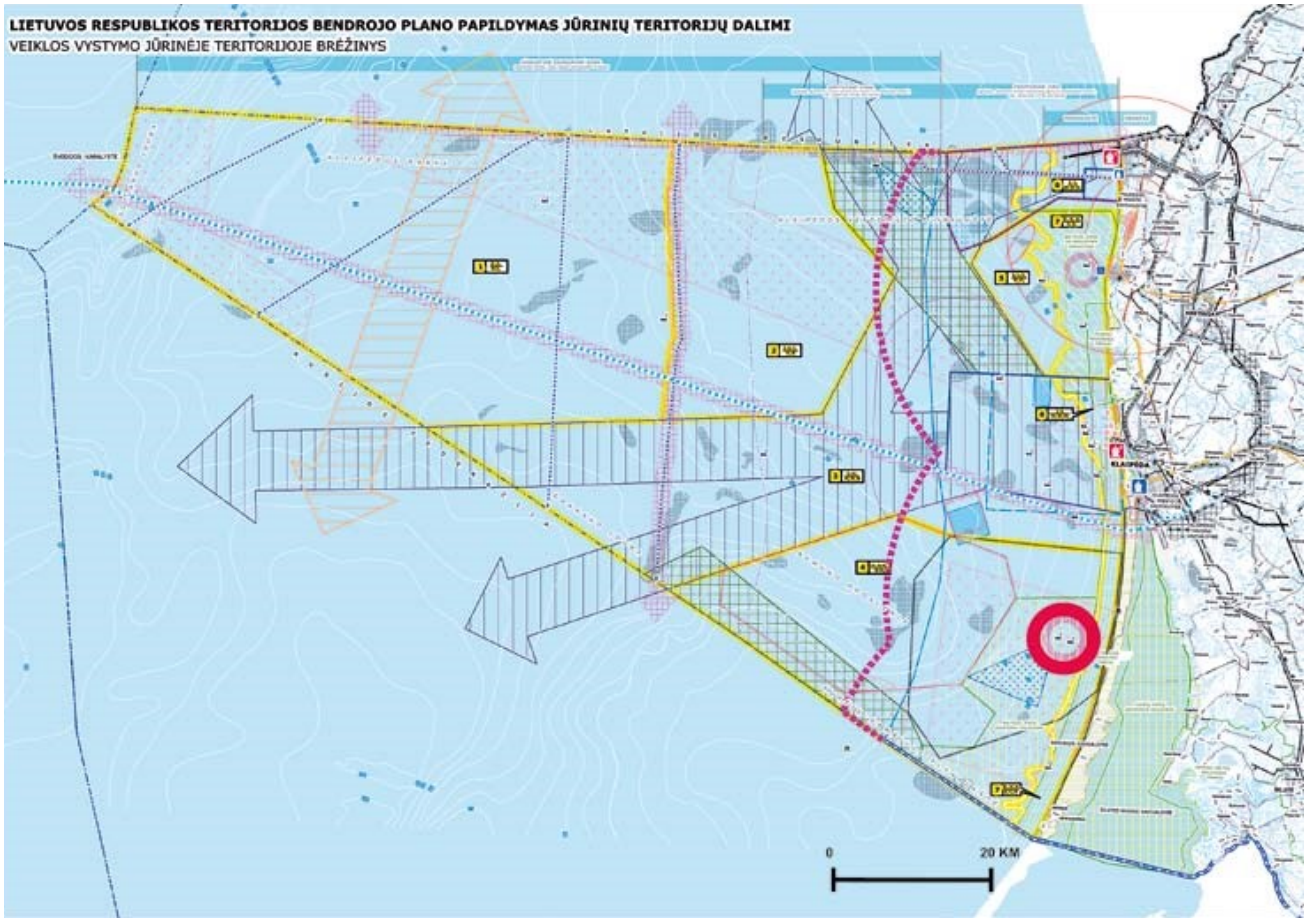
Potential ways to integrate MCH into MSP

Based on the analysis of barriers, the following steps are necessary:

- institutional system to provide, update and document the relevant information/datasets
- proper database with clear categorization and description of the heritage assets
- principles of the determination of the level of protection (no go, highly protected, under research, open for recreational/educational purposes or similar) and/or the nature of utilization (for science, tourism, education, other)
- delineation of the "to-be-established MCH" site including a location map and the description of the asset(s)
- status of introduction (under investigation, recommended, potential – introduced and under development, established and regulated, under revision etc.) related to the national planning documents (MSP, regional development plan, or others)
- preparation of a regulatory framework for all types of UCH

Conclusion

The ways to integrate MCH into planning and management are twofold: providing background data and sectorial maps to be integrated into the new generation of plans after the year 2021. Therefore, the contribution of the BalticRIM project can be considered very relevant. The project provided firstly a proper example on how to document the particular assets/area and conduct preparations for further integration into the database. Secondly, the project activities guided the introduction of the particular assets or areas into the action plan for MSP implementation, supported by a well-developed regulatory framework for the particular case and potential other cases.



Supplementation of the master plan of the Lithuanian territory with maritime spatial solutions. The red circle marks the Lithuanian BalticRIM pilot region.

Poland

Conditions for integrating MCH into MSP

- UCH has been mapped and analysed during stock taking stage (2014-2015) and outcomes of the analysis were collected in the report discussed with stakeholders.[30]

- The information gaps with regard to UCH were identified, in particular areas with insufficient information on UCH.

- Aforesaid analysis were informed to the planning process in preparation of the plan in scale 1:200 000 in the years 2016-2019 (i.e. before BalticRIM findings became available).

- UCH has been regulated by the MSP in a form of general rules protecting UCH but MCH has been taken into account as information, only.

- MSP in Poland is still under development, and new more detailed plans are under preparation e.g. Gdańsk Bay plan, Vistula Lagoon. During these MSP processes one can observe awareness rising concerning the MCH as a sector.

- These recent planning processes are informed by the new outcomes and information i.e. BalticRIM ones.

Practical ways to integrate MCH into MSP

The zoning plan in the scale 1:200 000 that covers majority of the Polish sea areas (its elaboration was completed in 2019):

- considers mainly UCH and prefers it in situ protection (removal is possible in exceptional cases)

- UCH is defined as monuments located in Polish sea areas and their surroundings, in accordance with Art. 3 of the Act of 23 July 2003 on the protection and care of monuments

- function: cultural heritage means indicating in the plan, UCH in order to ensure its protection conditions, as well as indicating the location of underwater warehouses and museums

- for each sea zone delimited in the plan the location of the UCH is indicated in the sea zone card as a background information

The plan enforces spatial protection of the UCH. The following general rules are formulated in the plan:

  - UCH is protected on the terms set out in the provisions of the Act of 23 July 2003 on the protection and care of monuments the Act of 21 March 1991 on the maritime areas of the Republic of Poland, and on maritime and other regulations. The established safety zones around the UCH and rules in force in these zones should be taken account.

  - Apart from emergencies, the use of Polish sea areas may not damage or destroy the UCH. This particularly applies to the operation of ports and marinas, the laying of linear elements, the construction of artificial islands, structures and devices, protection of the seashore, tourism, sports

and recreation, obtaining renewable energy, exploration, recognition of mineral deposits and extraction of minerals from deposits, aquaculture and scientific research.

- In the event of locating or recognizing the underwater cultural heritage, until the safety zone around it and the rules in force in this zone are designated, it is prohibited to conduct works that may damage UCH.

- There is an obligation to make an archaeological inventory of the seabed in areas designated for investments, the conduct of which may endanger the UCH.

Potential ways to better integrate MCH into MSP (progress since 2019)

- Usage of the MSP process to approach other sectors and promote MCH actively.

- Extending the existing approach of zoning and inclusion of aspects of UCH into the general rules by more advanced thinking on MCH i.e.: areal approach to MCH, better inclusion of terrestrial MCH objects into MSP, more attention to paleo-landscapes etc.

- Developing MCH integrated maps for special sites, to support the integration of MCH into MSP process, such maps should position MCH against other sectors and act as boundary spanning objects.[31]

- Continuation of the MSP process after adoption of the plan with active participation of the MCH sector in particular MCH authorities (National Maritime Museum) and other MCH stakeholders.

- Promoting an idea of multi-use with regard to e.g. MCH and environmental protection and underwater tourism.

Conclusion

Thanks to various MCH related processes, and in particular BalticRIM co-operation, the Polish approach regarding inclusion of MCH into MSP has been maturing in the recent years. This can be observed in ongoing MSP processes. Practical steps, such as the MCH classification and development of planning tools to integrate MCH, have been taken in the detailed MSP for the Gulf of Gdańsk and Vistula Lagoon due to the BalticRIM project. Intensive stakeholder consultation will guide planners to use these data and incorporate MCH at least on a low level, e.g. as a sectoral map.

The concepts of UWL and CSA were not taken into account so far, but they might be developed or tested in the detailed MSP for the Gulf of Gdańsk and Vistula Lagoon.

Russia

Conditions for integrating MCH into MSP

There are processes on-going related to MSP, but no active MSP process so far. Therefore, indirect influence conducted by the MCH authorities and experts as well as MSP experts would be needed to draw attention to the sector and to be prepared when planning in maritime areas begins.

Potential ways to integrate MCH into MSP

- approach other sectors and promote MCH actively backed by the Marine Board under the Government of the Russian Federation and Regional Maritime Councils
- try to include as many aspects of MCH as possible into the MSP frame rather than follow the approach of zoning
- include identified UCH in the National Cultural Heritage Register of Russia and establish a framework for its protection
- include MCH into BSR MSP Roadmap, Russian MSP Roadmap and the HELCOM Baltic Sea Action Plan

Conclusion

The sectoral approach is difficult to overcome and it may change due to political changes towards a more ecosystem-based MSP approach. So far, the concepts of UWL and CSA have not been considered.

Priority steps to improve the Russian MSP and UCH legislation and water area management system

- **Adoption of the federal law on state management of maritime activities;**
- **Development and adoption of a federal law on MSP;**
- **Development and adoption of a federal law on underwater cultural heritage;**
- **Identification of authorized federal and regional bodies responsible for MSP and UCH management;**
- **Compilation of the Register of objects of the marine archaeological heritage of the Russian Federation (UCH);**
- **Development and adoption of relevant regional laws of the coastal regions of the Russian Federation on MSP and UCH.**

Progress in MSP development in Russia from 2012, and recommendations for Russian stakeholders on the operation and management of MCH in the Gulf of Finland. Roadmaps for using MCH is based on BalticRIM pilot case studies on the Gulf of Finland. Priority steps elaborated by the Institute of Maritime Spatial Planning Ermak Northwest.

2.5 The first MSP round: an overview of the challenges to integration

The co-operation in the BalticRIM case study areas revealed several challenges that might hinder the integration of UCH and MCH into MSP. The most widespread and significant challenges are grouped in the following:

- MCH and MSP authorities' do not have sufficient mandate to include UCH and MCH into MSP in some BSR countries.
    - good practice to solve the challenge: ensure in national legislation that there are cultural heritage authorities with legal mandate to participate in MSP
    - good practice to solve the challenge: ensure in national MSP policies that at least UCH according to the MSP Directive will be taken officially into account in MSP
    - good practice to solve the challenge: BalticRIM recommends to integrate MCH instead of only UCH into MSP in order to have a more holistic land-sea interaction approach of cultural heritage of our coastal, archipelagic and maritime areas, such as lighthouses, sea fortresses and fishing villages
- Due to existing legislation or administrative routines, the MSP effort towards UCH is limited only to minimum.
    - good idea to solve the challenge: strengthen the preplanning phase focusing on the informal planning processes, as well as on MCH promotion and stakeholder engagement
- Maritime and underwater surveys of cultural heritage of national coastal areas, archipelagos, territorial waters, and EEZ are not systematic in any BSR countries. Therefore, the scope, nature and location of UCH are undefined, and UCH significance is not sufficiently determined at national, regional or local levels. In some BSR countries, the existing UCH data is not available in open registers. In all BSR countries, the accuracy and quality of the UCH data varies, but this is not systematically assessed. In short, the UCH and MCH data and planning evidence are incomplete.
    - good practice to solve the challenge: publish cultural heritage data in open registers
    - good practice to solve the challenge: conduct more archaeological surveys and documentation. Based on these, recognise MCH/UCH themes and create regional MCH/UCH areas
    - example to solution: in Finland, the Lahia and Jussarö ship trap areas were defined through fieldwork and archival research during BalticRIM
    - example to solution: adopt a flexible planning approach in terms of the combination of zoning, when necessary, and

general rules, particularly precautionary rules. This was implemented in the Polish MSP in the scale 1:200 000

- The MCH and UCH data and other information are collected in various registers, possibly even maintained by different authorities.
    - good practice to solve the challenge: create a data portal, where the various marine and maritime data is found in one place
    - examples to good practice: BalticRIM Data Portal (balticrimdataportal.eu); ParticipatoryGIS portal **mch4blue** created by University of Tartu within the BalticRIM project and **MarineFinland.fi portal**
- MSP planners are not properly informed yet to take MCH into consideration in their plans.
    - good practice to solve the challenge: train and include planners on projects dealing with MCH, as in the **SEAPLANSPACE**, **PartiSEApate**, **Capacity4MSP** and BalticRIM projects
- Knowledge, tools and experience on how to assess the different environmental and human pressures on UCH and MCH in the context of MSP is insufficient.
    - good practice to solve the challenge: use EIA, the BalticRIM Environmental Factors and Human Impact Template, (see BalticRIM homepage) Bow-tie analysis or DAPSI(W)R(M) framework
- There are difficulties to include intangible and emotional values of the UCH and MCH sites into MSP.
    - good practice to solve the challenge: adopt the ideas of the BalticRIM Underwater Landscape and Culturally Significant Areas (Chapter 3.4) as well as different kinds of areal and landscape approaches
    - good practice to solve the challenge: make the MSP process open and inclusive, and involve the local level as well
- There is underrepresentation of UCH & MCH theme compared to other blue economy sectors.
    - good practice to solve the challenge: promote the examples and models of blue growth utilizing the MCH assets
    - good practice to solve the challenge: use the potential of UCH and MCH in sustainable tourism
- The BSR Countries do not practise MSP in identical ways. Therefore, it is not feasible to have a Pan-Baltic approach to integrate MCH to MSP.
    - good practice to overcome the challenge: understand the complexity and variations of the different national systems
- Cooperation between BSR countries on the integration of MCH into MSP seems insufficient.

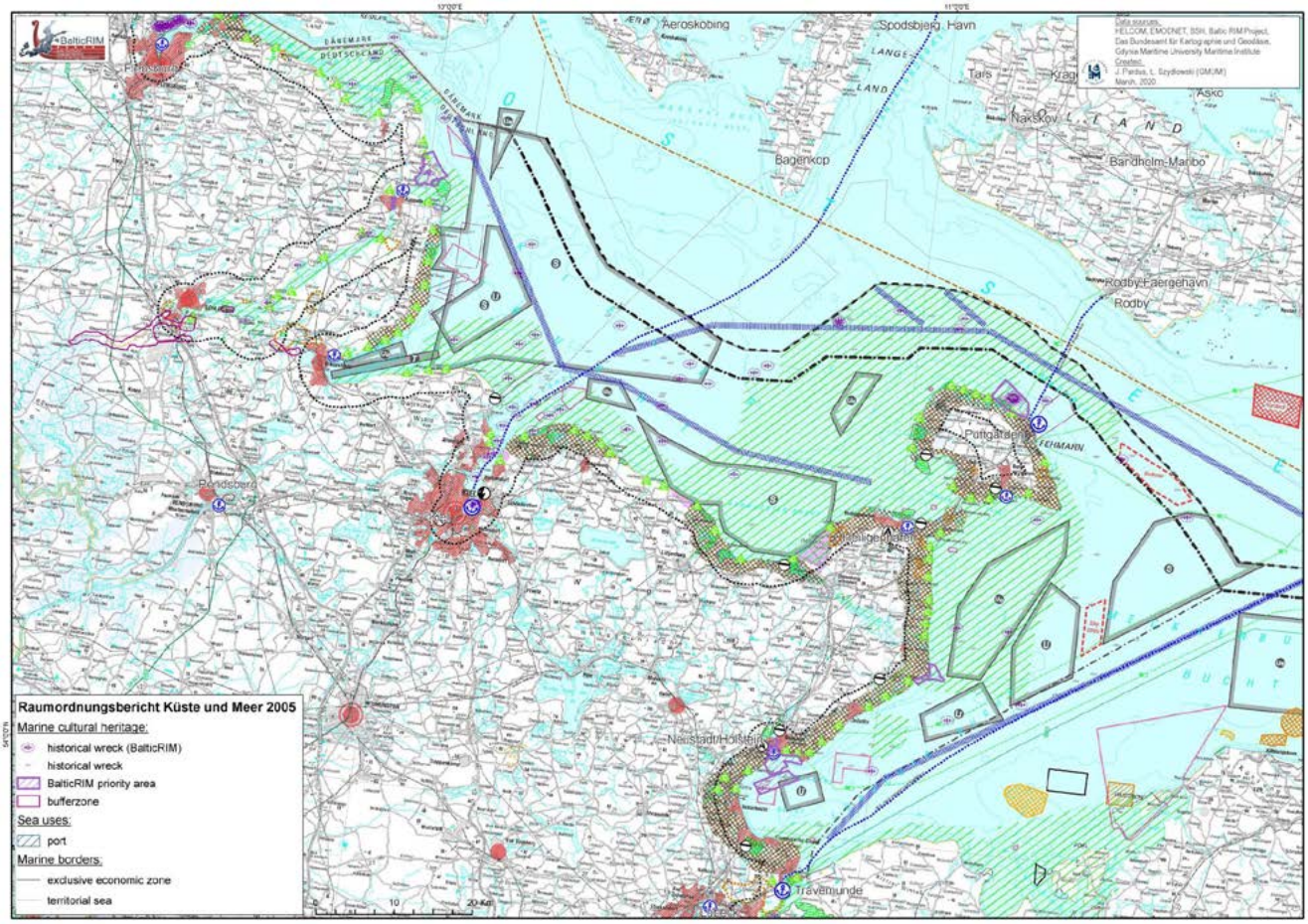
- good example to solve the challenge: get involved in co-operation projects like BalticRIM. Support the continuous collaboration between the BSR MSP working groups and networks as well as the BSR expert working groups on underwater heritage and coastal heritage

- About 40% of the Baltic Sea is not covered by the national heritage legislation.

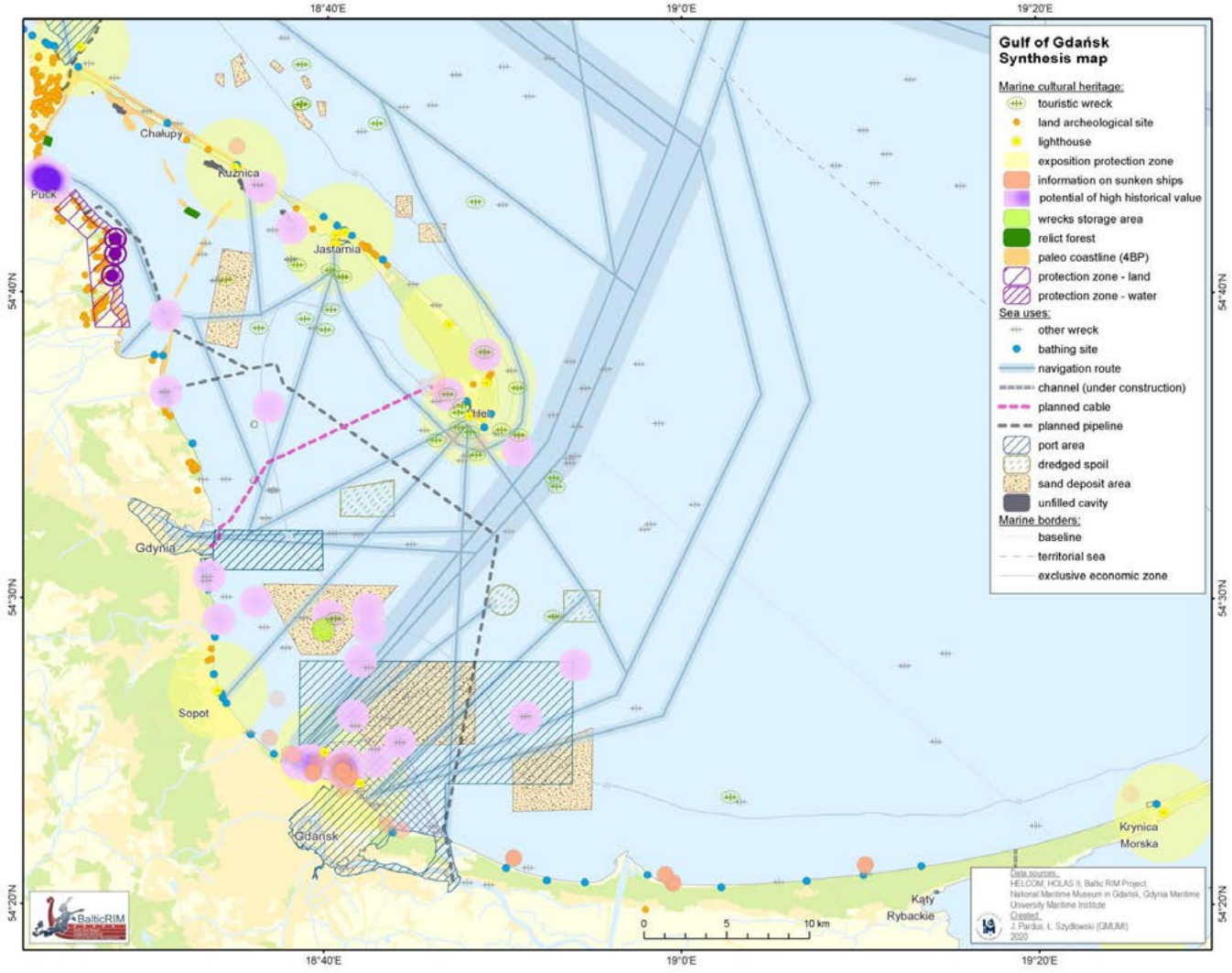
  - good practice to solve the challenge: in Estonia the national heritage legislation protects heritage sites located in EEZ as well as territorial waters

  - good practice to solve the challenge: ratification of **UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage**

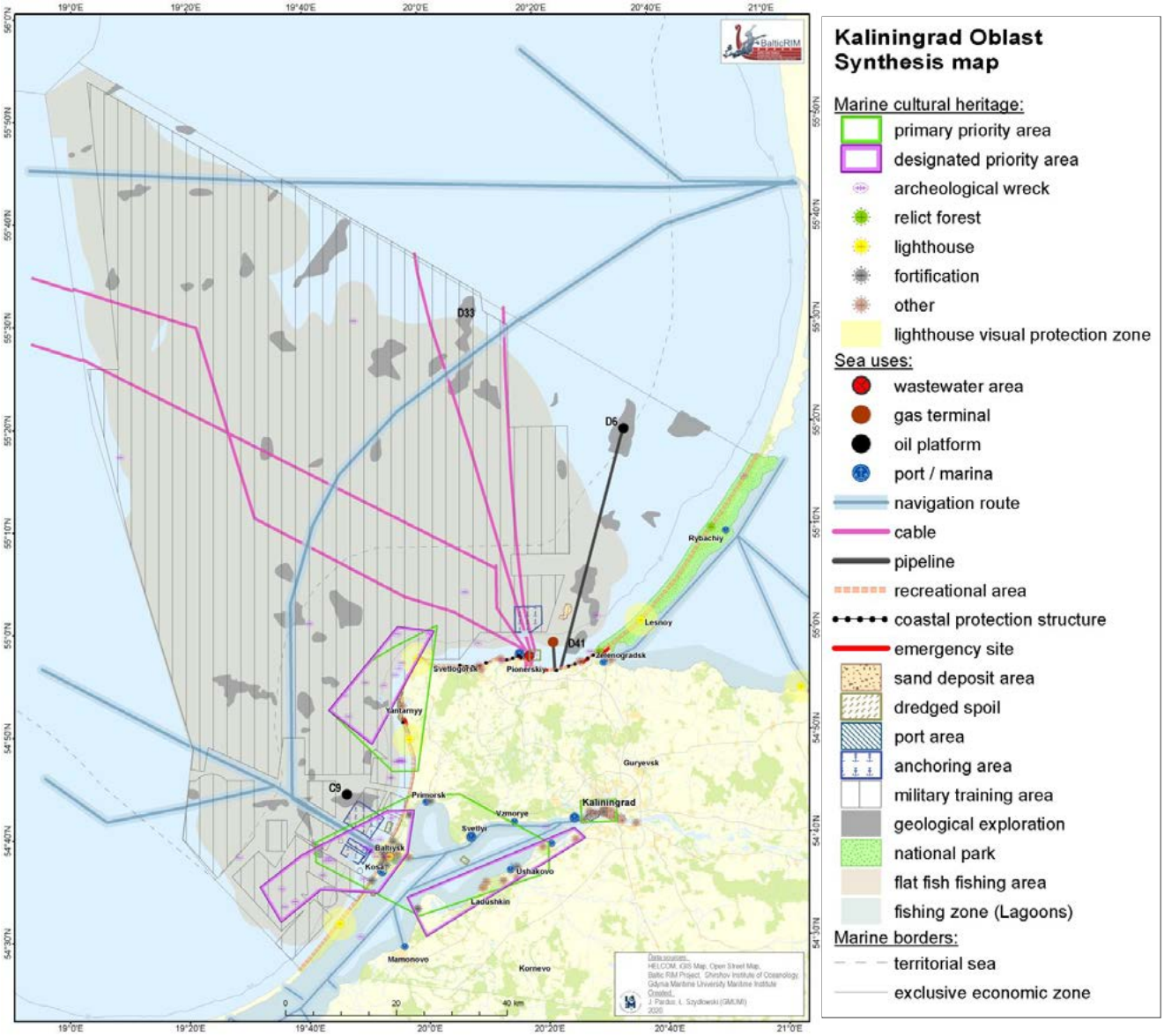
  - good practice to solve the challenge: implement the Code of Good Practice for Management of Underwater Cultural Heritage of the Baltic Sea Region (**COPUCH**) by the Baltic Sea Heritage Committee and the BSR Working Group on underwater heritage



BalticRIM proposed MCH priority areas as a "synthesis map" in the Schleswig-Holstein. On the background of the map of the use of space of the Schleswig-Holstein coastal sea, being a part of the Regional Planning Report Coast and Sea – Schleswig-Holstein (2005). Source of information: Raumordnungsbericht Küste und Meer / Innenministerium des Landes Schleswig-Holstein, Abteilung Landesplanung, 2006. Elaboration of content by Jacek Zaucha, Magdalena Matczak, Joanna Witkowska (GMUMI), Iwona Pomian, Krzysztof Kurzyk (NMM), data processing and maps by Joanna Pardus (GMUMI).



Synthesis map of the BalticRIM recognized MCH values and the threatening sea uses in Gulf of Gdańsk area, Poland. Elaboration of content by Jacek Zaucha, Magdalena Matczak, Joanna Witkowska (GMUMI), Iwona Pomian, Krzysztof Kurzyk (NMM), data processing and maps by Joanna Pardus (GMUMI).



Synthesis map of the BalticRIM recognized MCH priority areas and the threatening sea uses in Kaliningrad Oblast, Russia. Elaboration of content by Jacek Zaucha, Magdalena Matczak, Joanna Witkowska (GMUMI), Iwona Pomian, Krzysztof Kurzyk (NMM), data processing and maps by Joanna Pardus (GMUMI).

BalticRIM MSP pilot planning studies regarding the Polish (Gulf of Gdańsk), German (Schleswig-Holstein) and Russian (Kaliningrad Oblast) cases were worked out to fill knowledge gaps by mapping exercise. Map services were used to detect spatial conflicts and synergies and to prepare maps integrating MCH with other users, resulting cross-sectoral pilot spatial plans. The processes were step-by-step approach towards conflicts visualisation and solution findings.

The first step was to visualize MCH assets as described by the BalticRIM partners. The short descriptions of MCH priority areas were provided.

The second step was to map the sea uses, which have been described in earlier project phase as carrying physical and aesthetic threat to the cultural objects and sites. The information and data about the existing and planned sea uses was obtained from both open sources, strategic, planning documents and from the scientific publications. The short descriptions of sea-uses were provided.

The third step was to elaborate a synthesis map, which allows to brainstorm on and understand the main spatial conflicts and start the discussion on potential solutions.

The forth step was to give proposal of planning suggestions, which might by used in the further discussions with planning authorities and other stakeholders. In case of Poland – the planning suggestions have been submitted as an official proposal to the ongoing Gulf of Gdańsk MSP process in March 2020.

The process was not perfect. In most of the cases the resolution of data from regional sources (like HELCOM data base) did not suit the scale of the MCH priority areas, some of the data is missing – like the recreational coastal traffic, some of the data should be verified with the local stakeholders. Still, the planning experience show that even coarse analyses and maps brings fuel for further discussions.

Below the integrated maps for the SchleswigHolstein (Germany), Gulf of Gdańsk (Poland) and Kaliningrad Oblast. They can used as a tool for awareness rising and discussing potential planning solutions.

Elaboration of pilot studies by Jacek Zaucha, Magdalena Matczak and Joanna Witkowska (GMUMI), with contributions by project partners. Data processing and maps by Joanna Pardus (GMUMI).

3. BalticRIM Solutions

3.1 The BalticRIM Data Portal

The Web-GIS service, called the BalticRIM Data Portal, was designed in order to create new MSP approaches for MCH integration. The BalticRIM Data Portal established a supportive structure to facilitate collaboration within an MCH-MSP community of practice. The data portal assists in the identification of cross-border cultural heritage phenomena, and provides BSR wide schematization of UCH and MCH. It also shows how underwater and coastal cultural heritage often have a strong land-sea connection. From a capacity building perspective, the BalticRIM Data Portal furthermore contributes to the ongoing mutual learning processes across national and organisational borders within the organisational setups of MCH and MSP.

Project case study data was stored and displayed in the Data Portal. During the project, the Data Portal served as an arena to exchange data and insights across borders enabling discussions on how to manage MCH values in the context of MSP. The digital features facilitated shared understandings and the development of concepts fitting into maritime spatial plans and processes.

Besides supporting the case studies, the portal serves as a means for communicating project results to a broader audience. The publicly available part displayed by the pan-Baltic view presents central characteristics of the national UCH and MCH the Baltic Sea Region. These themes include the promotion of some of the broader blue growth perspectives as pan-Baltic legacies or specific sites of cultural and touristic significance.

Features of the BalticRIM Data Portal - www.balticrimdataportal.eu

The basic design addresses the need for providing an online service with various possibilities for the users. The advantage of the system is that it enables quick and easy access to the data in a web browser, and the user does not need special GIS software or GIS knowledge. The main features of the interface include three parts: a navigation bar, a selection tool, and the interactive map in the right side, as shown in the figures above.

The BalticRIM Data Portal displays subsets of maritime cultural heritage data published by national data providers through OGC open geospatial standards – WMS and WFS – and includes UCH data as well as land-based MCH in the coastal areas. Metadata are collected, stored, and managed in the database, and metadata tables are available for the datasets. For selected layers, which can be publicly accessible data from other portals or for other layers without restrictions, download functions are included.[32]

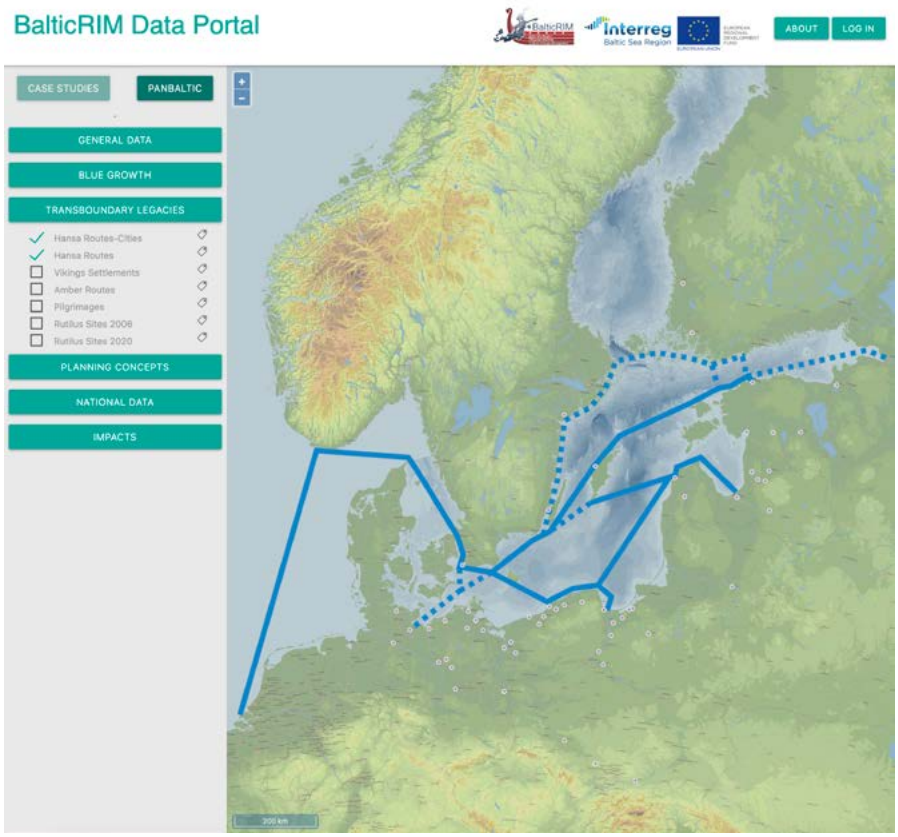
The BalticRIM Data Portal provides also a closed GIS-based working environment, which allows displaying and discussing sensitive as well as not publicly available data. This supported the co-creation and sharing of new spatial planning concepts for MCH. Dealing with the cross-border case studies data, the portal enables the sharing of data, the discussion of legislative matters and not least the visualisation and testing of new planning-oriented MCH concepts.

The future of the BalticRIM Data Portal

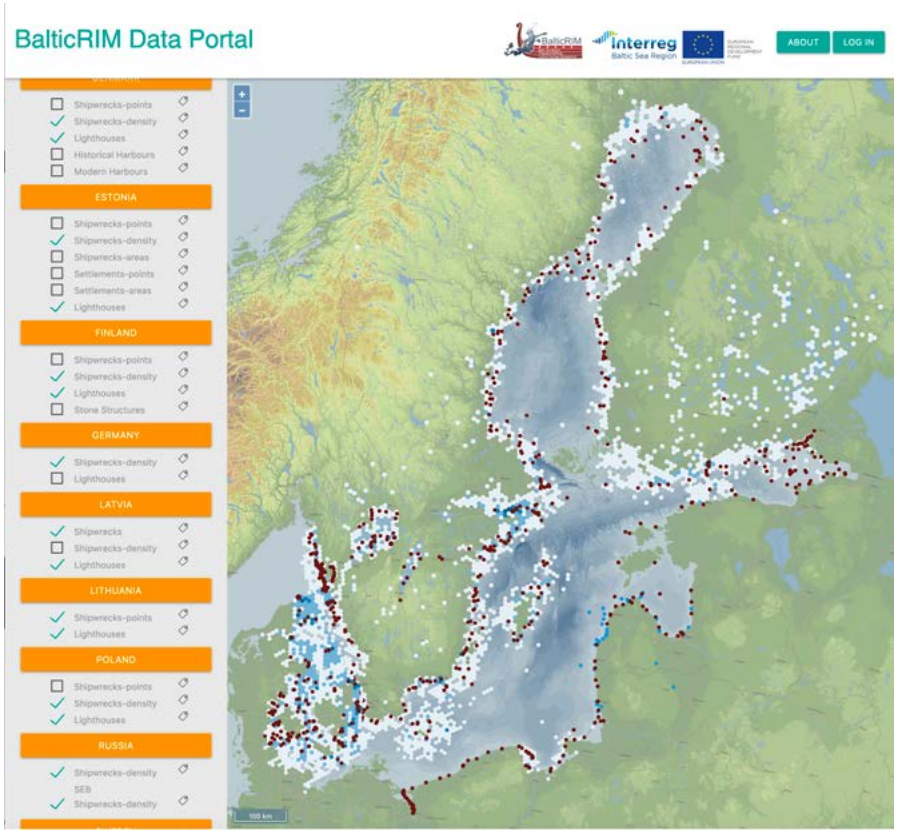
The prototype of the BalticRIM Data Portal was developed in order to spatially enable the communication across the professional domains of MCH experts and maritime spatial planners. This was done by providing an internal digital working environment, where initial data, ideas, and concepts could be shared, developed and tested in the BalticRIM project. Some of these results are already being implemented in national maritime spatial plans; others provide a basis for further development and dissemination, which will be enabled by the services of the BalticRIM Data Portal.

During the project, the BalticRIM Data Portal has provided an arena for knowledge sharing, engagement, and mutual learning processes across national borders and among practitioners in a complex, interdisciplinary professional community. The need for a digital infrastructure facilitating the collaboration regarding the development and testing of new shared spatial concepts, evolved during the project and turned out to be a central feature of the project. Even if national setups will remain different and data might never be fully harmonised, experiences from the ongoing collaborative MSP projects and processes, illustrate how new integrated concepts are starting to bridge across borders and among the cultural heritage and MSP communities.

In the future, the closed part of the portal can still function as a closed working environment supporting the further discussions and development of concepts within the MCH community, while the publicly available part can be utilised for continuously promoting MCH as one of the key elements of BSR MSP.



The interface of the BalticRIM Data Portal displaying the public Pan-Baltic part – here "The Hansa" as one of the famous transboundary legacies.



Layers are still being added into the Data Portal. Here displayed are shipwrecks and lighthouses across the Baltic Sea.

3.2 BalticRIM WIKI – a glossary of maritime and underwater cultural heritage terms

The BalticRIM WIKI contains selected MCH and UCH terminology with attached definitions and visualizations along with basic MSP glossary. It introduces those heritage terms that have a specific use regarding MSP perspectives. This meant, in particular, maritime and underwater site categories that are geographically large-scale phenomena and thus suitable for the wide scale of MSP.

The BalticRIM WIKI:

- gathers together selected maritime and underwater cultural heritage site categories, terms and definitions in one location
- is based on an agreement on common MCH and UCH terms and their consistent use in the project
- develops cultural heritage terminology and definitions for less known site categories such as ship trap

Most of the presented MCH and UCH definitions and descriptions are based on the Finnish wiki-based "Guide to the Archaeological Heritage in Finland", which was published by the Finnish Heritage Agency in 2017.[33] For each of the selected terms, a definition and a description have been produced, such as "maritime heritage", "underwater heritage", "underwater landscape", "sea battle area", "ballast dumping site", "a ship trap", a ship cemetery", and "maritime recycling area". In addition, terms of MCH management concept and strategies - such as in situ conservation, underwater park and underwater storage - and acronyms of organizations, networks and projects have been included.

The project partners aim to continue the maintenance and development of the BalticRIM WIKI after the end of the project.

3.3 BalticRIM underwater landscape concept

Within the UCH management, most underwater cultural heritage sites are usually mapped as single dots with coordinates or as small areas. It has also become obvious that these delimitations are often not sufficient for proper management, for instance, concerning wrecks. Neither are they proper for the needs of MSP. To improve the situation, MCH authorities have begun to pay attention to the underwater landscape. They point out that the individual underwater historical sites should be seen as a part of a broader landscape, not only as individual dots separately from the other nearby cultural and natural features.[34]

The BalticRIM concept of Underwater Landscape (UWL) was developed to promote the application of the term in heritage management and in MSP.[35] The final goal was that the concept could act as a new tool for heritage management and in planning of maritime space. The reasons for developing the concept were:

Intangible Cultural Heritage

Definition

The Intangible Cultural Heritage is an ancient practice, representation, expression, knowledge, or skill, which was preserved by continued or revived application. It complements the material (archaeological) heritage, as the observation of a traditional practice can give cues for the interpretation of material heritage.

The UNESCO drafted in 2003 the Convention for the Safeguarding of Intangible Cultural Heritage, which officially recognises such traditions. Several practises relating to the maritime cultural heritage have already been - or are in the process of being - officially recognised. In 2019, the *Nordic clinker boat tradition* was nominated for inscription on UNESCO's representative list[1], and in the previous year, the *Die Bewahrung und Nutzung der Zeesboote in der Mecklenburg-Vorpommerschen Boddenlandschaft* (protection and use of Zees-boats in the Bodden landscape of Mecklenburg-Vorpommern) was inscribed in Germany's national register of intangible cultural heritage.[2]

The Finnish Heritage Agency opened a national Wiki-inventory for Living Heritage in 2016 related to the UNESCO 2003 Convention. The Wiki-inventory now contains 175 submissions.

The Intangible Cultural Heritage is an important factor for coastal and maritime culture and tourist development. Thus, a Blue Growth strategy to the maritime cultural heritage ought to highlight the importance of the intangible cultural heritage.

The traditional Helsinki Baltic Herring Market in October 2020. Market has been held since 1743. Copyright: S.tikkanen.

Rum-Regatta 2016

Screen shot of main page http://dokuwiki.balticrim.eu

- to create large-scale areas with fixed boundaries for UCH sites for the heritage management, and for MSP

- to implement the goals of the **CoE European Landscape Convention**, which highlights the importance of taking everyday landscapes into consideration, be it ordinary or outstanding, on land or in water

- to implement the goals of the CoE Framework Convention on the Value of **Cultural Heritage for Society** stressing the role of heritage communities

- to develop academic research on the theme of underwater landscape

According to the BalticRIM definition, the UWL is an area under water containing cultural and nature values. The Sea can be seen as a cultural property as well as a force of nature. The concept of UWL encompasses all human experience of the underwater natural and cultural environment.

The underwater landscape is an area under the surface of the water directly or indirectly per ceived and imagined by people. Its features are the results of the interaction between people and nature, reflecting various dimensions of time.

The underwater landscape discloses the connection people have with the sea. It is part of the environment that is perceived, imagined and lived either directly or indirectly by means of various acts, senses and associations.

The underwater landscape consists of environmental and natural elements, flora and fauna, traces left by human activity, such as wrecks, marine battlefields, waterways, harbours, maritime industry, and general traces of the history of settlement and the practising of religion.

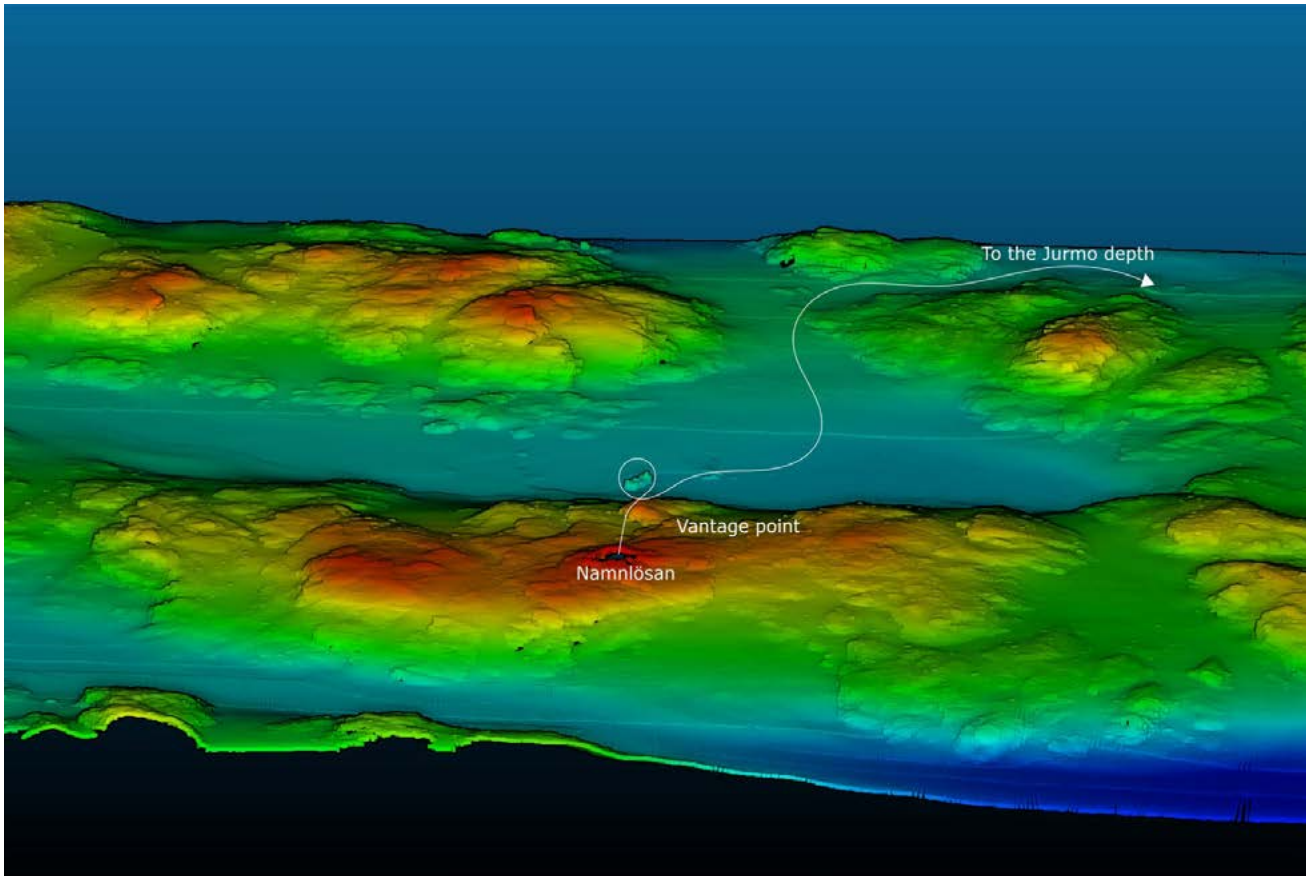
The underwater landscape encompasses the topography of the sea bed, the elements of the landscape at the bottom, the features of the intermediate water, the light reflected from the water surface as well as traces of human life and maritime cultural heritage, which is either partly or fully under the surface of the water.

Understanding underwater landscapes gives a wider perspective of the connection between people and the sea, the confluence of the past and present, and the assessment of environ mental changes and sustainable development by taking natural, cultural and social aspects of landscape into account.[36]

The BalticRIM definition on UWL:

BalticRIM UWL concept provides a perception that can be used as a tool to assist in the safeguarding of the heritage under the water surface. It brings into consideration even the water column between the surface and bottom, as an integral part of an experience of heritage. The concept is an umbrella term composed of natural and cultural elements and linked with a diver's perceptions of the landscape and its features. The concept refers to the European Landscape Convention and Faro Convention on Significance of Heritage for the Society, both conventions of the Council of Europe.

The European Landscape Convention defines that "landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human



This image of an underwater imaginary landscape is based on remote sensing methods displaying natural and cultural phenomena of the Vrouw Maria Valle. The valley is located in the Archipelago National Park near a small island called Namnlösan (= nameless), where Vrouw Maria sank on the night between 8 and 9 October 1771.

The image was used to visualize the underwater landscape at the exhibition and catalogue "Lost at sea Rediscovered", which was held at the Maritime Museum of Finland in 2012.

factors." The Convention promotes the protection, management and planning of European landscapes. It also promotes countries to identify their own landscapes throughout their territories including land, inland water and marine areas. So far, underwater landscapes are not sufficiently mapped in the BSR.

Another topical convention in the context of underwater landscape is the **CoE Framework Convention on the Value of Cultural Heritage for Society** It acknowledges that rights relating to cultural heritage are inherent. It defines also a new concept of "heritage community", explaining that it consists of people, who value specific aspects of cultural heritage. In addition, the Convention encourages participation and the recognition of the role of voluntary organisations.[37]

In connection to underwater landscape, diver organisations and clubs act as heritage communities. Divers can – and have – offer a great volunteer assistance in finding, localising, monitoring, protecting and even guarding the underwater heritage sites. They are actually also the only stakeholders – users –, who experience the underwater world first hand.[38]

3.4 Culturally Significant Areas and Underwater Landscape in maritime spatial planning

Culturally Significant Areas (CSA) approach relies on a participative process to establish evidence on what, where, when and to whom specific areas are important and what qualities are needed to sustain them. CSA is analogous to ecologically significant areas, aiming at designating an area containing a culturally significant feature, or a feature in its own right. So far, the elaboration of the concept is based on academic research interest.[39]

When dealing with the notions of CSA and UWL, different conventions of CoE and UNESCO are vital and form a more international basis for these approaches. They emphasise binding natural, cultural and intangible values. Especially the consideration of intangible values has been recognised as a challenge in MSP.[40]

To promote CSA and UWL, their ideas, notions and values must be first documented during fieldwork, and later built up in stakeholder workshops and in the management level. Finally, the concept should be implemented in terrestrial and MSP planning. This process can be described as a "bottom up" method, where the meaning of the concept is elaborated by archaeological surveys, analysis of the heritage registers and management and fed into MSP and further into the strategic level. The management level should prepare recording systems and registers, which are compatible for descriptions of UWL and cultural values at defined locations.

If the heritage register does not have its own category for CSA or UWL, the values can be added to the descriptions of existing suitable categories. A good method is to update existing listed sites, such as World Heritage Sites, with CSA and UWL descriptions.

The concept of UWL and the bottom up process have been tested at the Finnish Heritage Agency. In the FHA Register of Ancient Monuments, there is no category for UWL, but in some cases, the

underwater landscape characteristics have been added to the site description, in particular when dealing with protected areas. These have been detected by multi-beam or side scan sonar, and the description of the natural environment is added into the description.[41]

The draft MSP plan of Finland in 2020 mentions the UWL as an example of heritage sites, and it has been listed under the marking of 'Cultural values'. This marking identifies clusters of cultural values, which are related to maritime sectors. The planning principles instruct that when developing the areas, it is important to pay attention to the preservation of the characteristics of the area, enhancement of cultural values, accessibility of areas, natural values, value of the open sea landscape as well as marine livelihoods.

3.5 How to integrate maritime cultural heritage into MSP

Below listed general instructions to improve the integration of MCH into MSP.

Related to the BSR heritage:

- BSR UCH and MCH form a rich and diverse tangible and intangible cultural assemblage on a national and international level and an underwater landscape as one pan-Baltic entity.

- Cultural heritage forms a finite, non-renewable and irreplaceable assemblage that has cultural and societal values.

Skagen lighthouse in Denmark. Photo L. Schrøder.

- The protection of cultural heritage is the responsibility of states and in this way, it is an essential theme to take into account and safeguard in terrestrial and maritime spatial planning.

Related to MSP:

- Increasing demand for maritime space for different purposes requires integrated planning and management of maritime areas.

- According to the EU MSP Directive, UCH is one possible activity, use and interest in the planning of maritime space.

- MSP as a crosscutting policy tool enables public authorities and stakeholders to apply a coordinated, integrated and trans-boundary approach to planning.

Related to ways if integration:

- BalticRIM project recommends integrating MCH instead of only UCH into MSP. The aim is to have a more holistic land-sea interaction approach to the cultural heritage of our coastal, archipelagic and maritime areas, such as lighthouses, sea fortresses and fishing villages.

- The integration of the UCH / MCH into the national MSP requires certain capabilities and formalization, such as regulations on the involvement of MCH authorities in the MSP and the obligation of the planners to take the UCH / MCH into account.

- Land sea interaction should be applied for the proper inclusion of MCH into MSP. In particular, the influence of the MSP on the MCH terrestrial objects and on landscapes from the sea towards land and from land towards sea should be routinely considered in planning.

- An ecosystem-based approach contributes to the sustainable development and growth of maritime and coastal economies and the sustainable use of maritime and coastal resources, such as cultural heritage.

- The ecosystem-based approach and multi-use concept can be applied to combine cultural and nature heritage, sustainable recreation and tourism.

MCH as part of blue growth and culture of sustainability:

- As a cultural ecosystem service, cultural heritage has great potential to build up attractive and sustainable communities, for recreation, sustainable tourism, and for enhancing well-being, the quality of life, identity, sense of place, social capital, and blue growth.

- Cultural heritage has a specific role in achieving the **Sustainable Europe by 2030 Strategy** goals for a smart, sustainable and inclusive growth because of its social and economic impact and its key contribution to environmental sustainability.

- MCH assists in delivering the goals of the **UNESCO Decade of Ocean Science for Sustainable Development** (2021-2030). Cultural heritage should be considered as a necessary agency and as the Fourth Pillar of sustainable development.

Related to cross-border and cross-discipline cooperation structures:

- Long-standing regional cooperation in the **Baltic Cultural Heritage Committee** and in the working groups on **Underwater Heritage** and on **Coastal Heritage** have created a holistic, cross-border perspective on the Baltic Sea UCH and MCH.
- Regional co-operation between the MSP and MCH sectors and a permanent dialogue between the **Joint HELCOM-VASAB MSP WG** and BSR Heritage Committee and Working Groups will ensure that MCH is taken into account in MSP. Thereby the Baltic Sea will serve as a good example for other sea basins.

The floating flighthouse Irbensky in Kaliningrad port. Photo by S. Ovchinnikov. Copyright the Museum of World Ocean in Kaliningrad.

4. BalticRIM Recommendations

The BalticRIM partners have, in co-operation with planners, MCH experts and stakeholders, extracted a set of sector-based recommendations aiming to ease the process of integrating MCH to MSP. Recommendations are addressed separately for

1) heritage authorities and stakeholders

2) MSP planners and decision makers

3) the co-operation of heritage and planning experts

4.1 Recommendations for heritage authorities and stakeholders

- Get acquainted with the EU MSP Directive 2014/89/EU, BSR MSP guidelines and recommendations, the national MSP legislation, processes, administrative routines and other MSP documents.
  - good practice: Maritime Spatial Planning of **European Commission**
  - good practice: **European MSP Platform**
  - good practice: **HELCOM-VASAB Working Group on MSP web page**
  - good practice: National MSP websites, for example:
    - **Denmark**
    - **Estonia**
    - **Finland**
    - Germany:
      - **for the EEZ**
      - **for the Federal State of Schleswig-Holstein**
    - **Lithuania**
    - Poland:
      - **MSP and Maritime Office in Gdynia**
      - **MSP and Maritime Office in Szczecin**
    - **Sweden**
    - **Åland**

- Ensure that UCH and/or MCH is mentioned as one of the many marine activities, uses and interests, or as a sector, theme or in other form, in the national planning of maritime space as suggested in the European Maritime Spatial Planning Directive 2014/89/EU.

- good practice: promote the use of MCH instead only of UCH
- good practice: Finnish MSP process where cultural heritage, including both MCH and UCH, is one of the nine blue growth sectors
- good practice: if this was not the case during the first round, ensure that UCH and MCH are included during the second round

- Remember and implement conventions on cultural heritage, such as the UNESCO Convention on the Protection of the Underwater Cultural Heritage, the CoE **European Landscape Convention**, CoE **Framework Convention on the Value of Cultural Heritage for Society** and **UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage**
  - good example to follow: Estonia, Lithuania and Poland which have ratified the **UNESCO Convention on the Protection of the Underwater Cultural Heritage**

- Ensure that your national MCH authority/authorities and other stakeholders are recognised, engaged and officially consulted in the MSP planning process according to the national legislation.
  - good practice: Finnish systems of official legally based cultural heritage statements by Finnish Heritage Agency and museums with regional responsibility
  - good practice: other forms of formal consultation procedures

- Launch and ensure early and continuous formal and informal discussion and co-operation with planners, national, regional and local authorities, maritime heritage experts and communities, and other stakeholders.
  - good practice: work with authorities and volunteer MCH and UCH organizations
  - good practice: build collaboration methods and processes between land use planning and cultural heritage management
  - good practice: invite diver organisations as underwater stakeholders to participate in MSP
  - good practice: organise workshops, seminars, webinars, meetings, common projects etc.

- Communicate and work with other stakeholders and sectors and participate in national and cross-border dialogue in order to familiarize with various viewpoints.
  - good practice: workshops, seminars, webinars, meetings, common projects etc.

- Provide comprehensive and convenient access to basic data, registers, heritage categories and surveys on MCH and UCH and facilitate national and transnational availability of the relevant data.
  - good practice: Estonian and Finnish open access GIS based heritage registers with map services and downloadable datasets

- good practice: in countries with confidential UCH registers, such as in Germany, Lithuania and Poland, describe, disseminate and publish MCH and UCH data on a national level to other sectors, and to the transnational MSP co-operation
- good practice: Finnish MSP approach of mapping and collecting data from numerous registers and surveys
- good practice: in Germany, State Department of Archaeological Protection of Schleswig-Holstein provided BalticRIM templates disseminating UCH information for the MSP
- good practice: explain and develop a set of basic terms for planners that facilitate the description of the different heritage categories
- good practice: Finnish Heritage Agency's WIKI based **Guide for Archaeological Heritage in Finland**
- good practice: **BalticRIM WIKI** of UCH and MCH terms

One can only protect what one knows.

- Provide descriptions, analyses, map examples and visualizations of UCH and MCH on a national, regional and local level. Take advantage also of new technologies.
  - good practice: **Report on maritime cultural heritage** with illustrations, definitions of heritage categories, and density maps to serve the Finnish MSP process. Text is only in Finnish
  - good practice: 3D visualizations of UCH sites, for example **https://sketchfab.com/tags/shipwreck**
  - good practice: county profiles of Estonian MSP describing the specialities of each region, for example dried fish, Vikings and shipbuilding

- Improve the quality of UCH and MCH data to be more suitable for MSP.
  - good practice: map the underwater landscapes as broader areas
  - good practice: locate UCH and MCH phenomena, such as ship traps, sea battle areas and shipbuilding places

- Recognise and demonstrate that many MCH and UCH, such as lighthouses, shipyards, shipwrecks and fishing villages, manifest the history of current maritime activities and sectors such as transport, shipbuilding and fishing. Historical sites represent the maritime sectors of their own time.
  - good practice: **BalticRIM Data Portal**

- Promote and apply the concepts of Underwater Landscape and Culturally Significant Areas:
  - good practice: improve the concepts towards a more practical application
  - good practice: define your underwater landscapes and culturally significant areas by giving examples of real sites

- good practice: use the Bottom up approach: from surveys into categories, registers, listed sites, land-use planning and towards MSP, BSR and national strategies
- good practice: add Underwater Landscape and Culturally Significant Areas concepts and descriptions into registers, planning documents, maps, action plans, strategies, tourism guides and apps, etc.
- good practice: connect with related development enterprises, such as **United Nations Decade of Ocean Science for Sustainable Development**, **EU Strategy for the Baltic Sea Region** and related national strategies and action plans
- good practice: describe the benefits of the concepts: the combination of culture, nature and immaterial values, underwater and local stakeholders, underwater world, local ideas, well-being and quality of life
- good practice: test, play and be creative
- good practice: promote the concepts actively in the second round of MSP

- Disseminate good MCH management practices to MSP and other maritime sectors, particularly to set standards for precautionary principles towards UCH finds.
  - good practice: precautionary rules were implemented in the Polish MSP in the scale 1:200 000

- Ensure the legal protection, safeguarding and sustainable use of heritage sites in territorial waters and in the EEZ in your national MSP and/or in other processes.
  - good practice: recognize that maritime spatial planning is not necessarily a tool for protection
  - good practice: set rules and planning orders regarding the protection of UCH and MCH
  - good practice: in Estonia, heritage sites located in the EEZ are legally protected
  - good practice: the **PartiSEApate project discussion** on MCH at a pan-Baltic level
  - good practice: Code of Good Practice for the Protection of the Underwater Heritage **(COPUCH)**
  - good practice: the **UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001**

- Ensure that an impact-based risk assessment (environmental and human risks) of MCH sites has been taken into account in MSP.
  - good practice: in Finland the Environmental Impact Assessment (EIA) system is included in the MSP process
  - example: the ISO 31000:2018 standard provides definitions, performance criteria and a common overarching process for identifying, analysing, evaluating and managing risks within a policy context initiative
  - example: bow-tie analysis is an instrument to structure varied and multifaceted information from different disciplines and different levels (e.g. local-regional-international-ecosystem scales; operational-tactical-strategic levels) into a transparent, logical and defendable framework

- example: DAPSI(W)R(M) management framework as a conceptual background for the MCH risk-based impact assessment and management activities. More detailed information on impact-based risk assessment is found in in **the report Maritime Cultural Heritage impact assessment strategy for MSP**
- good practice: BalticRIM Environmental Factors and Human Impact Template for UCH sites and management **(Annex)**

- Disseminate the success stories on how MCH was integrated to MSP in different countries and regions.
  - good practice: in Estonia, planners organized seminars in different regions to map cultural values of the sea. The aim was to gather knowledge and discuss maritime practises and traditions in those regions
  - good practice: in Estonia, MSP county profiles were created. These are one pagers containing the significant county information including marine heritage and important MCH/UCH
  - good practice: in Finland, cultural heritage is one of the nine themes for MSP. The MSP integrated UCH, MCH, UWL, and other cultural heritage and nature assets as "Cultural Value" areas indicating clusters of cultural values. The planning principle of the "Cultural Values" -marking pays attention to the preservation of these values. The MSP displays a holistic picture of the cultural assets in coastal, archipelagic and maritime areas for regional development

- Promote the multi-use concept in the integration of MCH into MSP
  - good practice: multi-use can be applied to heritages sites, which combine sustainable tourism, nature and heritage protection and the inclusion of intangible values and experience
  - good practice: dive trails created by the **BALTACAR Project**, which protect heritage and nature and promote sustainable tourism
  - good practice: the **MUSES Project** explored the opportunities for multi-use in the European Seas (Baltic Sea, North Sea, Mediterranean Sea, Black Sea and Eastern Atlantic

- Orientate yourself with the data other sectors have.
  - good practice: the treasure trove of marine and maritime data: **MarineFinland.fi**

- Promote the role of UCH and MCH as one possible activity, use and interest in planning of maritime space as instructed in the European MSP Directive for planners, other sectors, decision makers and creative industries.
  - good practice: generate ideas for UCH and MCH based blue growth
  - good practice: provide value maps to indicate good locations as well as synergy and multiuse areas for blue growth activities, such as dive trails and maritime museums
  - good example: **BALTACAR Project** dive trails in Estonia, Finland and Sweden
  - good example: **Nordic Blue Parks –project**

- Promote heritage's important role in creating and enhancing well-being, quality of life, identity, sense of place, social capital and blue growth. Heritage has the power to connect generations and people to each other.
    - good practice: BalticRIM UCH and MCH Blue Growth Examples on **BalticRIM Data Portal**
    - good practice in identifying emotional sea related values enhancing well-being, quality of life, identity, sense of place: Land-Sea Act project – Cultural values in MSP & Blue Growth (Polish case study)
    - good practice: in June 2016, the M/S Gamle Oksøy started her **Baltic Sea voyage** from Bergen, Norway, to meet the public in eight countries around the Baltic Sea. On board were exhibitions and film screenings focussing on MCH and coastal culture.

- Orientate yourself with the richness and diversity of BSR UCH and MCH and demonstrate and visualize it for the planners and other stakeholders to have a pan-Baltic picture of MCH.
    - good practice: the **100 List of Rutilus** Report
    - good practice: the **Nordic Blue Parks Project**
    - good practice: the **BalticRIM Data Portal**

- Orientate yourself to different national classification systems, terminologies and understanding of UCH and MCH, as they are closely interlocked with national legislation and management systems.
    - good practice: use **BalticRIM WIKI** terminology
    - good practice: Finnish Heritage Agency's WIKI based **Guide for Archaeological Heritage in Finland**
    - good practice: **CoE HEREIN** good practice: elaborate different national UCH and MCH terms and categories for the planners

- Orientate yourself with cultural heritage phenomena and landscapes located in the neighbouring countries on both sides of the border and discuss together how to take these cross-border sites into account in MSP.
    - good practice: national heritage registers, the **BalticRIM Data Portal**
    - good example: archaeological remains, traces in landscape and infrastructure of stone quarries in Virolahti, Finland, where construction material was transported to build St. Petersburg and Kronstadt
    - good example: BalticRIM blue growth pilot case focusing on Tallinn-Helsinki waterway with wrecks, historic ship routes, intangible heritage of "**Soome sild**" ("Suomen silta") ("Bridge of Finland"), maritime and underwater landscape as well as nature values.

- Promote awareness of international and national conventions, legislation, charters and recommendations regarding cultural heritage.
    - good practice:
        - **UNESCO Underwater Convention 2001**, **UNESCO Convention on Cultural Property 1970**, **Hague Convention 1954**
        - CoE **Convention for the Protection of the Archaeological Heritage of Europe** (also called as Valletta Convention 1992), CoE **Convention for the Protection of the Architectural Heritage of Europe** (also called as Granada Convention 1985) etc. **(see annex)**
        - the Code of Good Practice for the Protection of the Underwater Heritage (**COPUCH**) of the Baltic Sea by the BRHC and BSR WG on Underwater Cultural Heritage

- Promote the **UNESCO Decade of Ocean Science for Sustainable Development 2021-2030**. Cultural heritage can assist in delivering the Decade goals. Be involved in the Ocean Decade Heritage Network.
    - good practice: **Ocean Decade Heritage Network**

- Promote the specific role of MCH in achieving the **Europe 2030 Strategy** goals for a smart, sustainable and inclusive growth because of the social and economic impact and its key contribution to environmental sustainability.

- Be involved actively in the second round of MSP.
    - good practice: participate in the follow-up process of monitoring and evaluation of MSP and in the second round of MSP.

4.2 Recommendations for maritime spatial planners, authorities and decision makers

> Our cultural heritage should be used, but not consumed. Not exploited as a product, but linked to society and its cultural, political, spiritual and social landscape.
>
> BALTACAR Project

- Recognize the richness and diversity of the BSR UCH and MCH on national and Pan-Baltic level.
  - good practice: national heritage registers and MCH reviews
  - good practice: the **Rutilus Report and the 100 List**
  - good practice: the **Nordic Blue Parks Project**
  - good practice: **BalticRIM Data Portal**

- Recognise that many MCH phenomena, such as lighthouses, shipyards, shipwrecks and fishing villages, manifest the history of current maritime activities and sectors, for example shipbuilding, maritime transport and fishing. The historical sites represent the maritime sectors of their own time. Maritime spatial plans should not affect negatively to their accessibility, visibility and possibility to create identity to a given place.
  - good practice: **BalticRIM Data Portal**

- Ensure that UCH and/or MCH is mentioned as one of many marine activities, uses and interests, or as a sector, theme or in other form in the national planning of maritime space as suggested in the European Maritime Spatial Planning Directive (2014/89/EU).
  - good practice: promote the use of MCH instead only UCH
  - good example: **Finnish MSP process** where cultural heritage is one of the nine blue growth sectors (tourism and recreation another)
  - good practice: if this was not the case during the first MSP round, ensure that UCH and MCH are mentioned during the second round
  - good practice: discuss with MCH authorities about good ideas on developing MCH based blue growth and the soft values of MCH and sea space
  - good practice: provide planning solutions and rules to indicate good locations and synergistic areas for blue growth activities

- good example: the Estonian national MSP process states that marine culture is created by the users of the marine area and the coast: fishermen, shipbuilders, vacationers, surfers, divers, etc., as well as the tangible cultural heritage located in the marine area. Marine culture encompasses the way of life of both seafarers and the coastal people, as well as the expression of the maritime sphere in culture. Guidelines are set for the management of marine culture.

- Integrate MCH located both at sea and on land into MSP to gain a more holistic picture of cultural heritage of our coastal, archipelagic and maritime areas.
  - good practice: "Cultural Values -areas" -marking in the Finnish MSP

- Ensure that your national UCH and MCH authority/authorities and other stakeholders are recognised, engaged and heard officially and timely in the MSP planning process according to the national legislation.
  - good practice: Finnish system of official legally based cultural heritage statements by the Finnish Heritage Agency and museums with regional responsibility
  - good example: during the Estonian MSP process everyone could add their thoughts and suggestions on the values and the use of the sea on an idea collection map
  - good practice: all forms of formal consultation procedures.

- Facilitate public involvement and encourage communities associated with UCH and MCH to take part in the MSP process.
  - good practice: work together with clubs, volunteers, UCH and MCH stakeholders such as divers, shipping companies, municipalities, and maritime museums to gain relevant input, and to create links and synergy for future blue growth initiatives
  - good practice: thematic meetings organised under the Polish MSP for coastal areas and Gulf of Gdańsk, where MCH is abundant

- Familiarize with respective national UCH and MCH legislation, site categories and terminology, registers and management principles.
  - good practice: national heritage registers (chapter 2.3) and legislation
  - good example: "**Report on maritime cultural heritage**" made for the Finnish MSP process, and the Finnish WIKI based **Guide for Archaeological Heritage in Finland**

- Verify the state and need of UCH and MCH protection and ensure the safeguarding and sustainable use of heritage sites in national waters and EEZ in your national MSP
  - good practice: note that the MSP is not necessarily an instrument for the protection of cultural heritage, and ensure that protection measures are taken into account in other ways
  - good practice: rules and planning orders regarding UCH and MCH

- Ensure that an impact-based risk assessment for UCH and MCH sites, related both to environmental and human risks, has been taken into account.
    - good practice: in Finland the Environmental Impact Assessment (EIA) system is included in the MSP process
    - good practice: the ISO 31000:2018 standard provides definitions, performance criteria and a common overarching process for identifying, analysing, evaluating and managing risks within a policy context initiative
    - good practice: bow-tie analysis is an instrument to structure varied and multifaceted information from different disciplines and different levels (e.g. local-regional-international-ecosystem scales; operational-tactical-strategic levels) into a transparent, logical and defendable framework
    - good practice: DAPSI(W)R(M) based unifying management framework as a conceptual background for the UCH and MCH risk-based impact assessment and management activities

- Be aware of areas of high potential in coastal waters, "the kingdom of Maritime Cultural Heritage", such as bays, archipelagos and sandy bottoms of the southern Baltic Sea in case of new discoveries.
    - good example: the Polish MSP process pays adequate respect for the potential areas while planning human activities
    - good practice: ensure proper investment in archaeological surveys and create planning security

- MSP should produce creative and flexible protection measures, especially if the MSP is legally binding and there are no adequate legal protection for UCH.
    - good example: rules on UCH in the Polish MSP are based on precautionary principles and regulating spatial development in case new UCH objects are discovered

- Due to the small scale of UCH and MCH, MSP should consider using rules for MCH. Zones can be meaningful in case of large archaeological and built sites.
    - good practice: remember to sustain the untouched exposition of maritime landscape, seen both from sea and from land. Create protection zones for the boundless maritime landscape

- Extend the list of UCH and MCH categories routinely used under MSP by testing new categories, rethinking the existing ones or using an areal approach. MSP should take into consideration, not only

wrecks, but also key seascapes and historic sites, such as large battlefields, ship cemeteries, natural harbours, maritime recycling areas, wreck parks, historic sea routes and areas of prehistoric settlement sites under water. Ensure/provide site-specific conditions for safeguarding them.

- good practice: **BalticRIM WIKI** to find and define new UCH and MCH categories
- good example: battlefields and ship traps have been considered in the Finnish MSP
- good example: introducing discussion on underwater paleo-landscape under the detailed plan of the Gulf of Gdańsk in the Polish MSP

- Design the MSP process into more UCH and MCH relevant and supportive, also by creating informal measures.
  - good example: informal meetings with UCH and MCH officials under the Polish MSP
  - good example: the BalticRIM pilot projects and UCH and MCH, and MSP in the Russian sea areas

- Identify planning options, which increase the possibility that MCH is covered in cross-sector, cross-border and land-sea aspects.

- Promote the multi-use concept (heritage and other uses) in integration of MCH to MSP.
  - good practice: multi-use can be applied for heritages sites by combining sustainable tourism, protection of nature and heritage sites as well as including intangible values and the idea of experience
  - good example: the BALTACAR project developed various concepts for dive trails along with their guidebook **Creating a dive park From idea to reality** on setting up dive trails in Estonia, Sweden and Finland
  - good example: the **MUSES project** explored the opportunities for multi-use in the Baltic, North, Mediterranean and Black Sea along with the eastern Atlantic

- Understand the importance of UCH and MCH even if not possible to integrate it in the MSP in a formal way or if it remains as a planning precondition.
  - good practice: **Study of Conditions of Spatial Development of Polish Sea Areas**

- Ensure that cultural heritage is taken into account in the second round of MSP.

4.3 Recommendations for co-operation for heritage and planning experts

- Identify the official national cultural heritage authority/authorities with legal mandate to participate in the planning process. Ascertain their involvement in the MSP process.
  - good example: Finnish systems of official legally based cultural heritage statements and MSP participation by Finnish Heritage Agency and museums with regional responsibility

- Identify the official MSP authority/authorities and process with legal mandate to prepare the Maritime Spatial Plans. Ascertain their involvement with the UCH and MCH knowledge base.
  - good practice: participate in the national MSP process

- Launch and ensure in an early stage the continuous formal and informal discussions and participation, capacity building and co-operation among planners, UCH and MCH authorities and other stakeholders.
  - good practice: work with MCH and MSP authorities and NGOs focussing to MCH and UCH
  - good practice: informal planning and pre-planning processes to build trust and find consensus between MCH and MSP experts

- Ensure that UCH and/or MCH are mentioned as one of many marine activities, uses and interests or as a sector, theme or in other form in the national planning of maritime space as suggested in European Maritime Spatial Planning Directive 2014/89/EU.
  - good practice: promote the use of MCH instead of UCH only
  - good example: Finnish MSP process where MCH (not only UCH) is one of the nine themes
  - good practice: ensure that MCH is seen as a framework and as a theme setting conditions for the MSP
  - good practice: ensure that MCH is discussed in the MSP Forum and other related BSR platforms, and in the HELCOM-VASAB MSP Working Group
  - good practice: if this was not the case during the first round, ensure that UCH and MCH are included during the second MSP round

- Identify the challenges recognised by the BalticRIM project and other obstacles regarding the integration of UCH and MCH to the planning process. Address them in the MSP planning solutions.
  - good example: the proposal submitted to the Gulf of Gdańsk MSP process on how to protect, sustain and use the MCH potential recognized during the BalticRIM project. One of the challenges recognized was the high probability of the occurrence of paleo-landscape and archaeological sites in the shallow Puck Bay and the need to protect the undiscovered MCH. Specific rules were proposed for the area

- Learn from the BSR countries, and from other sea basins, where UCH and MCH has been taken into account in the planning of territorial waters before the implementation of the EU MSP Directive, from the first round of MSP in Europe and from global examples.
    - good example: the Finnish regional plans include internal and external territorial waters, and, for example, information on UCH and MCH
    - good example: the Finnish MSP has taken cultural heritage into account in many ways: statements, workshops, scenarios, visions, draft plans and proposal
    - good practice: conflicting uses with UCH and MCH can be mitigated by approaches, which are already tested or under development (for example statements)

- Ensure the exchange of UCH and MCH knowledge between neighbouring countries to detect areas with high probability of cross border UCH and MCH.
    - good practice: launch regular communication between national MSP and UCH and MCH authorities, VASAB-HELCOM MSP WG and the BSR Heritage Committee and BSR Working Groups on underwater cultural heritage and on coastal cultural heritage
    - good practice: familiarize with the UCH and MCH data in heritage registers in your neighbouring countries

- Be involved in the second round of MSP.

5. Maritime Cultural Heritage and Blue Growth

5.1 Maritime cultural heritage as part of blue economy

Blue economy can be defined as the sustainable industrialisation of the oceans to the benefit of all. It encompasses the effort to balance the economic activities and the marine ecosystem with a purpose to achieve a resilient and healthy management of the marine areas.[42] The Blue Growth Strategy of the EU acts as a long-term plan to implement blue economy in different marine areas, including the Baltic Sea, for smart, sustainable and inclusive growth. Blue growth encompasses different sectors, including aquaculture, marine biotechnology, ocean energy, seabed mining and coastal tourism.[43]

The EU Strategy for the Baltic Sea region has three objectives: "Saving the sea"; "Connecting the region"; and "Increasing prosperity". The third objective acknowledges, among others, culture and tourism as a means for employment and regional development. In the updated **EUSBSR Action Plan**, one of the three actions of the PA Tourism is "Protection and sustainable utilization of cultural heritage and natural resources in tourism destinations."

The EUSBSR PA Spatial Planning refers to MSP. Spatial planning is mentioned as an important tool for promoting sustainable development and improving the quality of life.

The European Commission adopted the **Sustainable Blue Growth Agenda for BSR** in 2014. This Agenda highlights the extraordinary potential for developing the maritime economy, thanks to innovation and competitiveness capacity in the region and a strong tradition of transnational co-operation. The BSR Agenda ranks tourism and maritime experience industry as an area of emerging high potential.[44] MCH is a central asset for both coastal and maritime tourism as well as for maritime experience industry, or creative industries in general.[45]

The Millennium Ecosystem Assessment (MEA) defines Ecosystem services as the benefits people obtain from ecosystems. The Ecosystem Services Framework should be considered in the tourism use of natural and heritage resources. The MEA services are divided to provisioning, regulation, cultural and supporting ones. These services are able to mitigate risks that affect tourism activity and which are expected to grow in the future due to climate change. Cultural ecosystem services that provide recreational, aesthetic, or spiritual benefits are crucial to visitor satisfaction in terms of aesthetic appreciation and recreational experiences.[46]

MSP and maritime cultural heritage for blue growth

In national maritime spatial plans, in accordance with the principles of blue growth, it is important to stress the existence of cultural heritage as an aspect that often has an effect to all other economic activities in the sea. A discussion on the sustainable use of cultural heritage is beneficial to all. The BalticRIM project highlights the need to involve stakeholders from various fields to create thoroughly considered and inclusive plans.

Multi-use has proved to be a good way to consider both the preservation and sustainable use of cultural heritage. **The MUSES** project (2016-2018), which also involved BalticRIM project partners, explored MSP's multiple uses even related to Baltic Sea, identifying both key drivers and benefits, as well as challenges and barriers. Tourism, UCH and environmental protection were one recommended combination of uses to create win-win situations for both tourism and UCH and nature protection. Co-operation between heritage authorities, regional authorities, tourism operators and dive centres as well as efficient management policies and practices to enable tourists' and divers' access to UCH, strengthen the public involvement to the 'culture of the sea'.[47]

> The participants of the third Baltic Sea Region Cultural Heritage Forum recommend:
>
> - creation of cross sector networks between cultural heritage and tourism organisations for developing joint policies and strategies for a diverse, sustainable and prosperous cultural tourism and establishing regional cultural routes
> - that politicians at all levels in the Baltic Sea region to recognise the vital role of a well-preserved and diverse Cultural Heritage for prosperous tourism and consequently for the versatile development of the entire region.
>
> Cultural heritage and tourism: Potential, impacts, partnership and governance 2008. The presentations on the II Baltic Sea Region Cultural Heritage Forum 2008.

Sustainable BSR maritime tourism development

According to the World Tourism Organisation of United Nations (UNTWO) sustainable tourism should:

- *"Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.*

- *Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.*

- *Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation."*[48]

As environmental resources, MCH and UCH sites are often fascinating attractions and key elements in coastal or underwater landscapes. As cultural assets, they add an important dimension to our understanding of our regions history and legacy. The assets contain tangible remains such as submerged prehistoric and historic sites, coastal and underwater archaeology as well as intangible components, such as cultural practices, artistic and linguistic expressions and skills along with traditional and historical knowledge.

Coastal and maritime tourism can also create a significant source of employment and income for remote communities, where economic opportunities may otherwise be limited. At the same time, the growth of tourism can have an effect to the eutrophication of the sea and intensify coastal erosion. Therefore, the development of attractive maritime tourism requires monitoring the well-being and resilience of the marine environment and the sustainability of operations. This underlines the need to raise awareness among other involved sectors and the public. Any economic utilization should be based on a good understanding of the heritage values. These are a part of the cultural and social capital and integrated to the community welfare. Often they are a combination of historical, symbolic, spiritual, aesthetic and social values.

We need good practices to be implemented by all sectors of the maritime economy to ensure the preservation of our common social capital, the cultural heritage in the Baltic Sea. In order to demonstrate the benefits of maritime tourism to blue growth from local to BSR levels, specific indicators and statistics are required to calculate the environmental, economic and social impacts in order to develop a culture of sustainability.

The covid-19 pandemic has raised the demand for easily accessible recreational areas and local, small-scale tourism. The **One Planet Vision of UNWTO** calls for responsible recovery of the tourism sector, founded on sustainability. The Vision supports the development and implementation of recovery plans, which contribute to the SDGs and to the Paris Agreement of United Nations (2015) and strengthen the global response to the threat of climate change.

Baltic Sea maritime and underwater cultural heritage as one destination

The overall target of the EUSBSR PA Tourism is to establish a common and coherent BSR tourism destination, built on sustainability, cultural assets and nature. Several actions are defined to implement these objectives, including:

- design tourism products and services for the BSR as a coherent destination.
- increase the number of jointly developed tourism strategy and policy documents focusing on more specific aspects of tourism in the BSR.

The BalticRIM project sought to promote the idea of the BSR as one destination to other relevant stakeholders. The developed concept of "Baltic Sea Maritime and Underwater Cultural Heritage as One Destination" combines main categories of MCH and UCH, and visualizes MCH as a dimension of blue growth. To preserve this maritime heritage in the future, we need traditional skills and practices i.e. intangible heritage in historical environments, active volunteers, interested citizens and academic research. Their involvement and various economic activities raise awareness to safeguard this heritage.

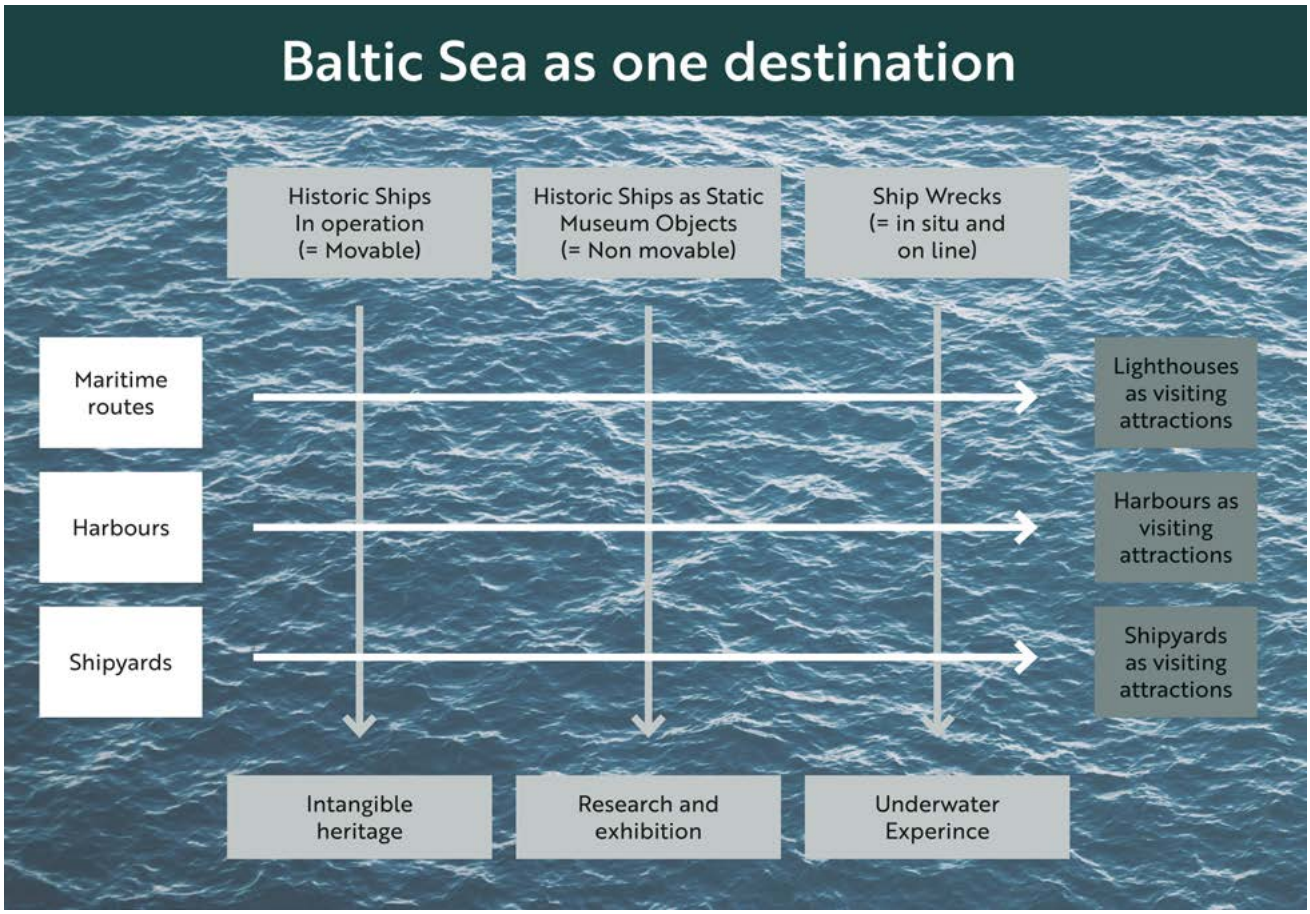
BalticRIM presented the BSR MCH as one destination -approach to the Routes4U project at a **stakeholder meeting** in Helsinki in 2019. **The Routes4U project** integrated the CoE Cultural Routes as tools for implementing macro-regional strategies in the framework of the Joint Programme between the Enlarged Partial Agreement on Cultural Routes of Council of Europe and the European Commission in 2017-2020. Within the framework of EUSBSR, and based on stakeholder consultations, maritime heritage was identified as one of the central themes with growing demand.

Regarding the certified CoE Cultural Routes with a strong BSR profile, **the Vikings Route**, certified in 1993, **the Hansa Route**, certified in 1991, and **the Route of Saint Olav Ways**, certified in 2010, have all proved to be successful and durable. However, their maritime profile could be enriched by linking visualizations of, for example, the wrecks of the Viking ships or Hanseatic cogs, and other maritime attractions related to theme. The newest extension to the Route of Saint Olav Ways is **the St Olav Waterways** between Finland and Sweden, which was added in 2019. St Olav Waterways is, so far, the only waterway among the CoE Cultural Routes.

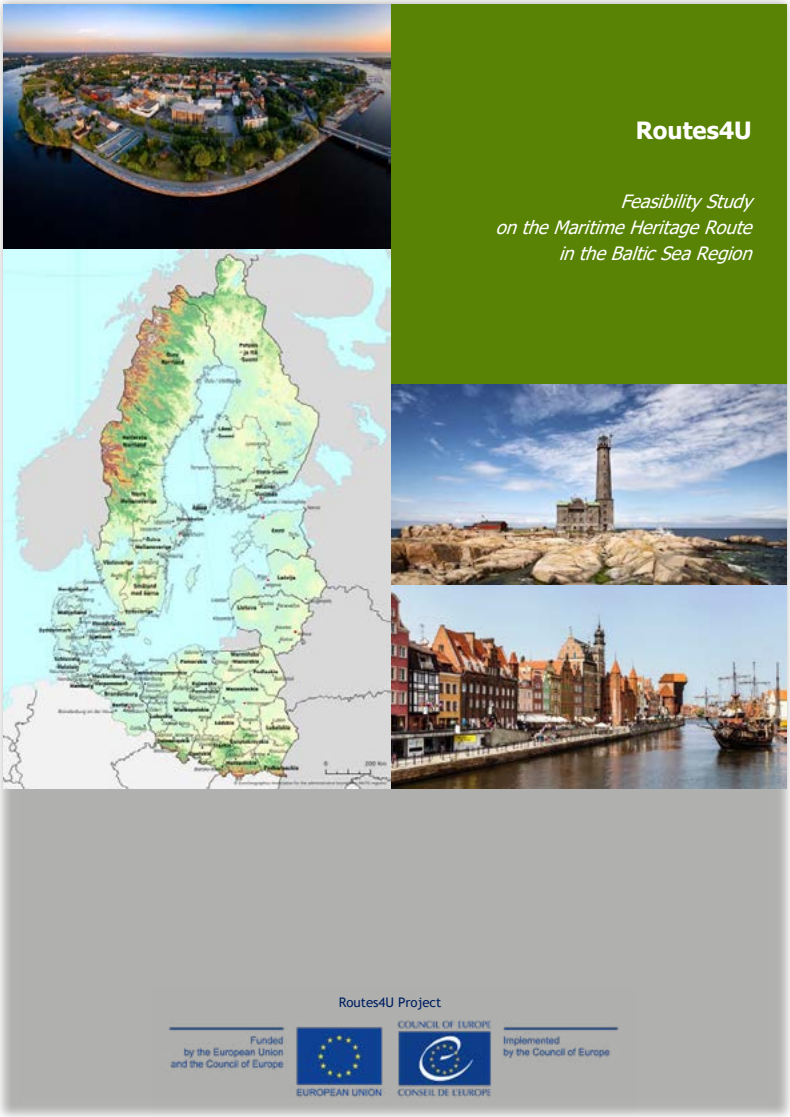
To enhance the sustainable utilization of the maritime cultural heritage as a regional cultural and tourism asset, the Routes4U project ordered a feasibility study to map BSR MCH more comprehensively. **"Feasibility Study on the Maritime Heritage Route in the Baltic Sea Region"** encourages to develop the maritime potential as a macro-regional approach linking heritage, tourism and regional development. Three types of maritime attractions were mapped closer, as their management agenda includes the sustainable promotion of both cultural heritage and tourism:

- maritime museums
- World Heritage Sites in coastal areas
- lighthouses as examples of maritime sites with recreational uses

Historic spa resorts, fishing villages, coastal artist colonies, dive parks, diverse recreational activities, and intangible heritage related maritime culture can be added to the list of maritime attractions. An infrastructure of ferry lines, train connections and coastal bicycle lines should facilitate the accessibility of MCH attractions. In post-covid-19 societies, new policies and practices of sustainable forms of tourism would increase the use of local attractions and environment, integrating the dimensions of nature and landscapes.



"The Baltic Sea maritime cultural heritage as one destination -concept is based on the category of 'ships'. It includes historic ships in use, museum ships in conservation, collections or on display in maritime museums and shipwrecks at the bottom of the Baltic Sea. Ships were built and repaired at shipyards. They sailed on sea routes and used sea marks and lighthouses for navigation and visited domestic and international ports. Together they form a BSR chain of maritime attractions. The concept scheme by Hannu Matikka and Sallamaria Tikkanen, Finnish Heritage Agency.



The Council of Europe report **"Feasibility study on the Maritime Heritage Route in the Baltic Sea Region"** *combines maritime museums, coastal World Heritage Sites and lighthouses in recreation use. There are several maritime museums of international importance in the BSR. They serve citizens' access to information, objects, archives and interpretations of cultural heritage, and are increasingly involved in local social activities. WHS have a practical management policy with an obligation present and preserve maritime cultural heritage engaging in particularly young people. Both museums and WHS are often located centrally, well accessible and marked on maps, making it easy for the traveller to find them. Lighthouse associations gather enthusiasts and local people.*

Thematic MCH tourism development - dive tourism

Promoting the Baltic Sea tourism by raising awareness of UCH and MCH was an important part of the BalticRIM project. The estimated number of divers in the BSR is ca. 300 000 and there are over 16 000 known UCH sites in the heritage registers of the Baltic Sea States.

The first underwater wreck park in the Baltic Sea was established by the Finnish Heritage Agency in 2000 on the wreck of the Swedish ship of the line Kronprins Gustav Adolf, which sank in the waters of Helsinki in 1788.

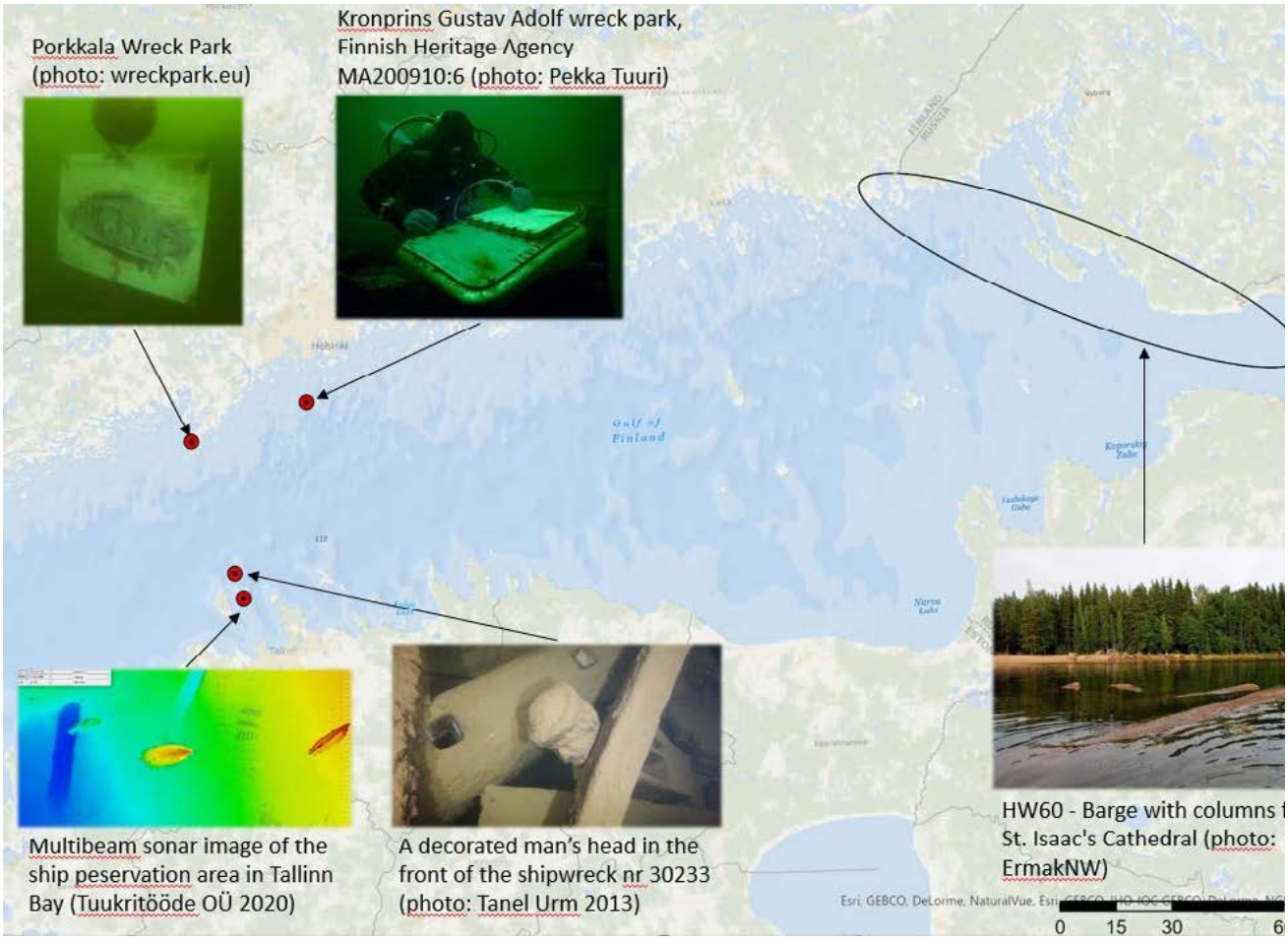
As part of BalticRIM activities, Metsähallitus Parks & Wildlife in Finland compiled and conducted a visitor survey to find out more information on wreck diving and its development needs in Finland.[49] Estonian National Heritage Board conducted the same survey in Estonia. These surveys engaged the diving community as expert stakeholders to the project activities, and helped to understand the current situation of BSR scuba tourism in order to enhance the blue economy potential in this area. A key result of the survey was, that divers considered marking wrecks with buoys the most important feature of a dive park. They were seen to increase the safety of both the diver and the wreck. Another interesting aspect that the survey revealed was an interest in wreck-diving sites in the immediate vicinity of the coast.

The underwater sites are sensitive to human impact. The managers of cultural heritage and the providers of dive services should follow the same principles to monitor the impacts. It is the proper way to keep these sites open to visitors.

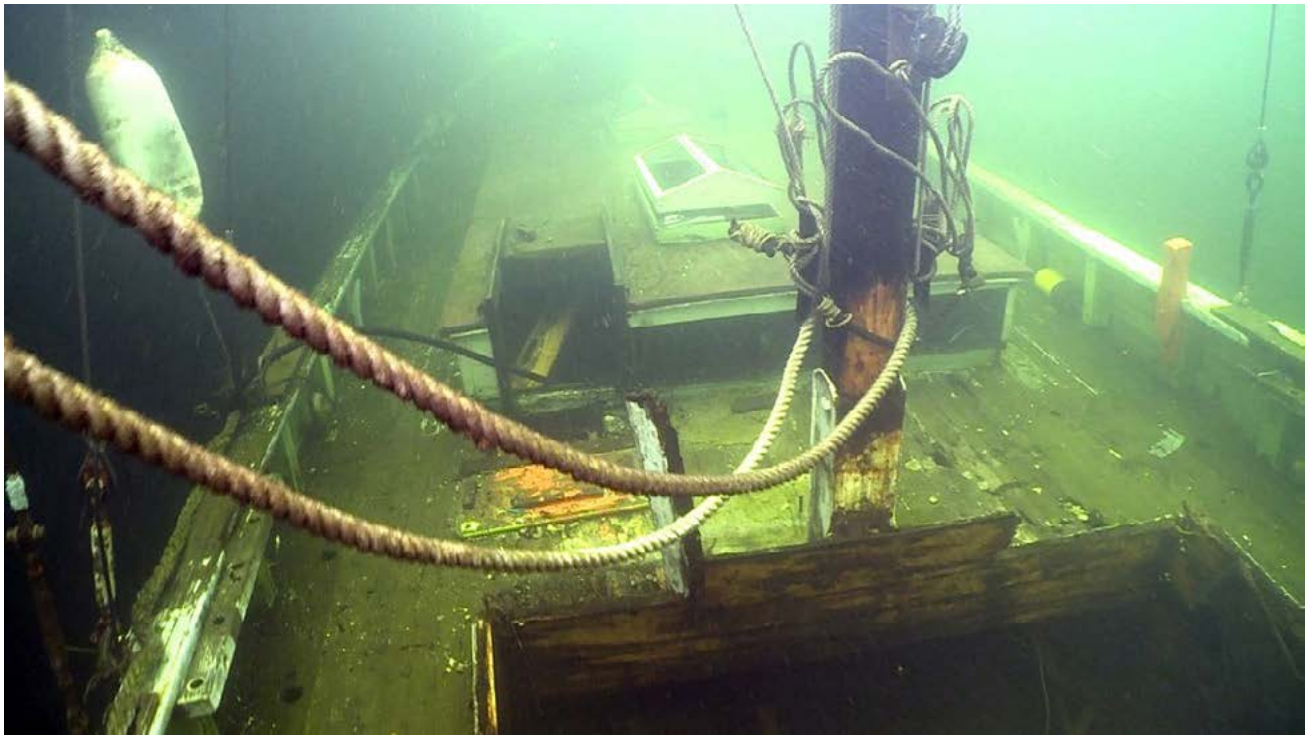
MCH and maritime experience industry

Cultural and creative industries (CCIs) provide new ways to communicate archaeological and historic contents. They create augmented reality experiences or explore MCH digitally in various forms, such as story-telling, 3D models, literary heritage, interactive museum installations, virtual museums, web and mobile games and portals. They can be directly linked to specific sites, or use the maritime cultural heritage as a source for inspiration and knowledge.

Thereby MCH can act as drivers for coastal tourism, BSR branding and for citizen engagement to environmental and cultural preservation. To enhance the use of MCH in CCIs and experience industry, cultural heritage must be made available in digital formats.



The Gulf of Finland was the location for three BalticRIM project case studies. The Estonian-Finnish cross border case considered the MCH and UCH as well as landscapes located in the shipping corridor between Tallinn and Helsinki, including the Helsinki and Porkkala underwater parks. An Estonian case handled the dive trail potential of an appointed wreck storage area in the Tallinn Bay, where currently three wrecks are situated. In a cross border case study between Russia and Finland, a maritime route of stone was detected from Virolahti to St. Petersburg, which was used to transport granite from quarries to the city's building works in the 18th and 19th centuries. Besides quarries and their underwater structures, the route is marked by numerous wrecks with their stone cargo still on board. Map collage by Kristjan Herkül, University of Tartu.



A joint case study between Denmark and Germany in Flensburg focused on a ship-cemetery with the wreck of the "Oline" (built in 1878) and with other historic wrecks. The site could potentially become a dive trail. Wreck of the historic gaff-ketch "Oline" in Flensburg, Photo NDR.

5.2 Recommendations to promote blue growth based on maritime cultural heritage

- Promote the BSR as one brand and destination built on sustainability and on cultural assets and nature according to the EUSBSR and EUSBSR PA Tourism.
    - good example: "The Concept of Baltic Sea Maritime and Underwater Cultural Heritage as One Destination"
    - good practice: CoE Cultural Routes Programme and Routes4U Project, which ordered the **Feasibility Study on the Maritime Heritage Route in the Baltic Sea Region** combining BSR maritime museums, coastal BSR World Heritage Sites and lighthouses in recreational use
    - good practice: CoE Cultural Route St Olav Ways includes a maritime part, the **St Olav Water Ways** between Finland, Åland and Sweden
    - good example: **Mediterranean BlueMed** coordination and support action financed by the H2020 framework programme
    - good idea for the future: have a selection of BSR UCH and MCH sites on the World Heritage List and /or European Heritage Label -list

- Promote UCH and MCH to be used in creative industries, which then has also great potential for tourism.
    - good practice: historical sources and materials regenerated, re-used and utilized in city planning, harbours and waterfronts, city sightseeing by ships and boats
    - good practice: use BSR UCH and MCH attractions in virtual games, literature and films. For example, the fiction novel Hylky (Wreck) by Helen Moster, describing the last voyage of Vrouw Maria, which now lies wrecked in the bottom of the Baltic Sea

- Provide visual material for commercial activities, employment, regional and coastal regeneration, skills development by entrepreneurs, officials, creative industries, and enthusiasts.
    - good example: **BalticRIM Data Portal**
    - good example: **BALTACAR project publication** describing historical wrecks with 3D models and illustrations.
    - good example: **PERICLES project** map service

- Create joint effort and projects and co-operate in potential cross borders, areas of common conditions and common problegood example: the cross border regional co-operation between Finland and Russia in Virolahti and Viborg in the eastern Gulf of Finland, where several 18th-19th century stone quarries produced stone for the building works in St. Petersburg and Kronstadt. The quarries had a large impact in the regional economy, shipbuilding and masonry. The sea routes and the archipelago formed a borderless entity to facilitate the transport of stone. Several regional tourism projects are now utilizing the historical narrative of the quarries and ships turned into wrecks during the journey of carrying stones from the quarries in Virolahti to Russia

- Work together with tourism sector and local divers to create UCH and MCH visitor attractions.
    - good example: underwater parks and trails in Estonia, Finland and Sweden
    - good example: identification of potential underwater trail sites and shipwreck preservation areas in Tallinn Bay

- Promote and disseminate data on UCH and MCH.
    - good example: the **Finnish MarineFinland.fi** data portal
    - good example: web applications such as the BalticRIM **ParticipatoryGIS**. This site makes the cultural heritage data complied during the BalticRIM project publicly available and allows quick and easy access to data in a web browser. User does not need special GIS software or GIS knowledge
    - good practice: surveys or inventories based on MCH registers providing information regarding the possible sustainable uses of a site. For example suitable for recreational use, tourism activities, educational purposes, scientific research and clear restrictions

- Recognise areas with integrated nature values, cultural heritage and landscape values as significant landscapes and underwater landscapes.
    - good example: the Estonian **Keri Island Tourism Programme**

- good example: the **Estonian Maritime Museum**
- good practice: **BalticRIM ParticipatoryGIS** web application, which introduces natural and cultural features in Estonian sea
- good practice: promote outdoor, health and wellness tourism, for example spa's offering traditional treatments, such as mud bathing
- good example: the WWF Ghost Net application
- good example: the Underwater Cultural Landscape concept adopted by the Finnish MSP

- Co-operate to create MCH projects financed from innovation and research programmes like Interreg and Horizon.
  - good practice: **BSR heritage co-operation**

- **UN Decade of Ocean Science for Sustainable Development 2021-2030** creates a Heritage Network and provides an opportunity to engage a wide audience, highlight the importance of UCH & MCH and to develop sustainable tourism creating jobs and promoting local cultures and products.
  - good practice: sailing ships of the Northern Baltic, **Council of Europe Cultural Routes Programme** and **Routes4U Project**

"Oak Soldiers" by Heikki Laaksonen (design), Ari Leppänen and Jukka Auervuolle. They are located in the Katariina Seaside Park in Kotka, Finland. The work consists of 28 soldier figures and tells the story of the nearby Svensksund Sea Battle site of 1790. The statues are made of oak from the sunken battleships, which was donated by the Kymenlaakso Museum. "Oak soldiers" provided a way to respectfully re-use the vast amounts of ship's parts raised from the wrecks of the two sea battles of Svensksund during fieldwork in several decades. According to the Antiquities Act of 1963, a permission from the Finnish Heritage Agency and archaeological documentation is required in order to raise objects from shipwrecks sunk over 100 years ago. Photo: S. Tikkanen, Finnish Heritage Agency.

See the "Oak soldiers" -statue video at ***https://yle.fi/uutiset/3-11359296***

More information about the Svensksund sea battles and "Fateful Svensksund" -exhibition at **https://kohtalonaruotsinsalmi.fi/en/**

References

[1] A joint Working Group on Maritime Spatial Planning of the VASAB Committee on Spatial Planning and Development of the Baltic Sea Region (CSPD/BSR) and the Helsinki Commission (HELCOM) to ensure cooperation among the Baltic Sea Region countries for coherent regional Maritime Spatial Planning processes.

[2] BaltSeaPlan, Vision 2030, Towards the sustainable planning of Baltic Sea space, Summary, 2011.

[3] UNESCO 2003: 2, 2003. "Convention for the Safeguarding of the Intangible Cultural Heritage".

[4] EUR-Lex, Access to European Union Law, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0089&from=EN

[5] Matczak et al. 2015 /www.umgdy.gov.pl/?p=6341 [Matczak M., Zaucha J., and others, (2015) Study on conditions of spatial management of Polish Sea Areas. Maritime Institute: Gdańsk https://www.umgdy.gov.pl/?p=6341

[6] Trakadas et al 2019: 154.

[7] For example Ounanian et al 2018: 8-9; Moodie et al 2019: 4-5.

[8] Swedish Marine Spatial Plan, Consultation proposal 2018:74, Proposal for the Marine Spatial Plan Baltic Sea, Consultation document, Swedish Agency for Marine and Water Management.

[9] Related to UCH and MCH, see for example Trakadas et al. 2019:158.

[10] For example, see Gee et al. 2016: 140.

[11] Zaucha & Gee 2019:2.

[12] Brown & Humberstone 2018: 4.

[13] See for example Land 2018: 31-40; The New Coastal History, Territory Beyond Terra, Seascapes: Shaped by the Sea, Living with the Sea".

[14] Armitage, Bashford and Sivasundaram 2018: 15.

[15] Brown & Humberstone 2018: 4.

[16] Anderson and Peters 2014:4; Claesson 2019:61.

[17] Claesson S. 2019:61.

[18] Ounanian et al. 2018:9.

[19] Related to UCH and MCH, see for example Claesson S. 2019: 63.

[20] Soini 2016:6. According to Dr Jessica S. Lehman, Durham University, maritime cultural heritage may be understood as a frontier in terms not only of spatial territory, but of also regarding knowledge, governance and politics. Dr Lehman gave a presentation at the BalticRIM Webinar on 10th of September

2020. Especially when working with underwater cultural heritage, it is good to realize that the invisibility afforded by being underwater, is the primary attribute differentiating underwater heritage from land based heritage, placing this heritage in the to the frontier and in periphery.

[21] Henderson 2019:6.

[22] Trakadas A. et al 2019: 157-158.

[23] In addition to the most interesting sites, the project exchanged data about protection by law in territorial waters and EEZ; underwater archaeological education; tourism strategies; diving and conservation equipment. The 2006 List can be viewed at http://baltic-heritage.eu/working-groups/underwater-cultural-heritage/rutilus-project-and-100-list/

[24] Some definitions in the BalticRIM WIKI, http://dokuwiki.balticrim.eu/index.php?title=Maritime_Cultural_Heritage_(MCH). For the difference between marine and maritime, see e.g. Gee et al. 2016, footnote 1; Henderson 2019, 3-4. Generally, the term "marine or nautical archaeology" has been used in the USA and when referring to scientific applications in archaeology. "Maritime archaeology" is a more generally accepted umbrella term, as it includes all "material remains of man and his activities of the sea" (Muckelroy 1978, 4), and thus is not restricted to the underwater heritage as such, but encompasses also cultural aspects in coastal zones on a broader scale.

[25] Term of cultural heritage has been elaborated by multiple disciplines, such as archaeology, human geography, (cultural) anthropology and history. In modern understanding cultural heritage refers to both tangible and intangible (Ounanian K. et al 2018: 4).

[26] http://dokuwiki.balticrim.eu/index.php?title=Maritime_Cultural_Heritage_(MCH)

[27] Some definitions in the BalticRIM WIKI. http://dokuwiki.balticrim.eu/index.php?title=Underwater_Cultural_Heritage_(UCH)

[28] Kull et al. 2017: 38

[29] Results of a meeting between ALSH and MSP authority of Schleswig-Holstein on 6th September 2019.

[30] https://www.umgdy.gov.pl/?p=6341.

[31] Zaucha et al. 2016 [Zaucha J, Davoudi S., Slob A., Bouma G., van Meerkerk I., MP Oen A., and Breedveld G. D (2016) State-of-the-Lagoon Reports as Vehicles of Cross-Disciplinary Integration, Integrated Environmental Assessment and Management 14(4):690-700, https://doi.org/10.1002/ieam.1802]

[32] For more details regarding the design of the portal, see Schrøder et al (2020) (Schrøder, L, Georgati, M & Hansen, HS 2020, Enabling Collaboration Among Cultural Heritage Experts and Maritime Spatial Planners. in Kö, A et al (eds.), EGOVIS 2020. Vol. 12394, pp 106-120, Springer, Switzerland, Lecture Notes in Computer Science.

[33] More information in Finnish http://akp.nba.fi/; Arkeologisen kulttuuriperinnön opas.

[34] Such terms as marine landscape, benthoscape, seabed landscape and seascape can refer also into physical landscapes of the seabed including sometimes also features of biodiversity. More information e.g. in Kaskela 2017.

[35] The work was done by Laura Seesmeri form the University of Turku, More information: Seesmeri, Laura 2020: Kokemuksia syvyyksistä. Teoksessa Muutoksen tyrskyt ja kotirannan mainingit. Toimittaneet Jaana Kouri, Tuomas Räsänen ja Nina Tynkkynen. Suomalaisen Kirjallisuuden Seura, Helsinki, and a forthcoming article: Seesmeri, Laura: The benefits of the concept of underwater landscape to maritime spatial planning of the Baltic Sea, Ocean management.

[36] BalticRIM WIKI http://dokuwiki.balticrim.eu/index.php?title=Underwater_landscape

[37] https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/199

[38] The Finnish Heritage Agency has a long history in working together with divers. The Agency invited the Finnish Divers Federation to take part in the BalticRIM project as an associated organisation in order to enhance commitment and liaisons between heritage protection and underwater heritage "users". To collect diver's experiences, opinions and notions about underwater landscape, underwater heritage, protection, use and experiences, and to promote Landscape Convention and to confirm participation according to the Convention on the Value of Cultural Heritage for Society, a questionnaire on underwater heritage landscape was conducted in 2018. In total, 138 answers gave highly interesting and rare data of diver´s experiences and definitions of underwater landscape emphasizing how the underwater landscape is composed of both nature and heritage. The results were published in Finnish and online on Finnish Divers Federation's pages ("Sukeltajille suunnatun vedenalaista maisemaa kartoittavan kyselyn tulokset", Laura Seesmeri, University of Turku, 2018). In addition, the outcome were presented in various BalticRIM stakeholder events. Similar results were gained in a wreck diving survey by Metsähallitus (Lakso and Laine 2019).

[39] Kee G. at al 2017.

[40] The BalticRIM online Landscape Workshop "BalticRIM Underwater Landscape Concept and other tools for landscape approach" was organized in May 2020. The aim of the Workshop was to discuss two different "landscape concepts"; the BalticRIM Underwater Landscape (UWL) and Culturally Significant Areas (CSA) Concepts. (Gee at al 2017. More information look at BalticRIM Landscape Workshop Report).

[41] This has been done for example, for the sites of Vrouw Maria (register category: wreck); Svensksund sea battle area (register category: place of historical event: battlefield); Suomenlinna sea fortress (Suomenlinna is a UNESCO World Heritage site and its cultural heritage are placed in different register categories including wreck and barrier); Virolahti stone quarries (categories: wreck, jetty etc.) and Jussarö ship trap (category: wreck). In the case of Vrouw Maria, the amateur and professional divers were interviewed about their UWL experience. Sallamaria Tikkanen 2012: The Vrouw Maria's Underwater Landscape in Lost at sea, Rediscovered, Ed. Eero Ehanti, Johanna Aartomaa, Irma Lounatvuori and Erik Tirkkonen, Finland's National Board of Antiquities.

[42] Smith-Godfrey 2016, 60.

[43] COM(2014) 254/2 (13/05/2014.

[44] https://www.balticsea-region-strategy.eu/attachments/article/590764/INFORMATION%20LEAFLET_Sustainable-blue-growth-agenda-160906.pdf

[45] Cultural heritage can be viewed as social capital in the recreational sector (derived from the idea of cultural landscapes as social capital in Kizos et al 2018), but as cultural heritage is not a renewable asset, it is necessary to highlight the necessity of its usage in a sustainable way as it is done with natural capital (Silver et al 2015).

[46] Pueyo-Ros, J. 2018. The Role of Tourism in the Ecosystem Services Framework. MDPI land-07-00111.pdf. Licensee MDPI, Basel, Switzerland.

[47] Ocean Multi-Use Action Plan Executive Summary, 2018.

[48] https://www.unwto.org/sustainable-development

[49] Lakso and Laine 2019

Sources

Ahtiainen, H., Liski, E., Pouta, E., Soini, K., Bertram, C., Rehdanz, K., Pakalniete, K. and Meyerhof, J. 2019: "Cultural ecosystem services provided by the Baltic Sea marine environment". Ambio 2019. Online: https://link.springer.com/article/10.1007/s13280-019-01239-1.

Anderson, J. and Peters, K. 2014: "A Perfect and absolute blank". Human Geographies of Water Worlds. In Peters, K., & Anderson, J. (eds.). Water words: Human geographies of the ocean.

Armitage, D., Bashford, A. and Sivasundaram, S. (eds.) 2018: "Introduction: Writing World Oceanic Histories". In Oceanic Histories, pp. 1–27.

Brown, M. and Humberstone, B. (eds.) 2018: "Introduction". In Seascapes: Shaped by the Sea. Embodied Narratives and Fluid Geographies, pp. 1–11.

Brown, M. and Humberstone, B. (eds.) 2018: Seascapes: Shaped by the Sea. Embodied Narratives and Fluid Geographies.

Brown, M. and Peters, K. (eds.) 2019: Living with the Sea. Knowledge, Awareness and Action.

Claesson, S. 2011: "The Value and Valuation of Maritime Cultural Heritage". International Journal of Cultural Property (2011), (18), pp. 61-80.

Gee, K., Kannen, A., Adlam, R., Brooks, C., Chapman, M., Cormier, R., Fischer, C., Fletcher, S., Gubbins, M., Shucksmith, R. and Shellock, R. 2017: "Identifying culturally significant areas for maritime spatial planning". Ocean & Coastal Management 136 (2017), pp. 139-147.

Henderson, J. 2019: "Oceans without History? Marine Cultural Heritage and the Sustainable Development Agenda". Sustainability 11 (18). https://doi.org/10.3390/su11185080

Kaskela, A. 2017: "Seabed landscapes of the Baltic Sea. Geological characterization of the seabed environment with spatial analysis techniques". Geological Survey of Finland.

Kull, M., Moodie, J., Goacomentti, A. and Morf, A. 2017: Lessons Learned: Obstacles and Enablers When Tackling the Challenges of Cross-Border Maritime Spatial Planning – Experiences from Baltic SCOPE. Stockholm, Espoo and Gothenburg. http://www.balticscope.eu/content/uploads/2015/07/BalticScope_LL_WWW.pdf

Lakso, E. and Laine, A. 2019: Survey of Finnish coastal area wreck diving practices. Metsähallitus Parks & Wildlife. BalticRIM project publication. https://www.submariner-network.eu/images/BalticRIM/BalticRIM_Wreck-Diving-Survey_Report_Metsa%CC%88hallitus2019.pdf

Lehtimäki, M. (ed.) 2008: Cultural heritage and tourism: Potential, impacts, partnership and governance. The presentations on the III Baltic Sea Region Cultural Heritage Forum.

Lehtimäki, M. 2020: Feasibility Study on the Maritime Heritage Route in the Baltic Sea Region. https://rm.coe.int/routes4u-study-eusbsr-policies/16809ee4de%0A%0A

Litwin, J. (ed.) 2003: Baltic Sea Identity, Common Sea – Common Culture? 1st Cultural Heritage Forum. Gdansk 3rd – 6th April 2003.

Muckelroy, Keith 1978: Maritime Archaeology.

Ounanian, K., Hansen, K. J., Delaney, A., van Tatenhove, J., Bohnstedt, H., Kenter, J., Azzopardi, E., Flannery, W., Ferguson, L., Toonen, H., Kraan, M., Macia, J. V., Lamers, M., Pita, C., Albuquerque, H., Ferreira da Silva, A. M., Alves, F., Mylona, D. and Frangoudes, K. 2018: "Synthesis paper of the three pillars concept for sustainable CH utilization. Conceptualizing Coastal and Maritime Cultural Heritage through Communities of Meaning and Participation". PERICLES (PrEseRving and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions) Project Report D2.3.

Peters, K., Steinberg, P. and Stratford, E. (eds.) 2018: Territory Beyond Terra.

Soini, K. and Dessein, J. 2016: "Culture-Sustainability Relation: Towards a Conceptual Framework". Sustainability 2016, (8).

Swedish Marine Spatial Plan, Consultation Proposal 2018:74. Proposal for Marine Spatial Plan Baltic Sea, Consultation Document, Swedish Agency for Marine and Water management.

Trakadas, A., Firth, A., Gregory, D., Elkin, D., Guerin, U., Henderson, J., Kimura, J., Scott-Ireton, D., Shashoua, Y., Underwood, C. and Viduka, A. 2019: "The Ocean Decade Heritage Network. Integrating Cultural Heritage Within the UN Decade of Ocean Science 2021-2030". Journal of Maritime Archaeology (2019) 14, pp. 153-165.

Tikkanen, S. 2012: The Vrouw Maria's Underwater landscape. Ehanti E., Aartomaa J., Lounatvuori I., and Tirkkonen E. (eds.). Lost at Sea, Rediscovered, pp. 192-221.

Worthington, D. (ed.) 2017: The New Coastal History. Cultural and Environmental Perspectives from Scotland and Beyond.

Internet sources

- **BalticRIM:**

  BalticRIM data portal:

  https://balticrimdataportal.eu

  BalticRIM WIKI:

  http://dokuwiki.balticrim.eu

  ParticipatoryGIS portal mch4blue:

  http://www.sea.ee/mch4blue

  BalticRIM Landscape Workshop Report:

  https://www.submariner-network.eu/balticrim

  BSR national maritime data registers:

  https://2019.submariner-network.eu/images/BalticRIM/5_Data_accessibility_template.xlsx

  Maritime Cultural Heritage impact assessment strategy for MSP, Status report 3.2: https://www.submariner-network.eu/balticrim

- **BALTACAR Project:**

  https://projectbaltacar.eu/

  BALTACAR Project publication:

  https://projectbaltacar.eu/wp-content/uploads/2020/01/BALTACAR_netti1.pdf

  Creating a dive park From idea to reality:

  https://projectbaltacar.eu/wp-content/uploads/2020/01/Dive-park-handbook-layout_eng.pdf

- **Baltic Region Heritage Committee networks:**

  https://baltic-heritage.eu

  BSR Working Group on Coastal Heritage:

  https://baltic-heritage.eu/working-groups/coastal-heritage/

  BSR Working Group on Underwater Heritage:

  https://baltic-heritage.eu/working-groups/underwater-cultural-heritage

The Code of Good Practice for the Management of the Underwater Cultural Heritage in the Baltic Sea Region (COPUCH):

https://baltic-8326.wilhelm-osl.servebolt.cloud/working-groups/underwater-cultural-heritage/code-of-good-practice/

The Rutilus report 2006:

https://baltic-heritage.eu/working-groups/underwater-cultural-heritage/rutilus-project-and-100-list

- **Baltic Sea voyage:**

  http://coastlight.net/detaljer/?req=5018

- **BlueMed project:**

  http://www.bluemed-initiative.eu/the-project/

- **Capacity4MSP project:**

  https://www.msp-platform.eu/projects/capacity4msp-strengthening-capacity-msp-stakeholders-and-decision-makers

- **Council of Europe:**

  Convention for the Protection of the Archaeological Heritage of Europe: https://www.coe.int/en/web/culture-and-heritage/valletta-convention

  Convention for the Protection of the Architectural Heritage of Europe:

  https://www.coe.int/en/web/culture-and-heritage/granada-convention

  Framework Convention on the Value of Cultural Heritage for Society:

  https://www.coe.int/en/web/culture-and-heritage/faro-convention

  HEREIN:

  https://www.coe.int/en/web/herein-system

  Landscape Convention:

  https://www.coe.int/en/web/landscape

- **Council of Europe Cultural Routes Programme:**

  https://pjp-eu.coe.int/en/web/cultural-routes-and-regional-development/coe-cultural-routes

- **Council of Europe Cultural Routes with major references in BSR:**

  Hansa Route:

  https://www.coe.int/en/web/cultural-routes/the-hansa

  Route of Saint Olav Ways:

  https://www.coe.int/en/web/cultural-routes/the-route-of-saint-olav-ways

  St Olav Waterways:

  https://stolavwaterway.com/en/

  Vikings Route:

  https://www.coe.int/en/web/cultural-routes/the-viking-routes

- **Council of Europe and European Commission Routes4U project 2017-2020 and BSR:**

  https://pjp-eu.coe.int/en/web/cultural-routes-and-regional-development/2019-routes4u-eusbsr-meeting

  Routes4U Report Feasibility study on the Maritime Heritage Route in the Baltic Sea Region: https://rm.coe.int/maritime-heritage-study/16809ed711%0A%0A

- **Decade of Ocean Science:**

  https://www.oceandecade.org

- **Estonian Maritime Museum:**

  www.meremuuseum.ee

- **European Commission:**

  Europe 2030 Strategy:

  https://ec.europa.eu/commission/publications/reflection-paper-towards-sustainable-europe-2030_en

  The INSPIRE directive:

  https://inspire.ec.europa.eu/inspire-directive/2

Sustainable Blue Growth Agenda for BSR: https://webgate.ec.europa.eu/maritimeforum/system/files/INFORMATION%20LEAFLET_Sustainable-blue-growth-agenda.pdf

- **European Union Maritime Spatial Planning Directive (2014/89/EU):**

  https://www.eea.europa.eu/policy-documents/directive-2014-89-eu-maritime

  European MSP Platform:

  https://www.msp-platform.eu/

  EU Strategy for the Baltic Sea Region (EUSBSR):

  https://www.balticsea-region-strategy.eu/

  EUSBSR Action Plan:

  https://www.balticsea-region-strategy.eu/action-plan

- **Finnish Heritage Agency:**

  https://www.museovirasto.fi/en/

  Wiki based Guide for Archaeological Heritage in Finland (in Finnish only):

  http://akp.nba.fi/

- **HELCOM-VASAB MSP WG:**

  https://helcom.fi/helcom-at-work/groups/helcom-vasab-maritime-spatial-planning-working-group/

- **Keri Island Tourism Programme:**

  www.keri.ee

- **MarineFinland.fi portal:**

  https://marinefinland.fi/en-US

- **Maritime spatial planning in Denmark:**

  https://danishbusinessauthority.dk/sites/default/files/media/2012_planning_eng_guide.pdf

- **Maritime spatial planning in Estonia:**

  http://mereala.hendrikson.ee/en.html

  An example of a stakeholder engagement in the Lääne County and the Lääne-Viru County in YouTube: https://cutt.ly/ht09e70

- **Maritime spatial planning in Finland:**

  https://www.merialuesuunnittelu.fi/en;

  https://www.merialuesuunnittelu.fi/en/msp-draft-2030/

  Report on maritime cultural heritage:

  https://www.merialuesuunnittelu.fi/wpcontent/uploads/2019/04/Suomen_merellisen_kulttuuriperinn%C3%B6n_tilannekuva_2019-1.pdf

- **Maritime spatial planning for the EEZ in Germany:**

  https://www.bsh.de/EN/TOPICS/Offshore/Maritime_spatial_planning/maritime_spatial_planning_node.html

- **Maritime spatial planning in the Federal State of Schleswig-Holstein, Germany:**

  https://www.schleswigholstein.de/DE/Fachinhalte/L/landesplanung_raumordnung/weitereThemen/landesplanung_maritime_raumordnung.html

- **Maritime spatial planning in Lithuania**

  https://e-seimas.lrs.lt/portal/legalAct/lt/TAP/be950850b36e11e486d695b7d843f736?jfwid=-je7i1syyn)

- **Maritime spatial planning in Poland:**

  MSP and Maritime Office in Gdynia:

  https://www.umgdy.gov.pl/?page_id=2161

  MSP and Maritime Office in Szczecin:

  https://www.ums.gov.pl/plany-morskie.html

  MSP will be placed in a data portal of maritime administration:

  https://sipam.gov.pl/mapy/plany-morskie)

  Study of Conditions of Spatial Development of Polish Sea Areas:

https://www.umgdy.gov.pl/?cat=96

- **Maritime spatial planning in Sweden**

  https://www.havochvatten.se/en/eu-and-international/marine-spatial-planning.html

- **Maritime spatial planning in Åland**

  https://www.regeringen.ax/demokrati-hallbarhet/hallbar-utveckling/marin-kustomradesplanering-havsplanering

- **MUSES project:**

  https://muses-project.com/

- **Nordic Blue Parks project:**

  https://www.norden.org/en/publication/nordic-blue-parks

- **PartiSEApate project:**

  http://www.partiseapate.eu/

  PartiSEApate project discussion on mCH:

  http://www.partiseapate.eu/dialogue/workshop-cultural-heritage-tourism/

- **PERICLES project's map service:**

  https://mapyourheritage.eu/

- **SEAPLANSPACE project:**

  https://seaplanspace.ug.edu.pl

  UNESCO:

  Convention on the Protection of the Underwater Cultural Heritage of 2001: http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/2001-convention

  Decade of Ocean Science for Sustainable Development 2021-2030:

  https://en.unesco.org/ocean-decade/about

Hague Convention 1954:

http://www.unesco.org/new/en/culture/themes/armed-conflict-and-heritage/convention-and-protocols/1954-hague-convention/

Manual for activities directed at UCH

http://www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/unesco-manual-for-activities-directed-at-underwater-cultural-heritage/unesco-manual/general-principles/in-situ-preservation-as-first-option

- **UNWTO:**

  https://www.unwto.org/sustainable-development

- **3D visualizations of UCH sites, an example:**

  https://sketchfab.com/tags/shipwreck

Personal communication

Dr. Jessica Lehman, Durham University at BalticRIM Webinar on 10th of September 2020.

Annex

International framework for Maritime Cultural Heritage Protection and Management

Conventions and recommendations created by intergovernmental organizations.
Links to respective sites, where one can search the state of ratifications.

UNESCO Draft model provisions on State Ownership of Undiscovered Cultural Object. Explanatory Report with model provisions and explanatory guidelines 2012
https://www.unidroit.org/instruments/cultural-property/model-provisions

Council of Europe Framework Convention on the Value of Cultural Heritage for Society 2005/2011
https://rm.coe.int/1680083746

UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005
https://en.unesco.org/creativity/convention

The European Landscape Convention of the Council of Europe 2000/2004
https://www.coe.int/en/web/landscape

UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage 2003
http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html

UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001
https://unesdoc.unesco.org/ark:/48223/pf0000126065

UNIDROIT Convention on Stolen or Illegally Exported Cultural objects 1995
https://www.unidroit.org/102-instruments/cultural-property/cultural-property-convention-1995/173-unidroit-convention-on-stolen-or-illegally-exported-cultural-objects-1995-rome

Council of Europe European Convention on the Protection of the Archaeological Heritage 1992
https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/066

Council of Europe Convention for the Protection of the Architectural Heritage of Europe 1985
https://rm.coe.int/168007a087

UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage 1972/1975
https://whc.unesco.org/en/conventiontext/

UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import,
Export and Transfer of Ownership of Cultural Property 1970
http://portal.unesco.org/en/ev.php-URL_ID=13039&URL_DO=DO_TOPIC&URL_SECTION=201.html

UNESCO Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict 1954
http://www.unesco.org/new/en/culture/themes/armed-conflict-and-
heritage/convention-and-protocols/1954-hague-convention/

Partners

BalticRIM PROJECT PARTNERS

State Archaeology Department of Schleswig-Holstein, Germany (ALSH), Lead Partner, Schleswig-Holstein
Submariner Network for Blue Growth EEIG (SUBMARINER), Germany
Finnish Heritage Agency (FHA), Finland
Metsähallitus Parks & Wildlife Finland
University of Turku, Finland
University of Tartu (UTARTU), Estonia
Estonian National Heritage Board (ENHB), Estonia
Coastal Research and Planning Institute (CORPI), Lithuania
Klaipeda University, Lithuania
National Maritime Museum in Gdańsk, Poland
Maritime Institute in Gdańsk (MIG), Poland
Atlantic Branch of the P.P. Shirshov Institute of Oceanology,
Russian Academy of Science, Russian Federation
Aalborg University (AU), Denmark

BALTICRIM PROJECT ASSOCIATED ORGANISATIONS

Regional Council of Kymenlaakso, Finland
Åland Board of Antiquities, Government of the Åland Islands, Finland
Viking Ship Museum Roskilde, Denmark
State Agency for Agriculture, Environment and Rural Areas Schleswig-Holstein; Germany
Ostseefjord Schlei GmbH, Germany
Ministry of the Interior of of Schleswig-Holstein, Germany
Helmholtz Centre Geesthacht for Coastal Research, Germany
Kingisepp District municipality and Underwater Research Centre of
the Russian Geographical Society, Russian Federation
Scientific and Research Institute of Maritime Spatial Planning Ermak NorthWest, Russian Federation
Finnish Divers' Federation, Finland
Dutch Cultural Heritage Agency, the Netherlands
Museum of Kronstadt, Russian Federation
Baltic Sea States Sub-regional Co-operation, Eastern Norway County Network, Norway
Museum of the World Ocean, Russian Federation
National Centre of Underwater Research, Russian Federation