

Toolkit for mapping underwater landscape and anticipating risks for underwater landscape

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This paper presents views that justify the use of underwater landscape in maritime spatial planning when one wants to focus not only on marine areas in general but on the underwater area and its inherent cultural values in particular taking into account experimental knowledge.

Maritime archaeology traditionally focuses on a point, a limited location, below the surface of the water. It focuses on an underwater relic or other traces of human interaction. Their objects of interest are often wrecks or their parts. The cultural and historical seabed that has been mapped out in such a way consist of points that are separate from one another.

A wider perspective of underwater landscape that consists of both underwater cultural heritage and special natural values is required.

Underwater landscape as an umbrella concept helps to recognise significant underwater areas and helps to prevent the destruction of significant underwater areas.

What is landscape?

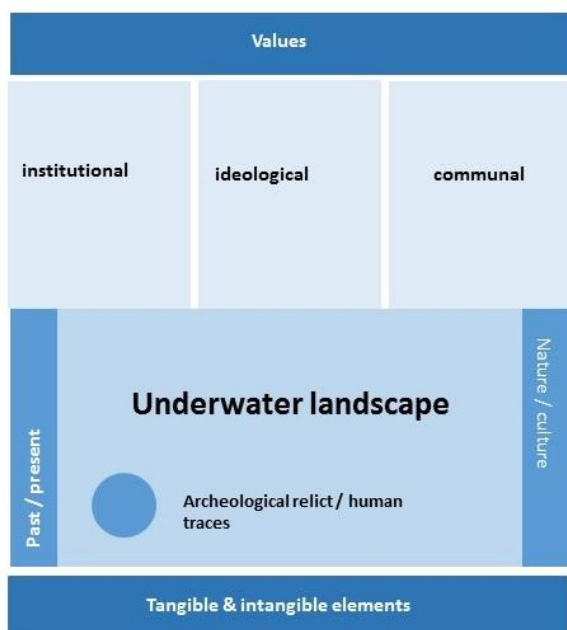
Landscape is concrete, images, ideas and values. It conveys heritage from the past to the modern world. It is a meaning system perceived through experience. It is cognitive and symbolic system of space. Landscape conveys activities and it is a result of activities.

It is a meaning system in which the sense of community is being reproduced, redefined and reconstructed. Landscape is a referential framework to which the identities of an individual and communities are anchored.



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Underwater landscape and the European Landscape Convention

According to the Convention, 'landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. Landscape is therefore regarded as containing both natural and cultural elements. The preamble of the Convention links landscape with culture, ecology, the environment, society and economic activity.

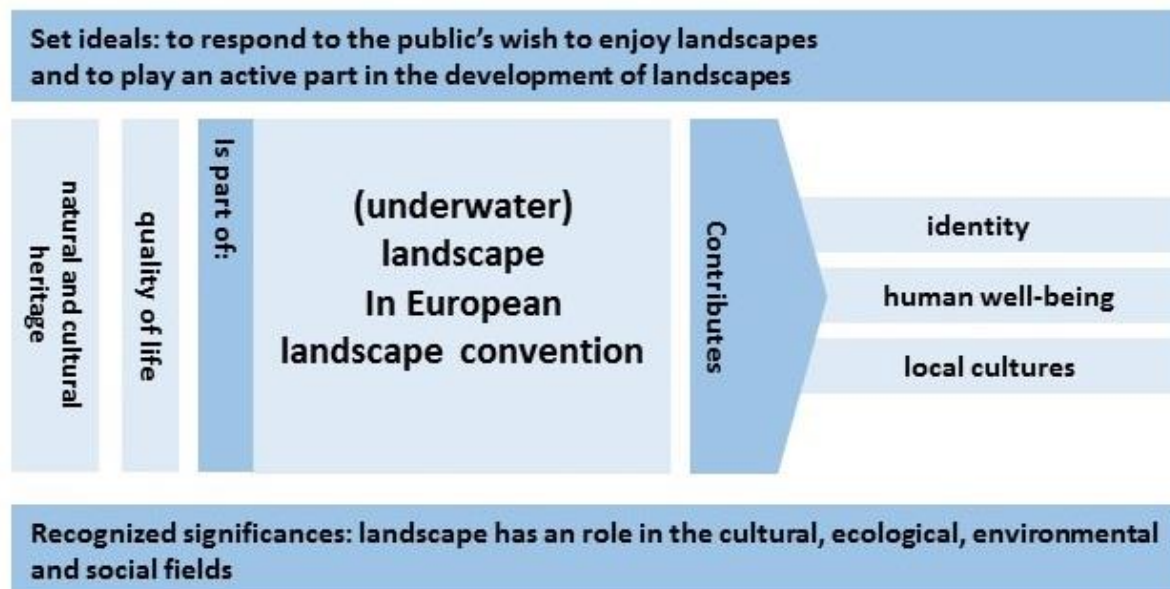
Landscape, as defined in the European Landscape Convention, can be applied to underwater landscape, although the way it is observed and its relationship with the environment and the everyday life of human societies differ from the characteristics of many an on-land landscape.



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The roles of landscape in the convention:



Underwater landscape, too, is part of European environmental and cultural heritage, part of individual and social well-being, and part of our quality of life. The impacts and actions of landscape defined in

the Convention also apply to underwater landscape. The Convention depicts landscape as an active contributor, and it is said to promote well-being, strengthen identity and contribute to the formation of local culture.

Culture/nature

There is no need to separate culture and nature from each other when making spatial planning and safeguarding considering underwater areas. Traces of cultural heritage have, over the years, been camouflaged as part of nature. Nature has free rein over the

traces of human culture under water. The landscape approach could work as a viewpoint and a tool to take the special characteristics of both underwater nature and culture into consideration in a holistic manner.



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What is underwater landscape and maritime cultural heritage?

Underwater landscape	Maritime cultural heritage
<p>The underwater landscape is the area under the surface of the water and the way people directly or indirectly perceive and imagine it. Its features are the result of the interaction between people and nature, reflecting various dimensions of time.</p> <p>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.</p> <p>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.</p> <p>The underwater landscape is the shape of the sea bed, the elements of the landscape at the bottom, the features of intermediate water, and the light reflected from the surface as well as traces of human life and maritime cultural heritage, which is either partly or fully under the surface of the water.</p> <p>Understanding underwater landscapes gives a wide perspective on the connection between people and the sea, the confluence of the past and present, and the assessment of environmental changes and sustainable development by taking natural, cultural and social aspects of landscape into account.</p>	<p>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.</p> <p>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 underwater.</p> <p>Maritime cultural heritage refers to both concrete traces of maritime cultural heritage in the landscape as well as skills, beliefs, habits 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.</p> <p>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.</p>



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What are the differences in relation to culturally significant areas and seascape character?

Participation process differs from the participation idea of naming culturally significant areas.

Divers who know an underwater site and visit it may not know the rest of the area.

Professional divers, such as marine biology divers, marine archaeologists, shipping channel managers and military divers, have a different view of the underwater environment than recreational divers. There are also groups of professionals, for example fishers, for whom the underwater landscape and its well-being is important, but who only have an indirect relationship with it. Because all these

groups have such a different relationship with the underwater landscape, its significance cannot be measured in the same way as the cultural values of marine environments from the viewpoint of communities in general.

In the mapping process of culturally significant areas values are defined first after which they will be spatialized. When mapping significant underwater landscapes the mapping process goes vice versa because the term landscape is already a spatial term. Compared to the mapping of seascape character areas the observation of space differs. The differences between these concepts occurs because:

The underwater landscape is not the everyday environment of any individual person.

Communities and social groups related to the underwater world live apart from one another and have very different relationships with the other surroundings of the underwater landscape in question.

The experience people have of underwater landscape is separate from their everyday lives, and the formation of meanings related to underwater landscapes is affected more by personal experiences and, among other things, images and knowledge of the history of the area than when forming meanings related to on-land landscapes.

It is more difficult to obtain information on underwater landscapes than landscapes on the surface. Therefore, forecasting tools for recognising underwater landscapes play a key role in planning.



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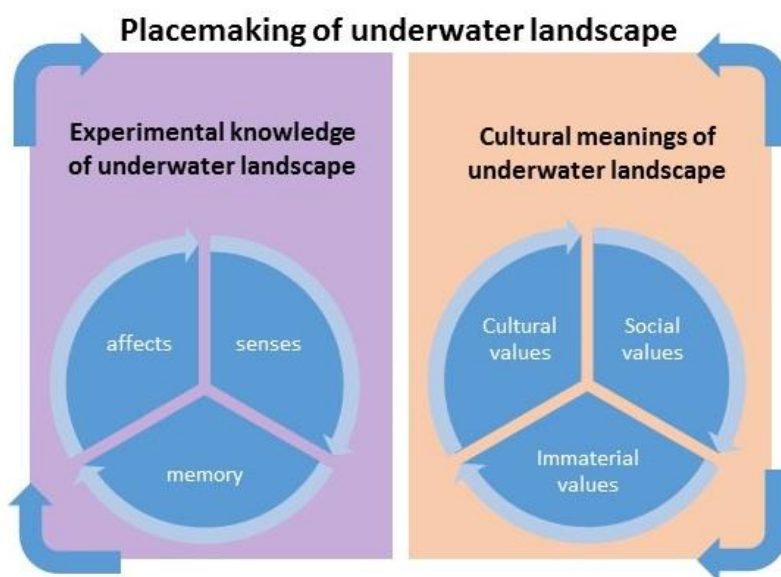
Underwater landscape is a spatial term. Experimental knowledge of spaces under the surface is important when mapping underwater areas. When doing so it is

important to have in mind different dimensions of the composition of underwater landscape.

Placemaking in experimental knowledge of underwater landscape

Immaterial values create the sense of place and strengthen one's identity. When mapping underwater areas the experimental

knowledge and environmental heritage is important knowledge about the areas.



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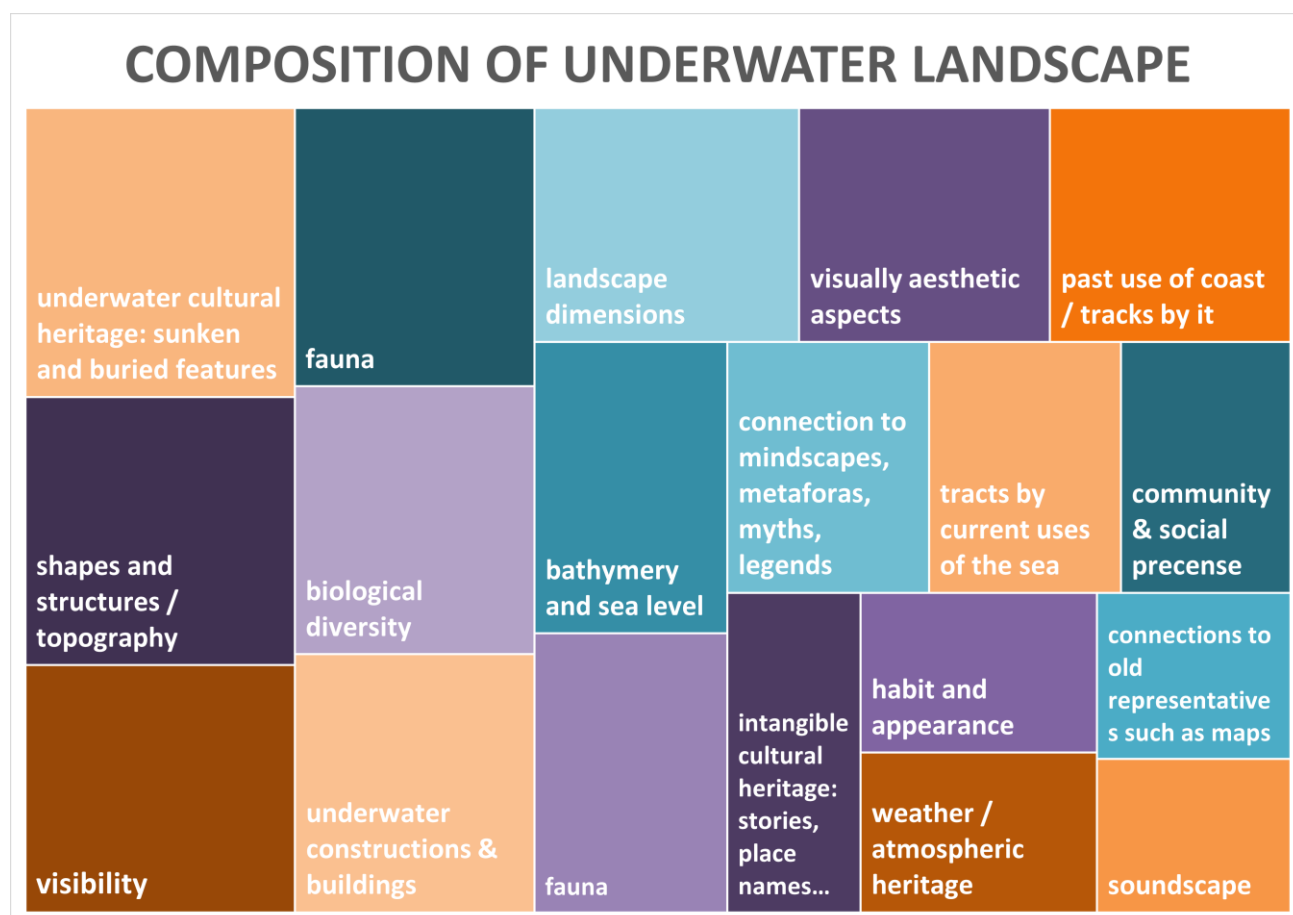
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Experimental knowledge of underwater landscape

Underwater landscape is not only what one finds in water and under the surface in real terms, but also the cognitive and emotional, socially constructed phenomenon that creates images in one's mind.

Underwater landscape is defined through various temporalities in the questionnaire targeted at divers. It is defined as an existing landscape, an impression based on one's experiences, as protective and risk factors and wishes. Landscape is therefore seen as a concrete environment and an aesthetic-emotional entity.

Both the users (divers) and professionals who have an cognitive based relationship to underwater landscape make similar significances for it. Based on questionnaires for these groups we can present a composition of underwater landscape as this:

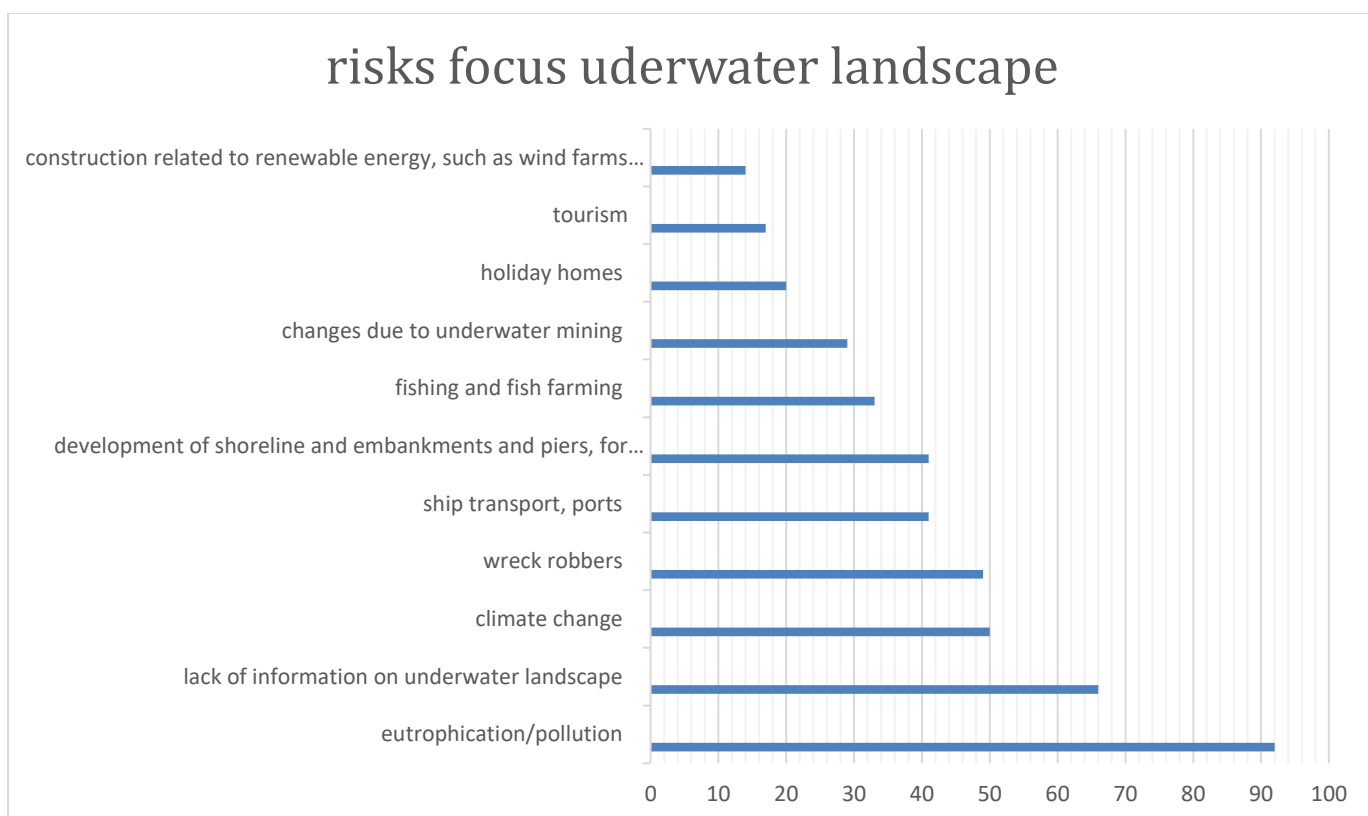


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Toolkit for anticipating risks for underwater landscape

Meanings and temporalities of underwater landscape should be taken into consideration when defining underwater landscapes. Both users and administrative representatives have present their opinions of threats and wishes, negative and positive images of the future. Risks can be for example uses of maritime area making risks for underwater landscape, risks for weakening of biodiversity and risks from tourism, for example making harm for wrecks.



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Conclusions

We can define four categories that should be taken into consideration in maritime spatial planning when thinking about underwater landscape. These are:

Factors related to cultural heritage and history, which include underwater cultural heritage such as wrecks, and intangible cultural heritage related to specific areas.

Social factors, including the current use of maritime areas for industry, fishing, energy production and transport, for example

Factors based on landscape and natural values.

Factors related to experience and the atmosphere of the place.

Information on these factors must be collected in various ways. For this reason, multi-disciplinary cooperation is required to ensure that maritime spatial planning supports existing values, heritage, social values, identities and sustainable development.

The concept of underwater landscape is worth considering in the early stages of planning work. It contains values that are already spatial, rather than values that need to be made spatial.

The seabed is not only soil at the bottom of the sea. It has a highly experiential dimension.



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