

### Introduction

The concept of ecosystem services (ES) is present in several policy documents and laws that govern the conservation and use of marine and coastal areas and related natural resources. A recent EU policy assessment [1] found that the concept has been relatively widely integrated into marine policy to date, providing a legal imperative for Member States to apply it in practice. However, only a limited number of concrete instruments exist that operationalise the concept, using the understanding of benefits provided by well-functioning ecosystems to support their sustainable management.

Marine Protected Areas (MPAs) offer significant potential to apply the concept of ecosystem services in practice, to both support conservation efforts and provide co-benefits to people.

The aim of this survey is to investigate how the concept of ecosystem services can be used in the context of MPAs to support the delivery of marine and coastal conservation objectives, while at the same time contributing to the implementation of broader marine policy (e.g. the EU Marine Strategy Framework Directive). It will gather expert views regarding the opportunities for, and possible benefits related to, integrating the concept into MPA management. It also asks experts to consider how instruments such as Payments for Ecosystem Services, Environmental Impact Assessment and socio-economic assessments of ecosystem services could be combined with MPA management practices to deliver the best outcomes for marine and coastal conservation.

The survey is part of the EU FP7 project [OPERAs \(Operational Potential of Ecosystem Research Applications\)](#). OPERAs explores whether, how and under what conditions the concept of ecosystem services can move beyond the academic domain towards practical implementation in support of sustainable ecosystem management.

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[1] Kettunen, M., ten Brink, P., Underwood, E. and Salomaa, A. (2014) Policy needs and opportunities for operationalising the concept of ecosystem services, Report in the context of EU FP7 OPERAs project. Unpublished, available upon request ([mkettunen@ieep.eu](mailto:mkettunen@ieep.eu))

[2] By “operational”, we refer to the presence of specific measures or instruments implemented to address ecosystem services-related objectives.

## 1. Personal details \*

Country

Organisation\*

\* The results of this survey will be anonymous - no names or contact details will be shared. Also, please note that we are looking for your personal views as an expert in the field of marine and coastal conservation, not the view of your organisation.

## 2. If you wish to receive the final results of this study, please include your email address below.

## 3. Please indicate your type of organisation

- Academia
- Individual
- Business
- NGO
- Government
- Competent authority - Regional Sea Convention
- Competent authority - national level
- Competent authority - local/regional level
- Other (please specify)

**Please note:** Questions marked with a red \* are obligatory and must be answered in order to proceed with the survey.

## Using ecosystem services in support of marine and coastal conservation

### Current status

4. \* From your point of view and based on your experience, to what extent does the concept of ecosystem services (ES) currently support the following:

	Not at all	To a very small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
The process of designating new marine and coastal protected areas?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Justifying the need/ gaining stakeholder support for protection measures?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing existing MPAs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring and evaluating the effectiveness of existing MPAs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Please elaborate on the answers you gave in Q4, e.g. providing any examples or other evidence supporting your position.

## Using ecosystem services in support of marine and coastal conservation

### Policy instruments

A range of policy instruments can be used to apply the ES concept in practice to support conservation efforts. These include: indicators for the status and trends of different ecosystem services provided by our sea basins; instruments to help support and coordinate the planning over time and between different coastal Member States; and legislative and market-based instruments targeted to support implementation of ecosystem service related objectives. Based on this thinking, policy instruments influencing the provision and conservation of marine and coastal ecosystem services can be classified into three broad categories: **information instruments**, **decision-support instruments** and **implementation instruments**.

We have listed a number of examples of instruments in the questions below. Some instruments already exist whereas others still remain to be developed or discussed further. The purpose of these questions is to explore the perceived "theoretical" importance of these instruments to help successfully operationalise the ES concept in support of current regional, national and sub-national MPA management.

#### 6. \* What is the relative importance of the following information instruments in successfully operationalising the ES concept to support conservation?

	No importance	Little importance	Moderate importance	High importance	Very high importance	Don't know
Establishing a common set of indicators classifying marine ES provided by EU sea basins and coasts (e.g. storm protection, nutrient cycling etc.)	<input type="radio"/>					
Spatial mapping of marine and coastal ES in EU sea basins	<input type="radio"/>					
Standardised socio-economic assessment and economic valuation framework for ES across the EU, including marine and coastal areas	<input type="radio"/>					
Developing Natural Capital Accounting* models in the context of marine and coastal ES (with links to marine spatial planning)	<input type="radio"/>					

\* *Natural Capital Accounting* refers to the integration of environmental and economic accounting practices for the purpose of better understanding and acknowledging interactions between the environment and the economy. Natural Capital Accounting introduces changes in stocks and flows of environmental assets into conventional accounting practices, for example through the UN-led [System of Environmental-Economic Accounting \(SEEA\) Framework](#), in an attempt to encourage a more sustainable management of natural resources.

#### 7. For instruments that you judged as having high and very high importance above, please elaborate on how they could help to successfully operationalise the ES concept in support of current regional, national and sub-national MPA management.

**8. \* What is the relative importance of the following planning and decision support instruments in successfully operationalising the ES concept to support conservation?**

	No importance	Little importance	Moderate importance	High importance	Very high importance	Don't know
Systematic integration of marine ES into national Marine Strategies under the EU Marine Strategy Framework Directive (MSFD)	<input type="radio"/>					
Systematic integration of coastal ES into national River Basin Management Plans under the EU Water Framework Directive (WFD)	<input type="radio"/>					
Considering the role of ES in the national multi-annual plans under the EU Common Fisheries Policy (CFP), such as fisheries nursery functions and water quality maintenance	<input type="radio"/>					
Systematic integration of marine and coastal ES into Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs) with links to marine/coastal spatial planning	<input type="radio"/>					
Systematic integration of marine and coastal ES into management plans for marine EU Natura 2000 sites	<input type="radio"/>					
Systematic integration of marine and coastal ES into programmes for EU and national funding	<input type="radio"/>					
Systematic integration of marine and coastal ES into assessments and reporting under relevant national and regional (i.e. non-EU) marine and coastal conservation policy instruments	<input type="radio"/>					

**9. For instruments that you judged as having high and very high importance above, please elaborate on how they could help to successfully operationalise the ES concept in support of current regional, national and sub-national MPA management.**

**10. \* What is the relative importance of the following implementation instruments in successfully operationalising the ES concept to support conservation?**

	No importance	Little importance	Moderate importance	High importance	Very high importance	Don't know
Mainstreaming the application of the EU Environmental Liability Directive to support the protection of ES in coastal areas	<input type="radio"/>					
Integrating ES into the EU Habitats and Birds Directives with a view to strengthening the scope for marine and coastal spatial protection	<input type="radio"/>					
Integrating marine and coastal ES into the implementation of the EU WFD	<input type="radio"/>					
Integrating ES into the upcoming EU Marine Spatial Planning Directive	<input type="radio"/>					
Developing market-based instruments that maintain or enhance marine and coastal ES, for example integrating water ES into PES schemes developed for coastal areas	<input type="radio"/>					
Improving the integration of marine ES into operational programmes under the European Maritime and Fisheries Fund (EMFF).	<input type="radio"/>					
Developing off-setting schemes for ES for coastal - and possibly also marine - areas	<input type="radio"/>					
Common certification schemes for organic/ sustainable fisheries and aquaculture where marine and coastal ES are considered	<input type="radio"/>					

**11. For instruments that you judged as having high and very high importance above, please elaborate on how they could help to successfully operationalise the ES concept to support current regional, national and sub-national MPA management.**

**12. Please mention any other instrument(s) that you consider to have potential to support the operationalisation of the ES concept in the context of management of marine and coastal protected areas.**

## Using ecosystem services in support of marine and coastal conservation

### Policy instruments - specific in-depth examples

#### Information instrument

#### Socio-economic assessment of ES

The economic and broader wellbeing values of marine ecosystem services (ES) are commonly omitted - and therefore undervalued - in conventional economic assessments guiding the use of marine and coastal areas/resources. With a continued emphasis on economic growth and effectiveness across EU Member States, decisions made with regard to marine and coastal areas (e.g. in spatial planning and infrastructure development) categorically underestimate the socio-economic importance of protecting natural ecosystems.

*(It is acknowledged that no socio-economic valuation tool is universally applicable and that all methods have limitations and require different assumptions. The purpose of this question is to evaluate the potential applicability of socio-economic valuation of ES in general in the context of protection of marine and coastal biodiversity.)*

#### 13. \* To what extent do you think that socio-economic valuation tools for marine and coastal ES can support conservation objectives in the following areas:

	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
In coastal areas?	<input type="radio"/>	<input type="radio"/>				
In the high seas?	<input type="radio"/>	<input type="radio"/>				

#### 14. In which of the following contexts could socio-economic valuation of ES provide the most value to regional and national MPA management? Please rank the options below from 1 to 4, with 1 being the most important.

<input type="checkbox"/>	<input type="text"/> Providing additional arguments to gain support from national and local decision makers for the necessity of additional/ improved protection measures	<input type="checkbox"/> N/A
<input type="checkbox"/>	<input type="text"/> Providing additional arguments to gain support from local stakeholders as regards the necessity of additional/ improved protection measures	<input type="checkbox"/> N/A
<input type="checkbox"/>	<input type="text"/> Addressing external stressors affecting existing MPAs (e.g. by illustrating economic losses caused by secondary impacts on protected areas, such as point-source pollution)	<input type="checkbox"/> N/A
<input type="checkbox"/>	<input type="text"/> Supporting more comprehensive establishment of protection measures in the <b>high seas</b>	<input type="checkbox"/> N/A

#### 15. Please explain the ranking you have given above

## Decision support instrument

### Environmental Impact Assessment (EIA)

It is not common practice\* to consider ES when conducting EIAs for proposed developments in marine and coastal areas. This results in omitting potentially important aspects from the decision-making (e.g. broader wellbeing values).

\* The updated EU EIA official Guidance now makes explicit reference to ES, but the new guidance has not yet been broadly applied.

**16. \* If national EIA practices were to take ES into consideration, e.g. assessing possible negative impacts of planned developments on ES used, to what extent would this support marine conservation and the management of MPAs?**

Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
<input type="radio"/>	<input type="radio"/>				

**17. Please explain your answer above**

## Implementation instrument

### Payments for Ecosystem Services (PES)

PES is an instrument increasingly adopted in terrestrial areas but still rarely used to support the conservation of marine and coastal ecosystems in the EU. PES schemes are generally intended to enable the beneficiaries of the ES, such as individuals or firms, to remunerate resource owners or managers to provide particular ecosystem services. The instrument can also be financed by governmental bodies when the beneficiary of the service is the general public.

**18. \* To what extent could PES schemes work to support conservation objectives in the context of coastal areas?**

Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
<input type="radio"/>	<input type="radio"/>				

**19. \* To what extent could PES schemes work to support conservation objectives in the context of the high seas?**

Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
<input type="radio"/>	<input type="radio"/>				

**20. Please explain your answers to Q18 and Q19**

**21. In which of the following contexts would PES schemes work best to support marine and coastal conservation objectives? (You can select more than one option)**

- Nature related tourism, e.g. PES to support the maintenance of beaches in their natural state
- PES to support the uptake of more sustainable fishing practices
- PES as compensation for lost revenue due to restricted fishing in an MPA (spatial or seasonal)
- PES to support establishment and management of private marine areas (i.e. payments linked to achieving conservation objectives detailed in the contract)

Other (please specify)

## Using ecosystem services in support of marine and coastal conservation

### MPA management

**22. \* Management of MPAs located in the high seas is different from the management of coastal MPAs. To what extent could integration of ES into MPA management through different instruments (as per the questions above) positively influence the following aspects of management in the high seas (from a conservation point of view)?**

	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
Designation of new areas (assuming ES mapping is available)	<input type="radio"/>	<input type="radio"/>				
Justification of MPA design and/or protection levels to stakeholders (assuming relevant ES mapping is available)	<input type="radio"/>	<input type="radio"/>				
Economic justification for restricting certain activities (assuming ES socio-economic valuation methods are available)	<input type="radio"/>	<input type="radio"/>				
Monitoring and evaluation of effectiveness of existing MPAs	<input type="radio"/>	<input type="radio"/>				

**23. Please explain your answer above**

**24. Do you have any additional ideas on how the uptake of the ES concept in practice could support MPA development and management in the high seas in particular?**

## Using ecosystem services in support of marine and coastal conservation

### The European blue economy

There is a strong focus in the EU on "blue growth" and of developing the European "blue" economy. This generally refers to encouraging innovation and growth in the economic sectors active in coastal and marine areas across Europe (e.g. aquaculture, coastal tourism, ocean energy, seabed mining). Concerns have been raised, especially from a nature conservation point of view, that these developments may put already fragile marine and coastal ecosystems under additional stress.

While we acknowledge the current lack of scientific data and other limitations - both at EU and national level - to explore the future role of the blue economy, we would still ask you to consider the following question.

**25. \* To what extent could integration of ES into decision-making help to ensure that blue growth and the development of the blue economy in Europe is not at the expense of marine and coastal conservation objectives?**

Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
<input type="radio"/>	<input type="radio"/>				

**26. Please elaborate in more detail on how**

## Using ecosystem services in support of marine and coastal conservation

### Implementation of EU policy

27. \* To what extent could practical application of the ES concept at regional, national and local level...

	Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
Help to address the complexities of pursuing and achieving <b>good environmental status</b> in marine waters?	<input type="radio"/>	<input type="radio"/>				
Make MPAs more compatible with the objectives of <b>sustainable fisheries</b> ?	<input type="radio"/>	<input type="radio"/>				
Help the establishment of further marine protection measures <b>beyond coastal areas</b> ?	<input type="radio"/>	<input type="radio"/>				
Help strengthen the formal protection of <b>marine Natura 2000 sites</b> ?	<input type="radio"/>	<input type="radio"/>				

### Integration with marine spatial planning

EU coastal states are currently implementing several EU Directives and guidelines regarding management of marine areas. This complexity might put at risk the effective and timely achievement of stated goals. There has been particular concern among Member States that implementation of the upcoming Marine Spatial Planning Directive may create regulatory overlap with the environmental objectives of other directives and strategies - most notably the MSFD - and confusion about spatial protection measures.

28. \* To what extent could practical application of the ES concept help to improve the integration of MPA conservation objectives into maritime spatial planning?

Not at all	To a small extent	To a moderate extent	To a large extent	To a very large extent	Don't know
<input type="radio"/>	<input type="radio"/>				

**29. Please comment on how this integration could occur**

## Using ecosystem services in support of marine and coastal conservation

### Barriers and risks

**30. What, in your opinion, are the most notable risks of taking up and applying the ES concept in practice into regional, national and local MPA management in the EU?**

**31. \* How important are the following barriers in hindering the uptake of ES in practice in marine protection?**

	No significance	Some significance	Moderate significance	High significance	Very high significance	Don't know
Lack of information about marine environments	<input type="radio"/>	<input type="radio"/>				
Lack of information about marine ecosystem services	<input type="radio"/>	<input type="radio"/>				
Lack of information about the economic values of marine ecosystem services	<input type="radio"/>	<input type="radio"/>				
Lack of political will	<input type="radio"/>	<input type="radio"/>				
Regulatory overlap between relevant EU policies	<input type="radio"/>	<input type="radio"/>				
Regulatory overlap between relevant national policies	<input type="radio"/>	<input type="radio"/>				
Lack of resources provided to responsible authorities/enforcement bodies	<input type="radio"/>	<input type="radio"/>				
Lack of mandate provided to responsible authorities/enforcement bodies	<input type="radio"/>	<input type="radio"/>				

## Using ecosystem services in support of marine and coastal conservation

### Future development

**32. \* Reflecting on your responses to previous questions, how likely do you think it is that ES will be more extensively applied in practice to support marine and coastal conservation (within the next 5 years)?**

	Not at all likely	A little likely	Moderately likely	Very likely	Entirely likely
At Regional Sea level	<input type="radio"/>				
At national level	<input type="radio"/>				
At local/regional level	<input type="radio"/>				

**33. What factor do you think plays the key role in influencing this? Please rank the following options from 1 to 4, with 1 being the most important.**

<input type="checkbox"/>	<input type="checkbox"/>	Political willingness
<input type="checkbox"/>	<input type="checkbox"/>	Data availability
<input type="checkbox"/>	<input type="checkbox"/>	Time constraints for implementation
<input type="checkbox"/>	<input type="checkbox"/>	Other

**34. If you answered "Other" above, please indicate which additional factor(s) you are thinking about**

### Final question

If you are aware of one, please describe an existing example of the successful implementation of the concept of ES into the management of marine and coastal spatial protection measures.

#### **35. Practical example**

Description (and reference to more information)

Ecosystem service provided and stakeholder beneficiaries of the ecosystem service

Scale at which it applies (local / regional / national)

Factors for successful implementation

Opportunities for, and barriers to, expanding this case study to the EU scale

**Thank you for your time and participation!**

To learn more about the OPERAs project, visit [www.operas-project.eu](http://www.operas-project.eu).