



Summary

DELIVERABLE 1.3:

REVIEW OF SOCIO-ECOLOGICAL FRAMEWORKS AND METHODOLOGIES



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OVERVIEW



Ecosystem Service Valuation

This review delved into various methods for assessing the value of Ecosystem Services in MPAs and MPA networks, covering both monetary and non-monetary approaches.



Business Cases, Opportunities and Incubator Models

This review explored the business aspects of MPAs and MPA networks, shedding light on sustainable business practices that align with the conservation goals of MPAs and MPA networks.



Tools and Solutions

This review explored tools capable of evaluating both positive and negative impacts on MPAs/OECMs. Additionally, the task reviewed the solutions that can mitigate the negative impacts.

OBJECTIVE

The aim of this project task is understanding three core aspects of Marine Protected Areas (MPAs) and Other Effective Area-Based Conservation Measures (OECMs):

1. Gathering up-to-date knowledge about dependencies, impacts, and values of human activities on/from marine ecosystems both inside and outside of MPAs or OECMs
2. Tools and methodologies that have been developed to evaluate those dependencies, impacts, and values
3. Potential solutions that can be used to mitigate the negative impacts on MPAs/OECMs

REVIEW 1: TOOLS AND SOLUTIONS RELATED TO MPA/OECM

This review delved into various methods for assessing the value of Ecosystem Services (ES) in MPAs and MPA networks. The analysis covered both monetary and non-monetary approaches to better understand the diverse benefits from MPAs and networks.

ES can be understood as the benefits people obtain from nature and can be categorised into four types: 1) provisioning ES, 2) regulating ES, 3) cultural ES, and 4) supporting ES.

VALUATION APPROACHES

MONETARY VALUATION

Enables the inclusion of monetary costs and benefits of biodiversity into decision-making processes for resource use. It can therefore be used **to advocate for the protection of MPAs** for policymakers, and to justify investments in ecosystem management.

Methods: Environmental accounting, surveys/interviews, mapping, workshops, Q Method, and multi-criteria decision analysis.

NON-MONETARY VALUATION

Seeks to capture the full range of benefits associated with ecosystem, including those that are difficult or impossible to quantify in monetary terms. It thus provides a **more comprehensive understanding** of the values and benefits of ecosystems and can **inform policy and decision-making processes** of ES that are difficult to monetise.

Methods: Stated preference method; revealed preference method; input valuation method; benefit transfer method.

WHY IT MATTERS

ES valuation is important for recognising the contribution of nature to human society and well-being, and to support decision-making processes that ensure the sustainable use and management of natural resources. Additionally, ES valuation is an important tool in enhancing effective stakeholder communication. Both decision-making processes and effective communication are crucial for the long-term success of MPAs and MPA networks.

REVIEW 2: BUSINESS CASES, OPPORTUNITIES, AND INCUBATOR MODELS

This review explored the business aspects of MPAs and MPA networks. It investigated business cases, opportunities, and incubator models applicable to MPAs and MPA networks, shedding a light on sustainable business practices that align with the conservation goals of MPAs and MPA networks.

Next its main purpose of protecting marine biodiversity and ecosystems, **MPAs can also provide socio-economic benefits and secure the development of local communities**, which have a key role in the success of an MPA. Therefore, it is important to understand existing business cases, opportunities, and incubator models. 26 business cases and 7 incubator models have been collected under this review.

SOCIO-ECONOMIC BENEFITS

Benefits derived from all reviewed models include **economic viability, environmental improvement, and social inclusion**.

The **economic boost** is exemplified through job creation and income opportunities for the local community, increased inclusion of women in maritime jobs, a boost in and fishing eco-tourism, and small-scale business initiation. Additionally, some include the utilisation of financial leverage and financial strategy development for management.

The review of **social benefits** is less comprehensive, but they include preserving traditional knowledge, food security, and health issues amongst other things.

TAKEAWAYS

All collected incubator models emphasise the importance of **involvement and collaboration with local communities, local businesses and/or stakeholders**. Additionally, correspondent regulations and policies and a transboundary approach are also key factors for success.

REVIEW 3: TOOLS AND SOLUTIONS RELATED TO MPA/OECM

The third review of this deliverable focused on tools and solutions related to MPAs and OECMs. It encompassed tools capable of evaluating both positive and negative impacts on MPAs/OECMs. Additionally, the task reviewed the solutions that can mitigate the negative impacts.

The review not only provides an overview of available tools and solutions, but also **aids in understanding up-to-date knowledge** about impact evaluation, impacted targets, related activities and in which MPAs these tools and solutions have been implemented

TOOLS REVIEW

The tool review analysed 107 tools. Five aspects which tools can evaluate or focus on were identified:

1. Cultural aspects
2. Societal and governance aspects
3. Human capital and health aspects
4. Economic aspects
5. Natural aspects

SOLUTIONS REVIEW

The 45 reviewed solutions, covering socio-economic and natural impacts, include:

Socio-Economic Solutions

Spatial solutions, economic solutions, solutions for integrating cultural knowledge and heritage into conservation practices, solutions for a more inclusive governance system, and solutions for technical issues.

Natural Impacts Solutions

Solutions requiring **low levels of human interventions** (e.g. creation and enforcement of area-based protection measures) and solutions requiring **high levels of intervention** (e.g. reef-reconstruction).

IMPORTANT TAKEAWAYS

- Evaluation of culture and culture services are often focused on tourism, recreation, and fishing. There is a gap to address in the development of approaches to evaluate other indicators, such as: sense of place; aesthetics; education, and spirituality.
- To accurately integrate non-monetary and cultural approaches for evaluation, it is essential to develop **practical and accessible tools**, that can be used by MPA managers to better understand where and how cultures comes into play within MPA management.