Maritime Spatial Planning: Transboundary Cooperation in the Celtic Seas
Future-oriented Approaches to Spatial Management

Co-funded by the European Union
Scenarios for Maritime Spatial Planning in the Celtic Seas

Dr. Lynne McGowan
Department of Geography and Planning, University of Liverpool
Introduction

• Context – future spatial demands
• The SIMCelt approach to scenario building
• Celtic Seas 2050: Scenarios workshop
• Issues for the future
Future Spatial Demands and Scenarios

**Objective:**
- To investigate current and future spatial demands of key maritime sectors, with reference to cross-border issues

**This will involve:**
- Analysis of existing spatial constraints, demands and expectations for growth of key sectors
- Considering information that appears critical to informing decisions in relation to future demands, e.g. economic and social evaluations
- Use of *exploratory* scenarios
- *Stakeholder input*
Future Spatial Demands and Scenarios

• Limiting scope – 6 maritime sectors chosen for analysis
  - Ports and shipping
  - Offshore wind energy
  - Wave and tidal energy
  - Cables and pipelines
  - Aquaculture
  - Marine conservation

All have either a) a distinct transboundary dimension,
  or b) growing spatial footprint
Initial Findings

Implications of Brexit

• Shipping – economic climate, customs and tariffs
• Offshore wind energy – interconnectors and wind farms built for exporting energy

Drivers of Change (Some examples)

• Technological - floating wind turbines in deeper waters (may be closer to borders)
• Cumulative effects - tidal energy (lagoons) and changes to tidal range
• Legal - controls on pollution from shipping (Emissions Control Areas), international commitments to marine conservation
Scenario Building

Spatial Footprint of Activities

- Different sectors will increase/decrease their spatial requirements, resources may be used more or less intensively
- Compatibility with other uses
- Spatial *diffusion* Vs. Spatial *efficiency*
Scenario Building

Degree of Cooperation

• For specific cross-border projects, e.g. energy infrastructure
• Administrations’ approaches to cooperation on MSP
• Autonomy Vs. Cooperation

How do we use these ideas to create scenarios?
SIMCelt Scenarios

- **Scenario 1**: Cross border collaboration on a sectoral basis
- **Scenario 2**: Ecosystem based approach, high degree of cooperation
- **Scenario 3**: Lack of cooperation, sectoral approaches
- **Scenario 4**: Countries concentrate on integration of their own maritime activities, lack of transnational cooperation

**Axes**
- **Cooperation**
- **Spatial Efficiency**
- **Autonomy**
- **Spatial Diffusion**
SIMCelt Scenarios

**Climate change targets and pollution control** drives change. Information sharing but still **sectoral approaches**

**Rapid expansion** of maritime sectors, leading to distinct **winners and losers**

**Sustainable Localism**

**High tech** approaches favoured and development of **locally distinct**, niche products.

**High degree of environmental protection**. Emphasis on **colocation** of activities where possible.
Testing the Scenarios

In a workshop setting:
• Are these scenarios plausible?
• Where do participants expect their sector to be by 2050?
• What are the implications of this for other sectors/sea users?
• Do these issues have a transnational dimension?
• If so, is there a planning response? What is it?
By 2050... Sectoral Ambitions

• In most sectors – direction of travel is the same
• But – differences related to some sub-sectors or different countries
By 2050...

• Showing aspirations
Sectoral Interactions

Colocation of aquaculture with marine renewables:
• Location issues – need to map opportunities and constraints
• Who will drive this?

Shipping routes
• A hard constraint that is unlikely to change
• Increase in underwater noise?

Conservation
• Common interest in water quality for all sectors
• Potential for trade-offs with port development
Future Issues

Some are already issues of concern:
- Potential for INNs from shipping
- Colocation of activities – aquaculture, offshore wind, conservation
- Port diversification
- Energy grids and storage

Looking further ahead:
- Shipping lanes for autonomous vessels?
- Ecological engineering
- New sectors?
Key Messages/Recommendations

Scenarios are a useful tool for discussion about:
• What we want our seas to look like
• Interactions between sectors
• What MSP can realistically do to help achieve goals

Looking to the future:
• Aspirations towards greater cooperation and spatial efficiency are high, but there are considerable barriers to overcome
• Scaling up of new activities, external forces
• Need for cooperation mechanisms to support dealing with issues on a transnational scale
Comparative analysis of National Strategies for Marine Conservation in the Celtic Sea Region

France, Ireland and United Kingdom

Neil Alloncle and Ana Vitoria Tereza de Magalhães

French Agency for Biodiversity
Key messages

- MPA = Effective tool to protect the marine environment
- Various types of MPAs are present in each level of protection (International to National)
- Differences exist between national conservation systems (FR, IE and UK)
- Connection between MSP and MPAs

Objective

Identify similarities and differences on MPAs to ensure synchrony on marine protection at the Celtic Sea Region
Strategies for marine conservation
International, Regional | EU and National

- International Conventions and Agreements
  - UNCLOS, CBD (Nagoya & Cartagena Protocol), Bonn Convention, CITES, Espoo, ASCOBANS, UNESCO World Heritage and Biosphere Reserves, Ramsar sites

- Regional Agreements
  - OSPAR

- EU Directives
  - Natura 2000 Network (Habitats and Birds Directives)

- National Organisations
  - National Categories of MPAs (France, Ireland and UK)
• Differences on each type of MPA Category

• Some MPAs have more than one objective

• Analysis serve as approach to facilitate:
  • synergy between MPA and MSP
  • cooperation and transboundary MSP
## MPA Categories

### International:
- UNESCO Biosphere Reserves and World Heritage
- Ramsar sites
- Natura 2000 network
- OSPAR MPAS

### National:
#### France
- National Parks
- Nature Reserves
- Marine National Park
- Natura 2000*
- Maritime Public Domain
- Biotope Protection Zone

#### Ireland
- Sites of Special Interest
- Marine Conservation Zones
- Nature Conservation MPAs

#### United Kingdom
- Sites of Special Interest
- Marine Conservation Zones
- Nature Conservation MPAs

* Recognised by the French Law, as a national category.
General Remarks

- Different objectives exist for each MPA Category
- All MPAs have in common the aim to protect the environment
- Each MPA however has different environmental targets

Marine Parks (FR): Sustainable development | Biotope (FR): Reach GES

- Main differences on management between countries
  - France: Dedicated manager provided to each site, the State plays a major role – Maritime Prefects
  - Ireland: Management made by NPWS
  - UK: Roles and responsibilities are different in each country (England, Wales, NI and Scotland)
### Results

<table>
<thead>
<tr>
<th>Country</th>
<th>Area in the OSPAR Region III</th>
<th>Designated MPAs</th>
<th>Surface area covered by the current MPA network</th>
<th>Projects designation of MPAs</th>
<th>Surface of water, covered by future network of MPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>43726</td>
<td>54</td>
<td>14,9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>145975</td>
<td>184</td>
<td>3,2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>197839</td>
<td>445</td>
<td>12,2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>387550</td>
<td>683</td>
<td>9,1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: AFB, 2017*

- **Ireland**: MPA coverage is far from the minimum required Aichi Targets.
- **Waters beyond 12 NM** are very poor in protection.

**CBD Target:**
- 10% surface area of MPAs
- Surface coverage: 9,1%
**Discussion**

**MPA objectives addressed through the MSP process**

- MSP used as spatial measures for uses regulation
- Aligned with MPA conservation objectives
- Restriction of uses and able multiuse

**Legend:**
- At least one MPA is designated for the protection of benthic habitats
- At least one MPA is designated but for another reason than the red layer
- Marine protected area project

**Conflicitive uses:**
- Trawling, renewable energy installations, aggregate extraction, anchoring and dredging
### Taking advantage of the MSFD implementation

- Foster the achievement of Goals
- France: implementation of MSFD and MSP Directive simultaneously
- UK: would be necessary a reconciliation between the MSP and MSFD
- Need for MSFD to address better the MPA objectives

<table>
<thead>
<tr>
<th>Country</th>
<th>Assessmen for MPA designatio n measure in MSFD PoMs</th>
<th>Fisheries managem ent in MPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td>Ireland</td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td>UK</td>
<td>Good</td>
<td>Poor</td>
</tr>
</tbody>
</table>

Source: Oceana, 2017
Discussion

MPAs as local governance tools

- Participative governance and stakeholder engagement
- MPAs = Boards and Councils, tools of local governance

MPAs as spatial measures for uses regulation

- MPAs = set some rules for maritime sectors
- MPA designation and management can be considered as a fully fledged way to implement MSP by measures
- Sustainable development emerges as an important objective for the MPA network
Discussion

MSP within MPAs perimeters

• Spatial planning in MPAs works by setting in each zone, the ideal place for determined regulation/management.

• France: Nature Marine Park should contain a map of spatial distribution for management priorities.
Conclusion

• Different MPA categories = Different management processes

• **National categories in France, Ireland and UK are different** in number, conservation objectives, management aspects and governance style

• Aichi Targets: Region below the minimum

• MSP as a spatial planning tool: support the creation of coherent MPAs
  • MPA Objectives integrated with MSP process
  • MSFD + MSP Directives
  • Local governance tools
North-East Atlantic MPA Database
NEA MPA database

2012
Interreg MAIA

2015
Interreg PANACHE

2013
OSPAR
Completion through SIMCelt

MPA list updated

286 MPA added
✓ 127 in the UK
✓ 169 in Ireland
MPA information gathered

✓ Species and habitats
✓ Regulations
✓ Governance
Results

✓ Overview of the MPA network at the Celtic Sea scale

✓ Statistics with regards to:
  • Categories
  • Conservation objectives
  • Regulating processes
Data availability

- maia-network.org
- data.simcelt.eu
Thank you!
References


• CBD https://www.cbd.int/information/parties.shtml

• Nagoya Protocol https://www.cbd.int/abs/

• Cartagena Protocol https://bch.cbd.int/protocol

• http://webissimo.developpement-durable.gouv.fr/IMG/pdf/guide_dsf_vol_1_vf_cle5e9752.pdf


• Idbem

• Ibdem


• www.vliz.be/imisdocs/publications/135435.pdf

• Idem

• https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000006833650&cidTexte=LEGITEXT000006074220
Ecosystems Services in Transboundary Marine Spatial Planning

Aoibheann Rooney
Department of Agriculture, Environment and Rural Affairs, Northern Ireland
The Challenge:

To understand the concept, including economic valuation of services, in a sufficiently practical way that it can be applied by maritime planners.
Provisioning Service
Fishing Activity in the Celtic Sea
Mobile Bottom Contacting Gears
Provisioning Service
Nephrops Fishing Activity in the Irish Sea
A Transboundary Marine Ecosystem
The Irish Sea Mud Habitat
Regulating Service
Marine Sediment Carbon Storage
Cultural Services

Cultural Ecosystem Services of Carlingford Lough

The use of good photographic techniques to capture the richness of the cultural landscape is valuable.

A view from above

Looking down, Carlingford Lough from above shows the landscape as a vast expanse.

The shoreline of the Lough is an area of interest.

The cultural landscape is rich with history and tradition.

The port of Greencastle is at the head of the Lough. The view on the far side are the Slieve League Mountains.

Switch to

Builder mode.
Public Information Storymap
Quantitative Analysis of Flickr Photographs
An Ecosystems Based Approach for Decision Making

1. Benthic Ecosystems

2. Regulating Service - Marine Sediment Carbon Storage

3. Provisioning Service - Fishing

4. Cultural Services

5. Pressure - Surface Fishing Intensity

6. Pressure - Subsurface Fishing Intensity
An Ecosystems Based Approach for Decision Making

1. Benthic Ecosystems
2. Regulating Service - Marine Sediment Carbon Storage
3. Provisioning Service - Fishing
4. Cultural Services
5. Pressure - Surface Fishing Intensity
6. Pressure - Subsurface Fishing Intensity

Distribution of Flickr photographs taken on Irish Sea 2009 - 2013. Photography Users Days spent in the location.
Thank you!

Aoibheann.rooney@daera-ni.gov.uk
Evaluating MSP Ecosystem Approach

Dr Charlotte Hopkins
University of Liverpool
Ecosystem Based Approach

• Planning a sustainable future requires Ecosystem Management frameworks

• Recognises human society as integral part of the ecosystem

• Area based; Multi-species; Multi activity/sector
Ecosystem Based Approach & Maritime Spatial Planning

• EBA lacked well described planning tools in marine environment
• Coupled framework of the Ecosystem-Based Approach with MSP
• Integrated, forward looking, consistent decisions on human use
CBD Malawi Principles

The ecosystem approach in maritime spatial planning

A Checklist Toolbox

The final agreed PISCES principles are:

1. Stakeholder role: stakeholders should adopt an active and committed role to achieve the common goal of the ecosystem approach; stakeholders should be involved in all aspects of management leading to a shared understanding of objectives.

2. Balance: there should be a suitable balance between conservation and the sustainable use of resources in the interests of the health of the whole ecosystem.

3. Education: an evidence-based system should be used to integrate social, environmental and economic Interests.


5. Timeframes: management should be set for the long-term with short- and medium-term objectives and milestones and should enable involvement of future stakeholders.

6. Economic sensitivity: involvement in implementing the ecosystem approach should not create an economic disadvantage but should promote responsible and sustainable behaviour.

7. Subsidiarity: management should be undertaken by the smallest, lowest or least-centralised competent authority.

8. Connecting international through to local: local and regional strategies, plans and policies should be harmonised and priorities established to reflect national and international goals and objectives for conservation and sustainable use.

9. Review and monitoring: an effective and targeted performance monitoring and review regime should be used to inform management.

10. Adjacent impacts: consideration should be given to how events or actions in the Celtic Seas can influence or be influenced by events or actions on the land, in the air or in different parts of the ocean.

11. Inform and involve: management should involve and inform all relevant sectors of society and scientific disciplines.

The PISCES principles reflect many of the same elements as the Malawi principles but with a more explicit emphasis on stakeholder involvement ( Principle 1 ) and the need to connect strategies and management across all marine zones (Section 9).

1. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

2. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

3. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

4. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

5. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

6. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

7. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.

8. The ecosystem approach should be understood in the context of a range of spatial and temporal scales.
Key Elements

• Best knowledge and practice
• Precaution
• Alternative development
• Identification of Ecosystem Services
• Mitigation
• Relational understanding
• Participation and communication
• Subsidiarity and coherence
• Adaptation
Example- Latvia

• EBA applied in development of Latvian MSP

• EBA applied in all steps
  • Assessing possible negative impacts on natural assets

• Strategic Environmental Assessment

• MPAs
EA- MSP Evaluation

• MSP is cyclical- reviewed and adapted

• Meaningful evaluation needs:
  • Unambiguous objectives of MSP
  • Appropriate indicators
  • Effective monitoring

• Need to develop Evaluation approaches that include EA indicators
Examples

• Key Findings of Baltic-Scope Checklist:
  • Checklist is a good indication of country progress towards EA

• Dominguez-Tejo et al. (2016)
  • Design, conceptual and methodological differences
  • Need social objective development
  • Non-market/ Cultural values poorly represented
Evaluation Questions

• How have social, economic and environmental values been integrated into the spatial planning analysis?

• How has cross-boundary/border/realm connectivity been address by the planning teams?

• How will the environmental impacts of the plan be monitored and audited?
Challenges to Implementation

• MSP still considered new tool - few implemented cases
• No single MSP approach
• MSP performance hard to judge
• Land sea interactions
• Requires multidisciplinary approach
• Transboundary nature
• Climate change
SIMCelt Evaluation Work

• Marine Authorities:
  • Northern Ireland, Wales

• Tailored framework

• Sectoral evaluation approach
Further Evaluating the Ecosystem Approach

• Questions for the SIMCelt Project:
  
  • Have/How the project regions implemented the Ecosystem Approach?
  
  • How can we include Evaluation of EA as part of the Evaluation package?
  
  • Are the current evaluation approaches sufficiently ecosystem-led?
Evaluation as a Future Orientated Activity

• Evaluation looks back at what has been achieved:
  • Progress made
  • Objectives achieved
  • Lessons learned

• Evaluation inform future progress:
  • Taking the lessons learned and applying for future iterations
  • Adaptive and ongoing process

• Forward looking:
  • How can we improve?
  • Link with future scenarios?
Summary

• EBA-MSP framework can facilitate identifying & overcoming knowledge gaps
  • Management of multiple human uses
  • Transboundary elements
  • Impacts on natural and socio-economic systems

• Most MSP cases have EBA as their guiding framework

• Should be a key part of evaluation
Thank You

Stephen Jay
Sue Kidd
Lynne McGowen
CharlotteBillingham
SIMCelt closing conference – NW and SW Marine Plans options update
Hannah Marriott
November 2017
Outline

- Marine planning options process for IT2
- Developing reasonable alternatives
- Examples of potential responses
  - Marine litter
  - Tidal lagoons
- Current issues and potential response in NW and SW
- Next steps
Marine planning options process for IT2

- Previous work looked at cause and effect of issues
- Used the ‘bow-tie’ method

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td></td>
</tr>
</tbody>
</table>

Potential response
- preventative policy/signposting

Potential response
- mitigating policy/signposting
Developing reasonable alternatives

• Questions to consider

  • Is it necessary?
  • Mode or process – how should it be done?
  • Timing and detailed implementation
  • Details
  • Compatibility
Potential responses – Marine Litter
Potential responses – Marine Litter

Shellfish hoovers – evidence suggests that some types of shellfish will consume plastics in high concentration – could establish shellfish beds to consume these plastics near outfalls and act as a natural hoover. Directly reducing a cause of litter.

Existing S-ML-1 policy – public authorities should ensure adequate provision for and removal of beach and marine litter on amenity beaches - policy that deals with direct effects of litter.

For terrestrial housing development any sewage/drainage systems must have filters for micro plastics. Directly reducing a cause from land.

Tyre Crumb – a potential response could be a policy that promotes marine transport the effect of the policy the number of vehicles (and tyres) on the road. Indirectly reducing a cause of litter.

Marine litter
Potential responses – Tidal Lagoons

Potential policy around construction consideration for other activities. *Proposals that are extracting material or under construction in the SW plan area must consider existing activities and avoid negative impacts upon them.* **direct effects**

Potential policy looking at local sourcing of aggregates (S-AGG-4) - *Where proposals require marine aggregates as part of their construction, preference should be given to using marine aggregates sourced from the south marine plan areas.* Need compatibility with welsh plan

Existing Aggregates, Colocation, Biodiversity and Disturbance policies **indirect effects**

Existing Marine Protected Areas policies could be applied here. **direct effects**
### Potential responses – Issues in NW

<table>
<thead>
<tr>
<th>The environment outside of marine protected areas should be considered within marine plans to ensure that wider biodiversity and connectivity of habitats and species is maintained, recovered and/or enhanced for its intrinsic value</th>
<th>Addressed through S-BIO 1, but with support from other S-BIO policies. Proposals that may have significant adverse impacts on natural habitat and species adaptation, migration and connectivity must demonstrate that they will, in order or preference: a) avoid, b) minimise c) mitigate significant adverse impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support highly mobile and migratory birds outside of protected areas when populations are in or predicted to become unsatisfactory. S-MPA-2 is possible response but also need to integrate policies with response to highly mobile species and guided by SA scoping identifying relevant species and their ranges. Proposals that may have adverse impacts on an individual marine protected area’s ability to adapt to climate change and so reducing the resilience of the marine protected area network must demonstrate that they will, in order of preference: a) avoid, b) minimise c) mitigate significant adverse impacts</td>
<td></td>
</tr>
<tr>
<td>Over 80% of the coast is designated as Natura 2000 sites, therefore this highlights the importance of this plan area within the Natura 2000 network and the need to take this into account in development decisions. S-MPA-1 is currently viewed as an appropriate response. Proposals must take account of any adverse impacts on the objectives of marine protected areas and the coherence of the overall marine protected area network, with due regard given to any current agreed advice on an ecologically coherent network.</td>
<td></td>
</tr>
</tbody>
</table>
# Potential responses – Issues in SW

<table>
<thead>
<tr>
<th>Potential responses</th>
<th>Amended BI</th>
<th>Amended CO</th>
<th>An amended MPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a need to recognise that the loss of biodiversity needs to be halted because of the rate of decline, achieving sustainable development within this context is a challenge.</td>
<td>SW-BIO-5: Proposals for development that enhance net biodiversity and geo-diversity will be supported</td>
<td>Proposals will optimise their use of space and consider opportunities for co-existence and co-location with other activities</td>
<td>Proposals must avoid any adverse impacts on the objectives of marine protected areas and the coherence of the overall marine protected area network. Due regard must be given to any current agreed advice on an ecologically coherent network.</td>
</tr>
<tr>
<td>Recreational boating can be impacted upon by competing sectors that occupy the same spatial area. Recreational boating is also at risk from the designation of marine protected areas, dependent on the chosen management measure.</td>
<td>Amend CO-1 following discussions with stakeholders.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine protected areas have impacts on all sectors and there is a need to integrate the implementation and management of MPAs with marine planning.</td>
<td>An amended policy regarding coherence of MPAs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Next steps

• Development of IT2 package

• Covering
  – Vision
  – Reasonable alternatives

• Engagement on reasonable alternatives

• Asking stakeholders for their preferred option for addressing the issues raised in the plan area
Questions?
Contact details

Web: www.marinemanagement.org.uk/marineplanning

Email: planning@marinemanagement.org.uk

Phone: 0208 0265 325

Follow us on Twitter @the_MMO #marineplanning