

The management of coastal activities

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Integrated Coastal Zone Management

Coastal Zone Management (CZM) or Integrated Coastal Zone Management (ICZM) is often defined as:

“the process which brings together all those involved in the **development, management and use of the coast** within a framework which facilitates the **integration** of their interests and responsibilities to achieve common objectives” (DoE - UK, 1996)



Integrated Coastal Zone Management

Aims :

- to promote sustainable use
- to balance demands for the coastal zone
- to resolve conflicts of use
- to promote strategic planning for the coast



In recognition of this urgent need for an integrated and strategic approach to the management of the coastal areas of Europe and based on experiences of a Demonstration Programme eight principles of good ICZM were agreed as part of the EU ICZM Recommendation of 2002.

Eight Principles of Good ICZM

- Principle 1:**
A broad overall perspective (thematic and geographic) which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas.
- Principle 2:**
A long-term perspective which will take into account the precautionary principle and the needs of present and future generations.
- Principle 3:**
Adaptive management during a gradual process which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone.
- Principle 4:**
Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures.
- Principle 5:**
Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run.
- Principle 6:**
Involving all the parties concerned (economic and social partners, the organisations representing coastal zone residents, non-governmental organisations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.
- Principle 7:**
Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of the various existing policies. Partnership with and between regional and local authorities should apply when appropriate.
- Principle 8:**
Use of a combination of instruments designed to facilitate coherence between sectoral policy objectives and coherence between planning and management.



EU Recommendation on ICZM

On 30 May 2002, the European Union adopted a **Recommendation on implementing integrated coastal zone management (ICZM) in Europe**. This asks Member States to undertake a national stocktaking of legislation, institutions and stakeholders involved in the management of the coastal zone and, based on this, to develop national strategies to deliver ICZM.

The principles of integrated coastal zone management are set out as:

- taking a long term view
- a broad holistic approach
- adaptive management
- working with natural processes
- support and involvement of all relevant administrative bodies
- use of a combination of instruments
- participatory planning
- reflecting local characteristics



EU Recommendation on ICZM

- [Evaluation of CZM in Europe - http://ec.europa.eu/environment/iczm/pdf/evaluation_iczm_report.pdf](http://ec.europa.eu/environment/iczm/pdf/evaluation_iczm_report.pdf) (2006)
- [COMMUNICATION FROM THE COMMISSION - Report to the European Parliament and the Council: An evaluation of Integrated Coastal Zone Management \(ICZM\) in Europe - http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0308:FIN:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0308:FIN:EN:PDF) (2007)
- [A strategy for promoting an integrated approach to the management of coastal areas in England - http://archive.defra.gov.uk/environment/marine/documents/protected/iczm/iczm-strategy-england.pdf](http://archive.defra.gov.uk/environment/marine/documents/protected/iczm/iczm-strategy-england.pdf) (2008)



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Principle 8:

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European ICZM Report (2006)

Key principles of Integrated Coastal Zone Management in the European Recommendation:

1. A broad holistic approach
2. Taking a long-term perspective
3. Adaptive management
4. Specific solutions and flexible measures
5. Working with natural processes
6. Participatory planning
7. Support and involvement of all relevant administrative bodies
8. Use of a combination of instruments



A strategy for promoting an integrated approach to the management of coastal areas in England (DEFRA, 2008)

Our vision

- Sustainably managed coastal areas, where competing demands and pressures have been taken into account and the social and economic needs of society have been reconciled with the need for conservation of the natural and historic environment.
- A clear policy and regulatory framework into which the principles of a holistic and co-ordinated approach are embedded.
- A new, strategic management approach in the marine environment, which is effectively integrated with the management of the land.
- More consistent application of the principles of good, holistic and co-ordinated management around the coast.
- A management approach that builds on existing structures and responsibilities, whilst encouraging organisations to work better together.
- A flexible management approach, which supports local initiatives and solutions to address local circumstances, within an overall regulatory framework.
- Appropriate and effective stakeholder and local community involvement throughout management processes.

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Ley Marina (Escocia) 2010

www.scotland.gov.uk/Topics/marine/seamanagement/marineact

Planificación marina

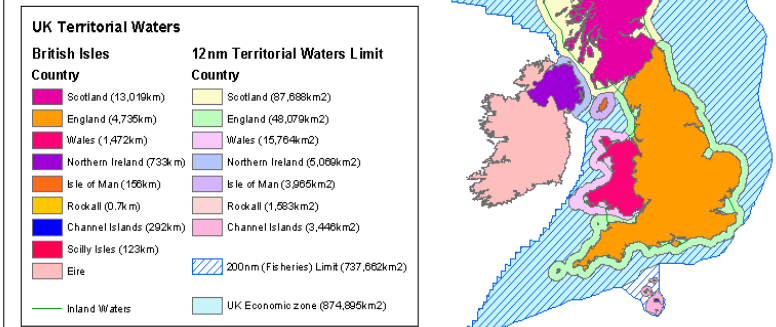
Licencias marinas

Conservación marina

Ley de Conservación de focas

Atlas Marino de Escocia

www.scotland.gov.uk/Publications/2011/03/16182005/0



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Marine Spatial Planning



Scotland's Marine Activities

- Fishing
- Leisure and Recreation
- Renewable Energy
- Oil and Gas
- Aquaculture
- Marine Transport and Shipping
- Military
- Communication and Power Cables
- Historical and Cultural Heritage

Fishing



Fishing is a long established use of marine resources and is the most widespread human pressure in Scottish waters. The Scottish fishing fleet can be split into four broad sectors:

- 1) Pelagic
- Herring/Mackerel
- 2) Demersal
- Cod/Haddock/Whiting/Saithe
- 3) Mixed Demersal and Shellfish
- Whitefish/Prawns/Langoustine
- 4) Shellfish
- Scallops/Prawns/Langoustine



Oil and Gas



Around 90-95% of the UK's Oil and Gas production occurs in Scottish waters.

Production in 2010 was estimated to be around 2.35million barrels of oil equivalent (boe) a day.

Oil and Gas productivity has a range of environmental pressures such as noise from seismic activity, contamination from chemicals, and the physical presence of associated infrastructure.



Renewables



Marine renewables are providing new opportunities to enhance Scotland's manufacturing capacity and to provide new employment especially in remote and rural areas.

Scotland has some of the most significant energy resources in Europe.

They have considerable hydrocarbon resources and as much as a quarter of Europe's offshore wind and tidal energy resources and an estimated 10% percent of its capacity for wave power.



Aquaculture



Aquaculture is Scotland's most valuable food export, in 2009 there were 1043 farms culturing fish, mollusc, crustaceans and algae.

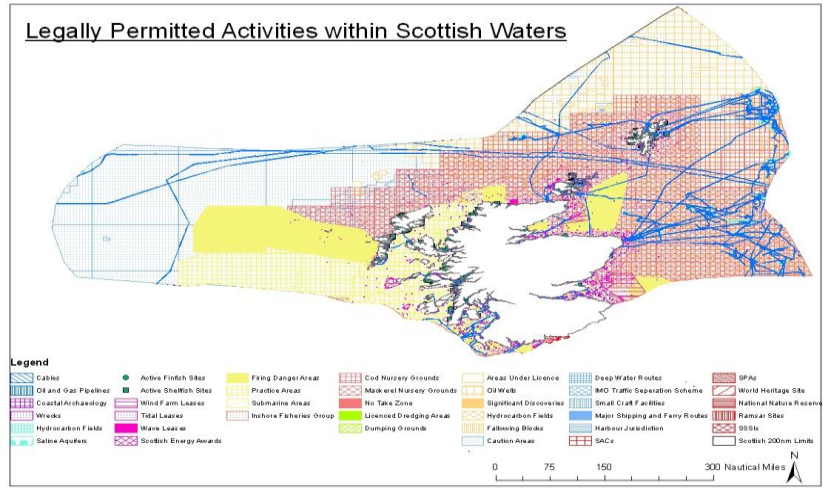
In general Scottish Aquaculture can be split into two main categories:

- 1) Growing finfish in Cages/Pens/Raceways/Tanks
- 2) Growing Shellfish or Algae on The Seabed/Trestles/or suspended on Ropes/Nets



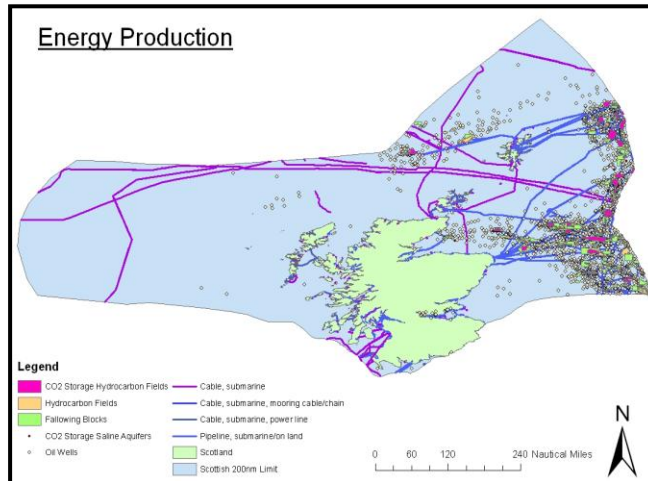
How can all these activities be managed successfully?

Legally Permitted Activities within Scottish Waters

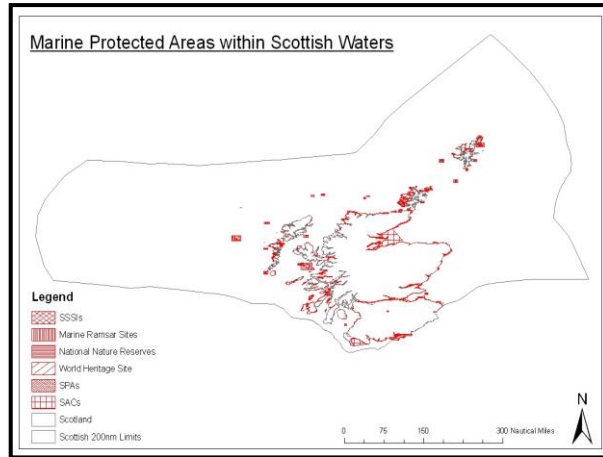


The location of Industrial Facilities related to Energy Production around Scotland in 2011. © Crown Copyright 2012. An Ordnance Survey/EDINA supplied service. Data available online at <http://www.og.decc.gov.uk>.

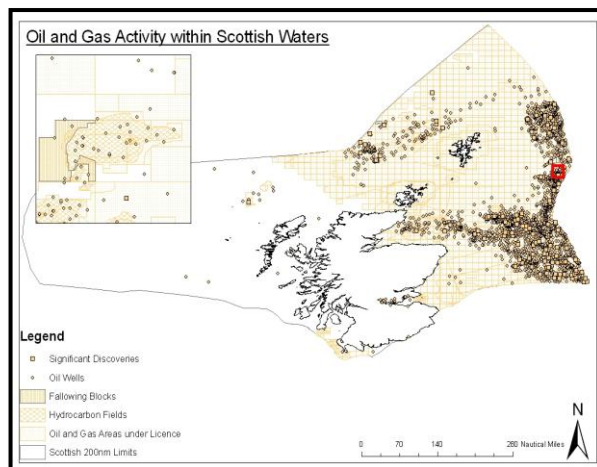
Energy Production



Marine Protected Areas within Scottish Waters in 2011 © Crown Copyright 2012. Ordnance Survey/EDINA supplied service. Data available online from Scottish Natural Heritage at <http://www.gateway.snh.gov.uk>



Oil and Gas Activity within Scottish Waters in 2011 © Crown Copyright 2012. An Ordnance Survey/EDINA supplied service. Data available online at <http://www.og.decc.gov.uk>

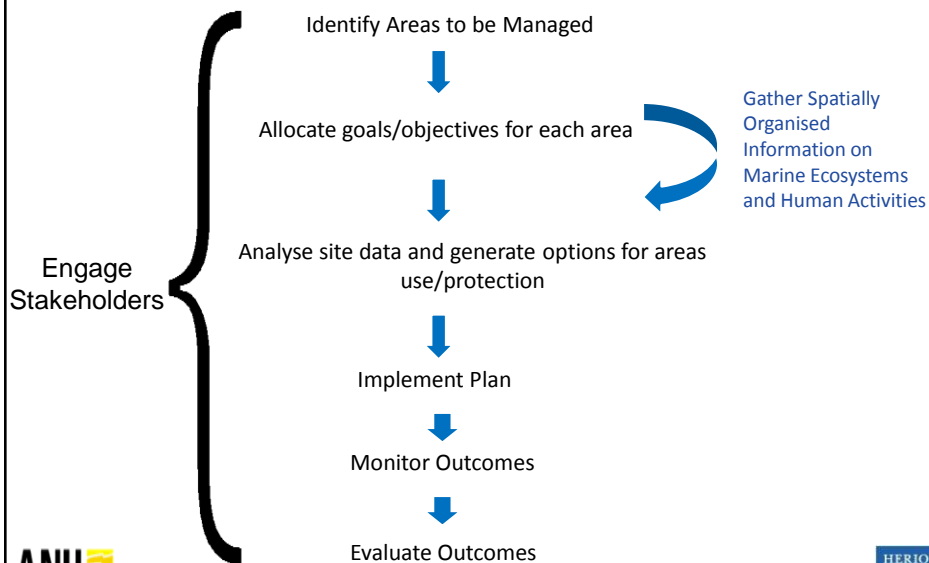


Marine Spatial Planning (MSP)

“MSP is a plan-led framework that enables integrated, progressive and consistent decision making for the use of the sea that additionally can aid conflict resolution particularly in environments where there is great demand on space and resources” (Boyes et al., 2007)



Marine Spatial Planning



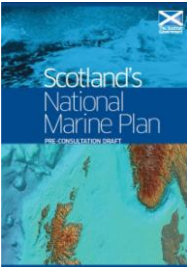
What is driving MSP development in Scotland?

Scottish and European Policy



MSP in Scotland

Marine and Coastal Access Act 2009



Scotland's National Marine Plan

Marine (Scotland) Act 2010



Marine Strategy Framework Directive



How are we going to go about implementing MSP in Scotland?

Planning Tools



Tools for Developing MSP

MSP is related to and has emerge from existing management frameworks and tools such as **Integrated Coastal Zone Management (ICZM)** and **Ecosystem-based Management (EbM)**.

Zoning is one of the key tools for implementing MSP some of the zoning techniques being developed are:

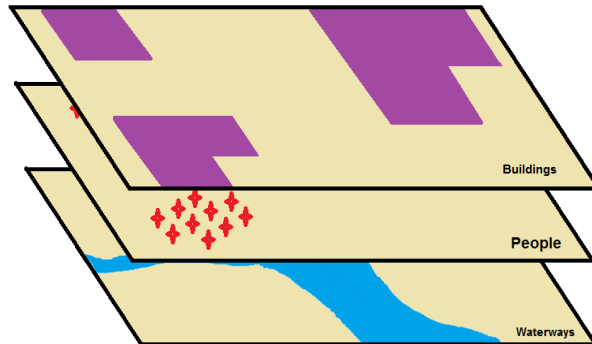
- Multiple-use MSP
- MSP Ocean Zoning
- Exclusive Use Zoning
- 'Ecosystem' Zoning Scheme

There are other important management tools that are often coupled with zoning schemes such as **impact assessments**, **best environmental practices** and **codes of practice** and **permits**.

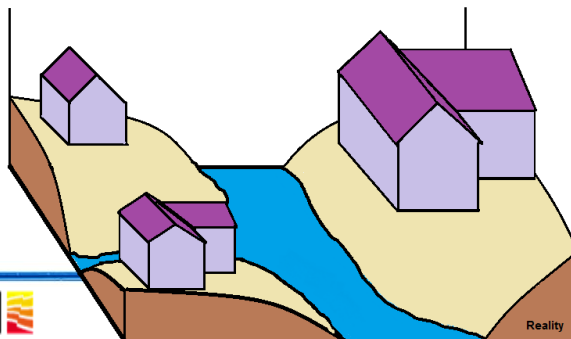


What can be used to create and develop MSP management tools?

Geographical Information System
GIS



GIS
Layers

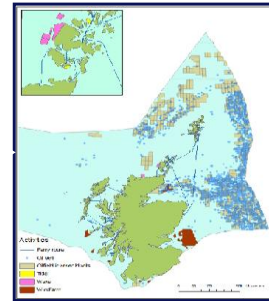
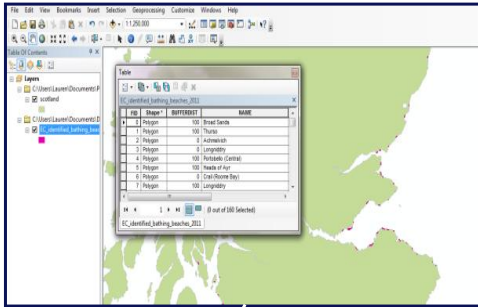


How do you go about creating a Zoning Scheme?

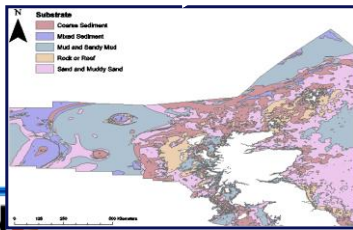
You need data - lots and lots of data!



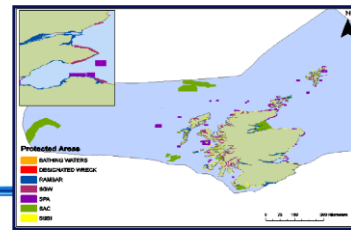
Baseline Maps



Industries



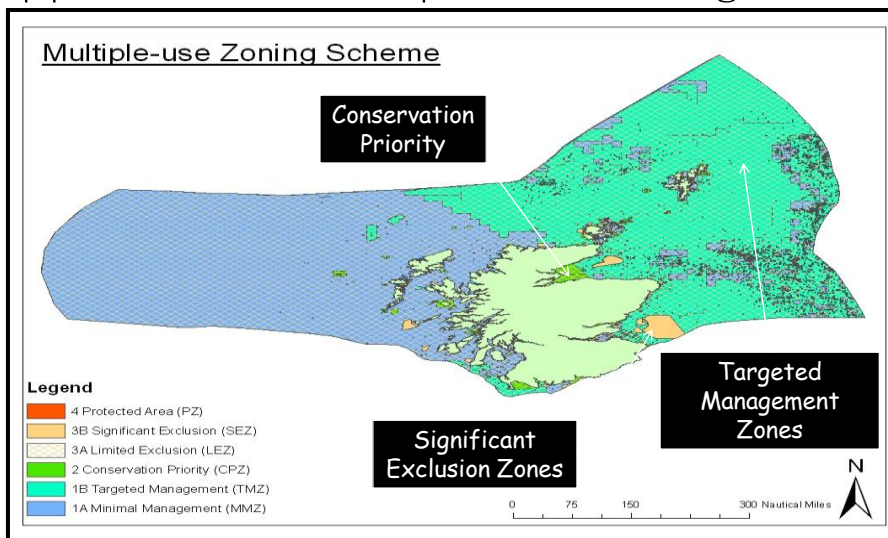
Seabed Landscapes



Protected Areas



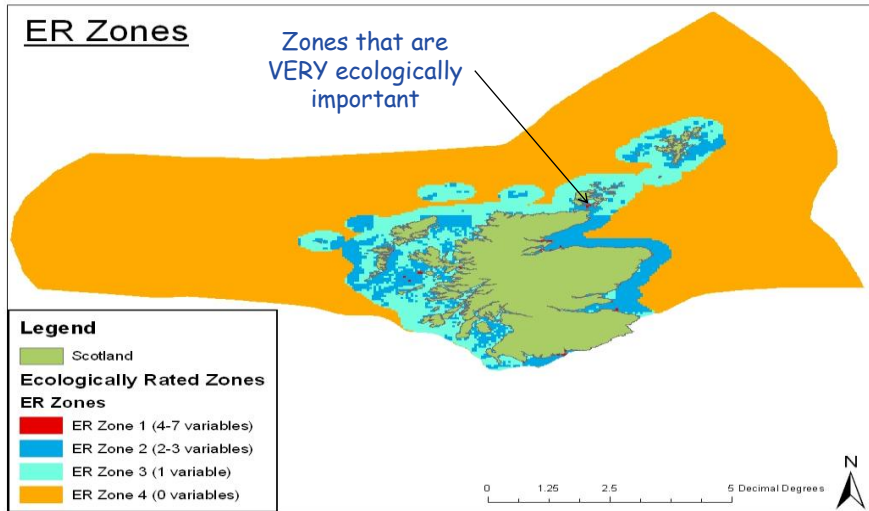
Application of Multiple-Use Zoning Scheme



Zoning Scheme as developed by Boyes et al. (2007) applied to the Scottish Coastline.

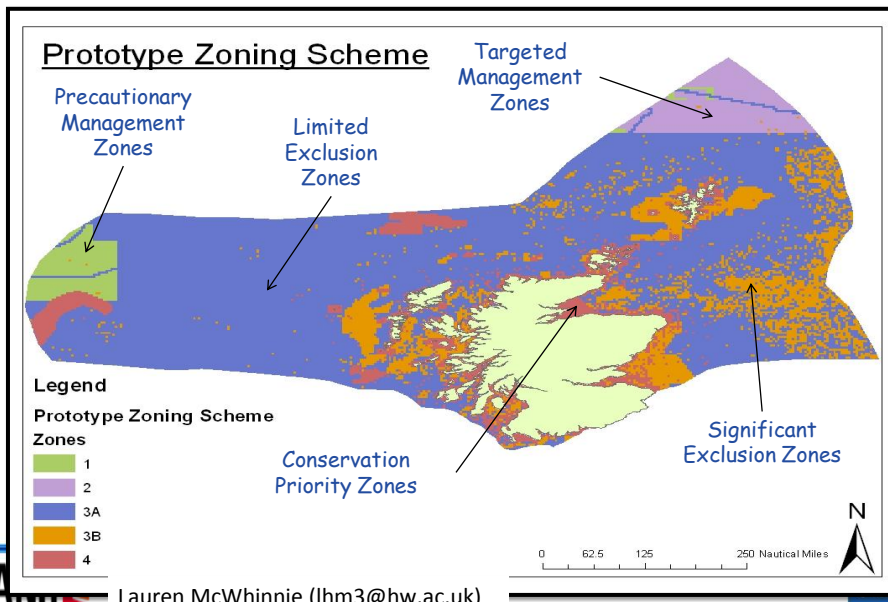


Application of 'Ecosystem' Zoning Scheme



Zoning Scheme as developed by Day et al. (2008) applied to the Scottish Coastline.

Application of Prototype Zoning Scheme



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