

# Ecosystem-based Management and Nature-Based Solutions

This brief explains how ecosystem-based management, as well as being a nature-based solution itself, provides a policy and decision-making framework that supports implementation of nature-based solutions to tackle societal challenges and address declining biodiversity. The AQUACROSS case studies provide eight examples of ecosystem-based management in action that demonstrate that valuation of broad benefits and costs, co-creation with stakeholders, and prioritising of resilience and sustainability supports effective, efficient, and equitable management, including implementation of nature-based solutions.

## THE CHALLENGE OF NATURE-BASED SOLUTIONS' BROAD BENEFITS

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Nature-based solutions are "solutions that are inspired or supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions."

Nature-based solutions deliver broad long-term benefits to many beneficiaries and often tackle multiple societal objectives at once. A challenge for implementation of Nature-based solutions is that many of these benefits are difficult for decision and policy-makers to recognise, quantify, and take into account in decision-making.

## HOW DOES ECOSYSTEM-BASED MANAGEMENT SUPPORT IMPLEMENTATION OF NATURE-BASED SOLUTIONS?

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Ecosystem-based management is any management or policy that protects, restores or maintains the resilience of the ecosystem, so that it can continue to deliver valuable ecosystem services to society and protect biodiversity ([see Introducing Ecosystem-based Management \(EBM\)](#)). By placing the sustainability of the ecosystem and its provision of ecosystem services at the centre of management and decision-making, it provides a framework for considering all of the benefits and costs to human welfare of management measures. As such, ecosystem-based management provides a "level playing field" that supports evaluation and implementation of nature-based solutions.

## The eight AQUACROSS case studies offer concrete examples of how ecosystem-based management supports implementation of nature-based solutions

- Ecosystem-based management's inclusion of stakeholders at every level of decision making ensures that the priorities of diverse beneficiaries are considered. For example, the Azores case study ([see Case Study: Azores](#)) found that the top priority of local recreational and commercial fishers, tourism operators, and other local stakeholders is the long-term sustainability of the ecosystem, and that they are all willing to collaborate and to bear costs to maintain this.
- Improved understanding of the social and ecological systems, and the impact of management measures on drivers, pressures, ecosystem state, ecosystem-functioning, and ecosystem services, ensures that the long-term, spatially-dispersed, and multiple benefits and costs associated with nature based solutions are understood. For example, the Danube case study ([see Case Study: Danube](#)) applied the AQUACROSS Linkage Framework ([see Linkage Framework](#)) and the AQUACROSS Information Platform ([see Information Platform](#)) to identify multiple ecosystem services (including recreational opportunities and pollination, among others), and long-term and dispersed spatial impacts to quantify the benefits of ecosystem restoration along the length of the Danube.
- Ecosystem-based management's deployment of ecosystem services ([see Introducing Ecosystem-based Management \(EBM\)](#)) ensures that these good and services delivered by nature (and nature based solutions) are valued. For example, the Ria de Aveiro case study ([see Case Study: Ria de Aveiro](#)) use stakeholder input and data to map the ecosystem services provided by the river, estuary, and coastal area, and used this information to prioritise restoration of the ecosystem.
- Ecosystem-based management's focus on the resilience and sustainability of the ecosystem and value of protecting biodiversity aligns with nature based solutions. For example, in the Intercontinental Biosphere Reserve of the Mediterranean ([see Case Study: Spain/Morocco](#)), ecosystem-based management was used to identify a network of protected areas (Green and Blue Infrastructure) that would achieve biodiversity protection targets whilst allowing sustainable use of neighbouring areas, ensuring effective restoration at lower overall cost.

 <b>Go to Brief #30:</b> <b>EU policy at the</b> <b>local level</b>	<a href="http://www.aquacross.eu/results">www.aquacross.eu/results</a>	<b>Go to Brief #32:</b> <b>Case Studies: Lessons</b> 
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**Further information**

This is one of 38 short briefs summarising the key results of the AQUACROSS Project. For more detailed information on the topics covered in this brief, see the following:

- [The AQUACROSS Case Studies](#)



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