Introduction to the AQUACROSS project

Dr Manuel Lago, Project coordinator, Ecologic Institute   10/10/18
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
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.
1. To **support the coordinated implementation** of the EU 2020 Biodiversity Strategy and international biodiversity targets;

AQUACROSS focuses on integration, linking science, stakeholders, policy, knowledge, data and management to improve ecosystem-based management for aquatic ecosystems.
AQUACROSS Broad objectives

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**

**Real World Testing**

- WP1 Stakeholder Engagement and Communication

**Giving Direction**

- WP2 Policy Orientation

**Improving Management**

- WP3 Assessment Framework
- WP8 Ecosystem-based Management towards Policy Objectives

**Increasing Scientific Knowledge**

- WP4 Drivers of Change and Pressures on Aquatic Ecosystems
- WP5 Causalities between Biodiversity, Ecosystem Functions and Services
- WP6 Information Platform
- WP7 Forecasting Biodiversity and Ecosystem Service Provision

**WP9 Project Management**
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**

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| **1** EBM considers ecological integrity, biodiversity, resilience and ecosystem services | - 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 |
| **2** EBM is carried out at appropriate spatial scales | - taking into account ecosystem boundaries |
| **3** EBM develops and uses multi-disciplinary knowledge | - understanding of the ecological and social systems to be managed |
| **4** EBM builds on social-ecological interactions, stakeholder participation and transparency | - 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) |
| **5** EBM supports policy coordination | - break silos and create new opportunities of pursuing different policy objectives simultaneously |
| **6** EBM Incorporates adaptive management | - ability to respond to a range of possible future scenarios. |

**AQUACROSS ASSESSMENT FRAMEWORK**
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.
# AQUACROSS Case Studies – Aquatic realms

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<thead>
<tr>
<th>Case Study</th>
<th>Freshwater</th>
<th>Coastal</th>
<th>Marine</th>
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<tbody>
<tr>
<td>CS1: North Sea</td>
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<td>CS2: Intercontinental Biosphere Reserve of the Mediterranean</td>
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<td>CS3: Danube</td>
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<td>CS4: Lough Erne, Ireland</td>
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<td>CS5: Ria de Aveiro, Portugal</td>
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<td>CS6: Sweden</td>
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<td>CS7: Swiss Plateau</td>
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<tr>
<td>CS8: Azores</td>
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## EU Biodiversity Strategy 2020 Targets

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<tr>
<th>Target 1</th>
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<th>Target 3</th>
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<tr>
<td>Protect species and habitats</td>
<td>Maintain/restore ecosystems</td>
<td>Sustainable agriculture/forestry</td>
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<td>e.g. CS5 – Ria de Aveiro</td>
<td>e.g. CS3 Danube, CS7 Switzerland, CS2</td>
<td>e.g. CS6 Sweden, CS4 Lough Erne</td>
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<tr>
<th>Target 4</th>
<th>Target 5</th>
<th>Target 6</th>
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<tr>
<td>Sustainable fishing/healthier seas</td>
<td>Combat Invasive Alien Species</td>
<td>Avert global biodiversity loss</td>
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<td>e.g. CS1 – North Sea, CS8 - Azores</td>
<td>e.g. CS4 Lough Erne</td>
<td>e.g. CS6 – Spain-Morocco IBRM</td>
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### Cross-cutting

- Financing
- Stakeholder engagement
- Knowledge base and data

**Financial Support**

- e.g. all CS

**Event:** AQUACROSS Final Conference – Case Study 8, Azores
**Author:** Hugh McDonald

10/10/2018