



Introduction to the AQUACROSS project

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- ≈ **Name:** Knowledge, Assessment, and Management for AQUATIC Biodiversity and Ecosystem Services aCROSS EU Policies (AQUACROSS)
- ≈ **Type of project:** Research and Innovation
- ≈ **Funding:** Horizon 2020
- ≈ **Budget:** ca. 7 million EUR
- ≈ **Duration:** 1 June 2015—30 November 2018
- ≈ **16 partners**

AQUACROSS Partners



cesam universidade de aveiro
centre for environmental
and marine studies



UNIVERSITY OF
LIVERPOOL



Stockholm Resilience Centre
Sustainability Science for Biosphere Stewardship



- ≈ Biodiversity provides ecosystem services crucial for human well-being. As biodiversity is declining, despite existing policy efforts, there is an urgent need to both **document** and **evaluate** :
1. effects of drivers of change to biodiversity,
 2. links between biological diversity, ecosystem functions and resilience, and in turn to ecosystem service provision

These actions will help ensure effective **policy** and **sustainable development**.



Image Sources:
Wikipedia Commons

AQUACROSS Broad objectives



1. To **support the coordinated implementation** of the EU 2020 Biodiversity Strategy and international biodiversity targets;

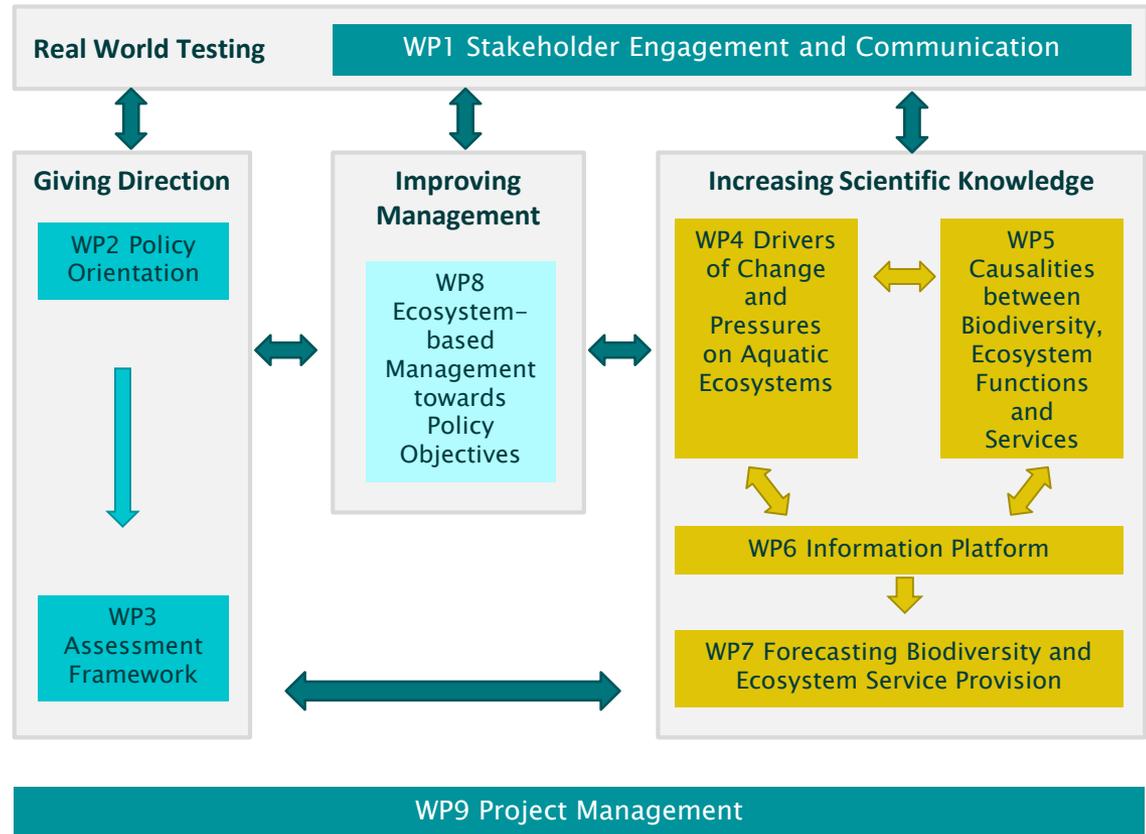


1. To **support the coordinated implementation** of the EU 2020 Biodiversity Strategy and international biodiversity targets;
2. To explore, advance and support the implementation of the **EBM** concept across aquatic ecosystems;
3. To specifically identify and test **relevant management practices and assessment tools**; and,
4. To **mobilise policy-makers, scientists, businesses and societal actors** to learn from real-world experiences, co-build and test project work, and ensure end-users' uptake of project results.

Pillars of AQUACROSS



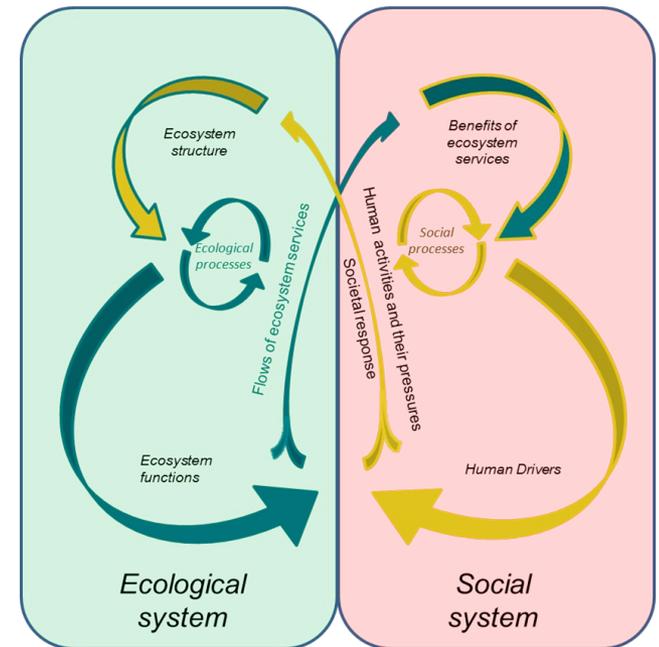
- ≡ **Pillar 1: Real world testing**
- ≡ **Pillar 2: Giving direction**
- ≡ **Pillar 3: Increasing scientific knowledge**
- ≡ **Pillar 4: Improving management**
- ≡ **Case studies across all pillars**



- ≍ What makes EBM so relevant for the protection of aquatic biodiversity?
- ≍ Ecosystem Based Management: AQUACROSS concept (Del. 3.1) and Assessment Framework (Del. 3.2) define EBM “*as any management or policy options intended to restore, enhance and/or protect the resilience of the ecosystem*” (Gomez et al. 2017 and 2016)

AQUACROSS EBM proposed strategies consider

<p>1 EBM considers ecological integrity, biodiversity, resilience and ecosystem services</p>	<ul style="list-style-type: none"> - joint value of all ecosystem services - protects the integrity of the ecosystem as a means to preserve ecosystem services and biodiversity - focus on multiple benefits or env. services
<p>2 EBM is carried out at appropriate spatial scales</p>	<ul style="list-style-type: none"> - taking into account ecosystem boundaries
<p>3 EBM develops and uses multi-disciplinary knowledge</p>	<ul style="list-style-type: none"> - understanding of the ecological and social systems to be managed
<p>4 EBM builds on social-ecological interactions, stakeholder participation and transparency</p>	<ul style="list-style-type: none"> - balance ecological and social concerns - prominence to transparent and inclusive decision-making - advance collective action by building consensus on a shared vision for the future (e.g. the array of ecosystem services to be preserved)
<p>5 EBM supports policy coordination</p>	<ul style="list-style-type: none"> - break silos and create new opportunities of pursuing different policy objectives simultaneously
<p>6 EBM incorporates adaptive management</p>	<ul style="list-style-type: none"> - ability to respond to a range of possible future scenarios.

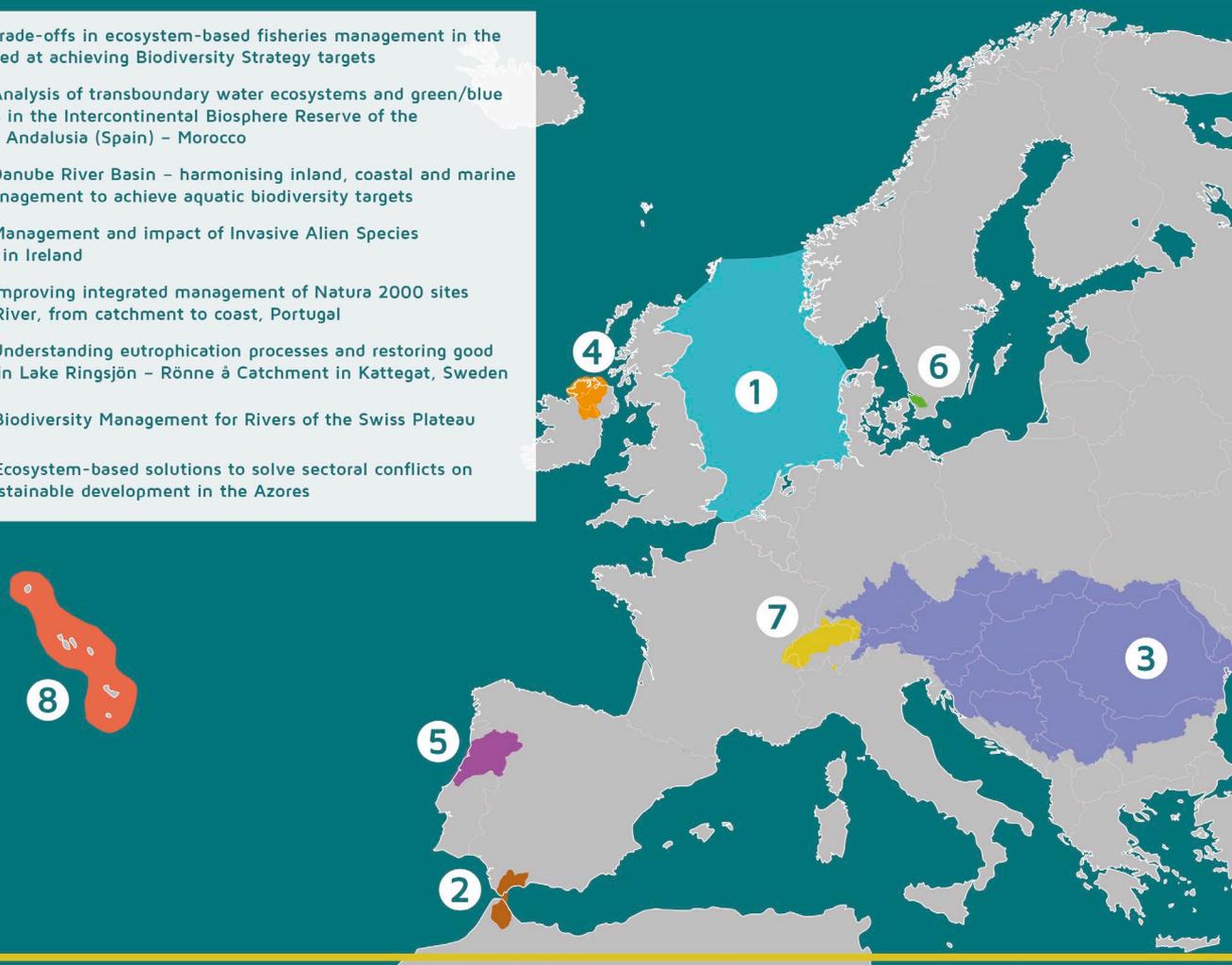


AQUACROSS ASSESSMENT FRAMEWORK

AQUACROSS Case Studies

Location of AQUACROSS case studies

-  Case Study 1 Trade-offs in ecosystem-based fisheries management in the North Sea aimed at achieving Biodiversity Strategy targets
-  Case Study 2 Analysis of transboundary water ecosystems and green/blue infrastructures in the Intercontinental Biosphere Reserve of the Mediterranean Andalusia (Spain) – Morocco
-  Case Study 3 Danube River Basin – harmonising inland, coastal and marine ecosystem management to achieve aquatic biodiversity targets
-  Case Study 4 Management and impact of Invasive Alien Species in Lough Erne in Ireland
-  Case Study 5 Improving integrated management of Natura 2000 sites in the Vouga River, from catchment to coast, Portugal
-  Case Study 6 Understanding eutrophication processes and restoring good water quality in Lake Ringsjön – Rönne å Catchment in Kattegat, Sweden
-  Case Study 7 Biodiversity Management for Rivers of the Swiss Plateau
-  Case Study 8 Ecosystem-based solutions to solve sectoral conflicts on the path to sustainable development in the Azores



AQUACROSS Case Studies – Aquatic realms



	Freshwater	Coastal	Marine
CS1: North Sea			
CS2: Intercontinental Biosphere Reserve of the Mediterranean			
CS3: Danube			
CS4: Lough Erne, Ireland			
CS5: Ria de Aveiro, Portugal			
CS6: Sweden			
CS7: Swiss Plateau			
CS8: Azores			

AQUACROSS Case Studies – EU Biodiversity Strategy to 2020



EU Biodiversity Strategy 2020 Targets

Target 1

Protect species and habitats

e.g. CS5 – Ria de Aveiro

Target 2

Maintain/restore ecosystems

e.g. CS3 Danube, CS7 Switzerland, CS2

Target 3

Sustainable agriculture/forestry

e.g. CS6 Sweden, CS4 Lough Erne

Target 4

Sustainable fishing/healthier seas

e.g. CS1 – North Sea, CS8 - Azores

Target 5

Combat Invasive Alien Species

e.g. CS4 Lough Erne

Target 6

Avert global biodiversity loss

e.g. CS6 – Spain-Morocco IBRM

Cross-cutting

Financing

Stakeholder engagement

Knowledge base and data

e.g. all CS

Outline of the session



Date of session: Tuesday, 16 October 2018

Time of session: 14:30 - 18:00

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
14:30-14:40	Manuel	Lago	AQUACROSS project coordinator and Ecologic Institute (Berlin)	Introducing the AQUACROSS project: Knowledge, Assessment, and Management for AQUATIC Biodiversity and Ecosystem Services aCROSS EU policies
14:40-15:00	Gonzalo Carlos Mario	Delacamara Gomez	IMDEA-Water (Madrid)	Assessing the water-biodiversity nexus - integrating natural and social sciences: An assessment framework for the complex and adaptive dynamics of social-ecological aquatic systems
15:00-15:30	Antonio	Nogueira	University of Aveiro (Portugal)	AquaLinksTool - a versatile tool to address causal links involving activities, pressures, biodiversity, ecosystem functions and services in aquatic ecosystems
15:30-16:00	Ana I. Antonio	Lillebo Nogueira	University of Aveiro (Portugal)	Improving ecosystem-based management of Natura 2000 sites in the Vouga River, from catchment to coast, Portugal

Outline of the session



Time	First name	Surname	Organization	Title of presentation
16:30-16:50	Javier	Martinez	Basque Centre for Climate Change (BC3) University of Aveiro (Portugal)	Participatory integrated management options using modelling tools
16:50 -17:10	Simone D.	Langhans	University of Otago	Eight research areas that could foster the uptake of ecosystem-based management in fresh waters, if combined
17:10-18:00	Panel discussion with the audience (moderated by Manuel Lago)			

Many thanks!

- ≡ *Highlight the need for a change! (current practices, assessments, approaches) if we are aiming to achieve the objectives of the EU 2020 BioDiv Strategy.*
- ≡ *Showcase the added value of integrative policy and EBM assessment frameworks for the protection of aquatic biodiversity*
- ≡ *Improve understanding of aquatic biodiversity, supporting ecosystems and related services across Europe, and the drivers and pressures that affect it*
- ≡ *The role of local stakeholders and the elicitation of societal preferences for biodiversity protection*
- ≡ *Effective support tools*
 - *aqualinks to assess causalities*
 - *information platform to facilitate the dissemination of data, research methods and results across aquatic domains*
- ≡ *Application of ecosystem-based management concepts in aquatic ecosystems at different scales: is EBM worth pursuing? Findings from Case Study work.*