



BalticAPP deliverable 2.3

## Operationalization of cultural ecosystem services





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## Introduction

In Baltic App new survey data are collected in Finland, Germany and Latvia to reveal the diverse benefits from the Baltic Sea for human wellbeing. The survey gathers spatially and temporally detailed information of cultural ecosystem services. The measure of cultural ecosystem services makes it possible to identify Baltic Sea identities and lifestyles as well as values of cultural ecosystem services in the three countries.

To include the cultural ecosystem services in survey instrument we developed their operationalization in following steps. Thus this deliverable presents intermediate product that will be further used in the next steps of the research.

### 1) CICES-classification for cultural ecosystem services

We used CICES-classification as a base to operationalize cultural ecosystem services for the Baltic Sea.

Table 1. CICES-classification for cultural ecosystem services

Section	Division	Group	Class
<i>This column lists the three main categories of ecosystem services</i>	<i>This column divides section categories into main types of output or process.</i>	<i>The group level splits division categories by biological, physical or cultural type or process.</i>	<i>The class level provides a further sub-division of group categories into biological or material outputs and bio-physical and cultural processes that can be linked back to concrete identifiable service sources.</i>
<b>Cultural</b>	Physical and intellectual interactions with biota, ecosystems, and land-/seascapes [environmental settings]	Physical and experiential interactions	Experiential use of plants, animals and land-/seascapes in different environmental settings



			Physical use of land-/seascapes in different environmental settings
		Intellectual and representative interactions	Scientific and other knowledge formation
			Educational
			Heritage, cultural
			Cultural diversity
			Entertainment
			Aesthetic
	Social, spiritual, symbolic and other interactions with biota, ecosystems, and land-/seascapes [environmental settings]	Social, spiritual and/or emblematic	Social
			Sense of place
			Symbolic
			Sacred and/or religious
		Other cultural outputs	Existence
			Bequest



## 2) Cultural ecosystem services for the Baltic Sea

Table 2. From the CICES classes of ecosystem services we developed the CES classes applicable for the Baltic Sea.

Class	Applications to Baltic Sea
<i>The class level provides a further sub-division of group categories into biological or material outputs and bio-physical and cultural processes that can be linked back to concrete identifiable service sources.</i>	
Experiential use of plants, animals and land-/seascapes in different environmental settings	Bird watching, diving, snorkelling
Physical use of land-/seascapes in different environmental settings	"beaching", walking, hiking, boating, angling, hunting, bird watching, photographing
Scientific and other knowledge formation	Ecological, social and cultural research on Baltic Sea environment, other "hobby" based knowledge generation
Educational	Environmental education: literature, lessons, camps, excursions
Heritage, cultural	Literature on culture of Baltic sea, museums, ruins, cultural landscape
Cultural diversity	Diversity of local livelihoods (e.g. fishing, tourism, handicrafts) affected by ecosystems
Entertainment	TV programmes, multimedia, literature on Baltic sea
Aesthetic	Paintings, music, performances inspired by the Baltic Sea ecosystems
Social	Diving, fishing, boating, bird watching communities, social relation related to research, environmental actions (nature conservation)
Sense of place	Places such as sea shores, fishing villages that people attach themselves



Symbolic	Charismatic species (seals, fish species, birds) or other objects such as visual image, belief, action that represent, stand for, suggest an idea linked to Baltic Sea environment
Sacred and/or religious	Spiritual, ritual identity, holy places, or sacred plants of animals and their parts
Existence	Enjoy knowing that the site/Baltic sea is existing
Bequest	Other people in my generation are able to enjoy the water quality improvements Future generations will be able to enjoy the water quality improvements

### 3) Measures

We further developed the measures to be easily understandable for lay people and to keep the number of items reasonable. Further more we aimed to use a relative scale to be able to use the measure for converting the main focus of the survey, monetary recreation values, to values of other ecosystem services. That operationalization of cultural ecosystem services was tested in Latvian and Finnish focus groups of citizen. The groups discussed about benefits they perceive from Baltic Sea. To measure the importance of cultural ecosystem services in focus groups we used following material (Table 3).

Table 3. Material of CES for the focus groups.

The Baltic Sea and its coastal areas provide...

- opportunities for recreational activities (e.g. swimming, snorkelling, walking, boating, fishing, bird watching).
- aesthetically appealing landscapes, and a source of inspiration for artistic work.
- an environment for learning, raising awareness, and gaining new scientific information.
- spiritual experiences, a sense of belonging, and symbolic meaning.
- historically and culturally important landscapes and places, and cultural diversity (e.g. in ways of life, cultural expressions).
- habitats for many plants and animals.
-



**For which reasons do you personally value the Baltic Sea and its coastal areas?** Please consider your overall reasons to value the Baltic Sea as 100 points and distribute these points among the following reasons according to your motivations. The total number of points should sum to 100.

I value the Baltic Sea and its coastal areas because of...	Points
... recreational activities (e.g. swimming, snorkelling, walking, boating, fishing, bird watching).	_____
... landscapes and source of inspiration for artistic work.	_____
... an environment for learning, raising awareness, and gaining new scientific information.	_____
... spiritual experiences, a sense of belonging, and symbolic meaning.	_____
... historically and culturally important landscapes and places, and cultural diversity.	_____
... habitats for many animals and plants.	_____
...other reasons not mentioned in the list above, please specify _____	_____
<b>Sum of points</b>	<b>100</b>



#### 4) Operationalization of CES for internet survey

From the focus groups discussion we ended up in operationalization of CES for internet survey. The only differences to measure tested in focus groups was dividing landscapes and source of inspiration for artistic work in two separate items.

Table 4. Measure of cultural ecosystem services in internet survey.

**For which reasons do you personally value the Baltic Sea and its coastal areas?** Please consider your overall motivation to value the Baltic Sea as 100 points and distribute these points among the following reasons according to your motivations.

I value the Baltic Sea and its coastal areas because...	Points
...they provide opportunities for recreational activities (e.g. swimming, fishing, snorkelling, walking, boating, angling, bird watching).	<input type="checkbox"/>
...their landscapes are aesthetically appealing.	<input type="checkbox"/>
... they are a source of inspiration for artistic work.	
...they provide an environment for learning, raising awareness, and gaining new scientific information.	<input type="checkbox"/>
...they are linked to spiritual experiences, convey a sense of belonging, and have a symbolic meaning.	<input type="checkbox"/>
...they contain historically and culturally important landscapes and places, and contribute to cultural diversity (e.g. in ways of life, cultural expressions).	<input type="checkbox"/>
...they form habitats for many animals and plants whose existence is important in itself.	<input type="checkbox"/>
...of other reasons not mentioned in the list above, please specify...	<input type="checkbox"/>
Sum	100

