Understanding the Ecosystem Approach

Stakeholder workshop, 10-12 May 2010

Background information

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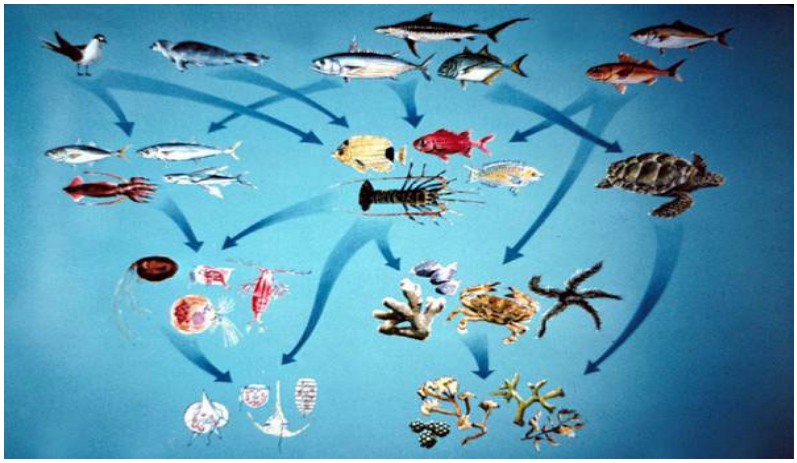
What is an ecosystem?

An ecosystem is a functional unit or area composed of physical and biological elements that interact with each other. Organisms interact with each other and influence, and can be influenced by, physical features of the surrounding environment. At one end of the scale we could consider the earth as a single ecosystem, but at the other end it is also possible to consider a rock pool or an estuary as an ecosystem. All of these examples have the biological and non-biological components that are necessary to define an ecosystem.

An ecosystem includes a number of organisms that are dependent on other organisms for energy. Food chains occur where energy flows through the system from smaller organisms that capture their energy from the sun, right through to larger carnivorous organisms at the top level. In order for ecosystems to function there needs to be a number of physical elements: a source of energy, a source of nutrients and a source of water. An ecosystem can often consist of a number of different communities so the flow of energy can take different paths and there can be multiple food chains. A food web is a summary of all the different food chains in an ecosystem. Studying the ecological pathways between different species within an ecosystem can be used to learn more about the ecosystem as a whole.

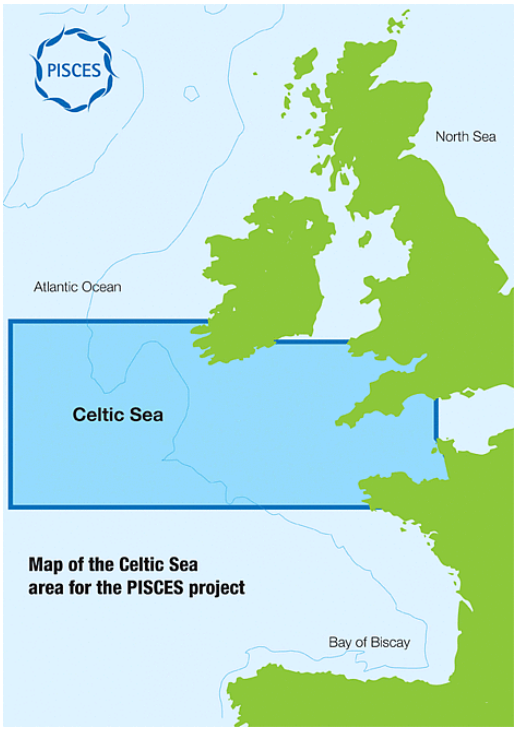


This schematic representation of a marine ecosystem food web illustrates some of the interrelationships or ecological pathways between the species that make up the community. Ecologists aim to better understand the significance of those relationships to the overall ecosystem. (NOAA)

Ecosystem processes are the physical, chemical and biological actions that link organisms to their environment. Processes include the flow of energy and nutrients through an ecosystem, and biogeochemical cycling including carbon, nitrogen and phosphorous.

The Celtic Sea as an ecosystem

The International Council for the Exploration of the Seas (ICES) and OSPAR have identified the Celtic Seas Ecoregion as having similar biological, physical and socio-economic conditions. The Celtic Sea area identified for the PISCES project is a subdivision of the wider Celtic Seas Ecoregion and includes the fishing area known as the Celtic Sea (ICES subarea VIIf-k) and the western part of the English Channel (VIIe). This can be seen as a distinct area within the wider ecoregion. There are similarities in physical conditions and marine species found throughout the area. There are also similarities in the conditions experienced by different activities, including fisheries, tourism and recreation and there are stakeholders that share common interests across the political and geographical boundaries.



Map of the Celtic Sea area for the PISCES project

Ecosystems can be defined and managed at many different scales. The features of any ecosystem tend not to be constrained by political or geographical lines so it makes little sense to manage them according to these. It is therefore better to manage at an ecosystem scale, irrespective of geopolitical boundaries. The Celtic Sea is an ecosystem that can usefully be examined by the PISCES project as a test case for delivering an Ecosystem Approach because it exhibits similar characteristics and multiple uses within a clearly defined area.

Description of the Celtic Sea

The Celtic Sea is located in the Atlantic Ocean off the southern coast of Ireland. It is surrounded by the English Channel, St George's Channel and the Bristol Channel as well as portions of Wales, Cornwall, Devon and Brittany. A wide range of activities take place in and around the area: fishing, mariculture (the cultivation of marine organisms for food and other products in the open ocean), shipping, marine renewable energy and aggregate extraction such as sand and gravels (this is a major activity in the Bristol Channel for example). Thousands of tourists visit the coastline throughout the year and use the sea for a wide range of recreational and leisure activities.

In and around the coastline of the Celtic Sea lives an immense variety of species including basking sharks – the world's second largest fish reaching up to 11 metres long - blue sharks and a variety of marine mammals such as bottlenose and common dolphins, porpoises, seals and even fin whales. There are hundreds of fish species, including salmon, and crustaceans such as lobster and crab.

The sea is also teeming with marine species usually associated with more exotic waters such as cold-water corals, kelp forests, long-snouted seahorses and leatherback turtles, which are listed as critically endangered on the IUCN list for endangered animals. As well as the wealth of underwater sea life, the coastline is also home to almost half of Europe's breeding seabirds, many of which are found nesting around the Celtic sea. Of these, the puffin is perhaps the most iconic species.

The majority of the Celtic Sea area ranges between 100 and 200m in depth although there are some shallower areas to the west of Cornwall, and to the south-east of Ireland. There are a number of shallow banks including Labadie Bank, Jones Bank and Great Sole Bank. Seabed banks often result in aggregations of fish species, including commercially important ones, as a result of the increased habitat complexity and variations in currents and other physical conditions.

The Celtic Sea region extends westwards to 1000m water depths and the transition between the continental shelf (100-200m depth platform) and the deep sea trough is a steep and rocky slope along which cold-water corals occur. This shelf edge is an area of strong internal mixing where the sloping topography together with vertical differences in water conditions creates internal tides. The shelf edge of the Celtic Sea has a significantly different phytoplankton (small/microscopic plants) distribution to that of the surrounding shallower and deeper seas, which is likely to create differences in populations of other marine species

Ecosystem changes

Evidence of environmental changes causing alterations in abundance and distribution of organisms has been found in the Celtic Sea. Distributional changes have been observed in the Celtic Sea for herring and pilchard, and there have also been changes in the abundance and distribution of zooplankton over the last 20 years. The main type of zooplankton, *Calunus spp.*, an essential component of the marine food web, is now below the long-term mean abundance in the Celtic Sea. Changes in its distribution have been linked to changes in environmental conditions, including sea temperature, and this link seems to be particularly prominent in the Celtic Sea. It is possible to separate the effects of environmental factors and fishing impacts: Scientists have demonstrated that changes in abundance and size of target fish species can be clearly linked to fishing efforts (Blanchard et al., 2005).

The groundfish community (fish that live on or near the seabed) in the Celtic Sea has been monitored and surveyed over a number of years. It includes more than 100 species, with 25 main species constituting the majority of the biomass. The overall biomass has decreased since 1993, and the abundance of cod, whiting and hake has also declined according to ICES figures. The observed trend indicates a reduction in larger fish, such as cod and hake, and a greater abundance of smaller pelagic fish and invertebrates. For the Celtic Sea this has resulted in a reduction in mean trophic level (more, smaller fish found lower in the food web) and in the overall biomass.

Wildlife and habitats might be protected at individual sites (such as puffins on Ramsey Island) but many wide-ranging marine species are not protected and are vulnerable to the collective impact of human activities. A better overview is needed of all activities to ensure they are compatible with each other, with the sustainability of marine resources, with the economic growth and social requirements of the region.

The Ecosystem Approach

The Ecosystem Approach (EA) to the management of coastal and marine resources was developed in response to a need for a more holistic view to management that considers not only species or habitats but the whole range of interactions among organisms and physical processes, with humans and their activities and needs recognized as an integral component of the ecosystem. The Ecosystem Approach entails a paradigm shift from individual species to ecosystems, from a short-term to a long-term perspective, from a purely marine organism perspective to one that recognises that humans are an integral component of many ecosystems, and from static or linear management to adaptive management.

There are a number of definitions of the Ecosystem Approach, the development of which can be traced to the 1972 UN Conference on Human Environment. Since then the EA has been incorporated into various multilateral agreements including the 1982 Law of the Sea Convention, the 1992 Rio Declaration and Agenda 21, the FAO Code of Conduct and the 1995 UN Fish Stocks Agreement. More recently the development of the Ecosystem Approach can be traced to the 2000 Convention on Biological Diversity (CBD) Decision V/6, which laid down principles for guidance in applying the ecosystem approach.

Among multilateral environmental agreements, the 1992 CBD is a leader in the adoption of the ecosystem approach. It adopted the ecosystem approach in 1995 and has since elaborated it, and continues to promote and implement it. The CBD has defined the Ecosystem Approach:

The Ecosystem Approach "is a strategy for the **integrated** management of land, water and living resources that promotes **conservation** and **sustainable use** in an **equitable way"**

The Ecosystem Approach "is based on the application of appropriate scientific methodologies focused on levels of biological organisation, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognises that humans, with their cultural diversity, are an integral component of many ecosystems."

In order to guide implementation of this approach, the CBD agreed to 12 principles that should *all* be considered when applying an Ecosystem Approach. The 12 principles are complementary and interlinked. The CBD states: "It should be stressed that in applying the ecosystem approach, all its principles need to be considered in a holistic way, and appropriate weight given to each, according to local circumstances."

The Convention on Biological Diversity - 12 principles for an Ecosystem Approach

1. The objectives of management of land, water and living resources are a matter of societal choice.

2. Management should be decentralised to the lowest appropriate level.

3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.

4. Recognising potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:

    a. reduce those market distortions that adversely affect biological diversity;
    b. align incentives to promote biodiversity conservation and sustainable use;
    c. internalise costs and benefits in the given ecosystem to the extent feasible.

5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.

6. Ecosystems must be managed within the limits of their functioning.

7. The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

8. Recognising the varying temporal scales and lag-effects that characterise ecosystem process, objectives for ecosystem management should be set for the long-term.

9. Management must recognise that change is inevitable.

10. The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.

11. The ecosystem approach should consider all forms of relevant information including scientific and indigenous and local knowledge, innovations and practices.

12. The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

The CBD, recognising the difficulty in translating the principles into meaningful actions, produced five points of operational guidance:

1. Focus on the relationship and processes within the ecosystem.
2. Enhance benefit sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate to the issue, with decentralisation to the lowest level appropriate.
5. Ensure intersectoral co-operation.

The CBD identified a number of elements that are important for delivering an EA. This includes properly defining the problem to be addressed and the tasks to achieve the solution, as well as monitoring and review, collection of adequate information and good governance. The CBD has

produced detailed guidance on applying an Ecosystem Approach to environmental management that suggests tools and methods for dealing with different elements of implementation.

Other international agreements and for a have worked to develop the definition and implementation of the Ecosystem Approach. The Open-ended Consultative Process on Oceans and the Law of the Sea (ICP) at its meeting in June 2006 agreed a number of specific elements. The ICP stated that the Ecosystem Approach to oceans management should be focused on:

- Emphasize the health of the whole ecosystem ahead of the concerns of special interests;
- Be focused on a particular place, with boundaries that are scientifically defined;
- Account for the ways in which things or actions in that place affect each other;
- Consider the way things or actions in this place can influence or be influenced by things or actions on land (like dams or fertilizers in the watershed), in the air (like air pollution), or in different parts of the ocean (like fishing or oil spills); and
- Integrate the concerns of the environment, society, the economy and our institutions.

The OSPAR and HELCOM Joint Ministerial meeting in 2003 defined the Ecosystem Approach as "the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity". It is clear from this definition that the goal of the Ecosystem Approach is the sustainable use of ecosystem goods and services and the maintenance of ecosystem integrity.

The terms Ecosystem Approach and ecosystem-based management are often used interchangeably. Ecosystem-based management states the tools and methods of wider management and is a framework for developing effective management plans based on an accepted set of guiding principles. An ecosystem-based management plan should:

- Emphasise the health of the whole ecosystem ahead of the concerns of special interests;
- Be focused on a particular place, with boundaries that are scientifically defined;
- Account for the ways in which things or actions in that place affect each other;
- Consider the way things or actions in this place can influence or be influenced by things or actions on land (like dams or fertilisers in the watershed), in the air (like air pollution), or in different parts of the ocean (like Fishing or oil spills; and
- Integrate the concerns of the environment, society, the economy and our institutions.

These guiding principles are based on the 2005 Scientific Consensus Statement on Marine Ecosystem-based Management and updated peer-reviewed publications. The Scientific Consensus Statement recognises that economic, social and ecological well-being are tightly coupled, and a sustainable outcome for marine environments can only occur if these objectives are pursued together.

Worldwide examples of implementing an Ecosystem Approach

Important similarities and synergies can be seen between the different definitions of the Ecosystem Approach (EA) and different sets of guiding principles and a number of regions and coastal communities around the world have attempted to implement it. In the marine environment good progress in implementing an EA has been made in the area of fisheries management. A large amount of scientific research has focused on ecosystem-based fisheries management and the principles are now recognised in European fisheries legislation. The movement to an Ecosystem Approach in the fisheries sector in particular, could be a result of the fact that fish stocks are a commonly held resource and there has been a high profile decline in fish stocks with knock-on impacts to other components of the ecosystem. It became quite clear that managing a single stock without considering the interactions with other parts of the environment does not favour either conservation nor a profitable industry in the long-term, two of the primary objectives of the EA.

Ecosystem-based fisheries management has now been accepted and advocated by a number of organisations. The UN Food and Agricultural Organisation (FAO) updated its 1995 Code of Conduct for Responsible Fisheries in 2003 to reflect the principles of implementing an EA in fisheries management. WWF was the first organization to produce an international holistic framework for ecosystem-based management of marine capture fisheries. This framework has been referenced by the UN Food and Agriculture Organization as valid guidance for fisheries alongside the FAO's own ecosystem-approach to fisheries management.

Consumers are now more aware of the impacts of fisheries and in some cases are driving moves towards an ecosystem approach. Certification schemes, such as the Marine Stewardship Council (MSC), are used to indicate the sustainability of different fisheries. The MSC assessment evaluates not only the impact of fishing on the target stock, but also on habitats and associated species.

The concept of Large Marine Ecosystems (LMEs) was developed by the US National Oceanographic and Atmospheric Administration (NOAA) to describe areas of 200,000 km^2 in coastal regions around the world for assessment and management purposes. There are now 16 LME projects in Asia, Africa, Eastern Europe and Latin America. The LMEs have been identified as functional units in order to deliver an ecosystem approach to restore and sustain resources and coastal environments. The LME approach is useful to gain multinational cooperation to meet shared objectives to improve the environmental and socio-economic sustainability of the regions.

Some examples of implementation of an EA at a local level include the community approach to ecosystem-based management that has been developed in Port Orford, Orengon, USA. The local community have joined forces with community leaders, resource managers and NGOs to create a Community Stewardship Area in order to protect the marine resources and ensure sustainable fishing opportunities. The management approach is bottom-up and has the Ecosystem Approach at its core.

In Raja Ampat, Indonesia, the development of an ecosystem-based management plan demonstrates that even in areas of poor governance, poor data and where there is a lack of institutional commitment, an ecosystem approach can still move forwards. Many activities operate in the area that interact with fisheries (pear farming, agriculture, tourism, and logging) and it was felt that a network of marine protected areas were needed to protect the fisheries resources, while allowing economic development. Local stakeholders, academia, NGOs and the government decided to develop and implement an Ecosystem Approach driven by the strong interest from all sectors involved in the area.

The Hawaiian Islands contain the largest coral reef in the USA. There has been significant interest and progress made towards an EA in some areas of the archipelago. A network of marine protected areas has been established and management has been devolved to a more local level through co-management approaches. There is better co-ordination between agencies and sectors and data has been acquired on both the ecology of the area and on the human impacts. Considerable success in implementing ecosystem-based management has been demonstrated along the western coast of Hawaii Island. The ability to apply this model to other areas will be challenging and will depend on the involvement of stakeholders, financial and administrative support, the level of conflicts in different areas and the synergy between local and regional governments, NGOs and the scientific community.

Ecosystem Services

One of the CBD's 12 principles for an Ecosystem Approach is to ensure continued delivery of ecosystem goods and services. Humans benefit from processes or structures within ecosystems that provide a range of goods and services, known as 'ecosystem services'. The United Nations Environment Programme (UNEP) initiated the Millennium Ecosystem Assessment project in 2001 with the aim of assessing how human-induced changes to ecosystems affect welfare and well-being. Ecosystem services have thus been grouped in four broad categories:

Supporting services: The services that are necessary for the production of all other ecosystem services including soil formation, photosynthesis, primary production, nutrient cycling and water cycling.

Provisioning services: The products obtained from ecosystems, including food, fibre, fuel, genetic resources, biochemicals, natural medicines, pharmaceuticals, ornamental resources and fresh water.

Regulating services: The benefits obtained from the regulation of ecosystem processes, including air quality regulation, climate regulation, water regulation, erosion regulation, water purification, disease regulation, pest regulation, pollination, natural hazard regulation.

Cultural services: The non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences – thereby taking account of landscape values.

Some of these ecosystem services are well known such as food and fuel, but others are not so well known. For example, the role of organisms in regulation of the climate or purifying water is not fully understood. In order for the valuation of ecosystem services to be used to deliver change to the traditional coastal and marine management framework, it needs to be integrated into policy and legislation. However, some ecosystem services, in particular, non-use values such as the benefits associated with passing on intact ecosystems to future generations, will always be a challenge to quantify.

The CBD principles suggest that ecosystem functions and processes should be conserved in order to deliver ecosystem services. It is clear that only a healthy, resilient environment can continue to provide the benefits that humans and all species across the globe want and need. The ocean's ability to provide ecosystem services can best be achieved by fulfilling the social, economic and environmental objectives of an Ecosystem Approach.

Policy Framework for the Ecosystem Approach

International agreements

The Convention on Biological Diversity (CBD) creates an international framework for improving management and facilitating sustainable development. The CBD produced the 12 aforementioned principles for delivering an Ecosystem Approach and these are considered the guiding principles for all countries that have ratified the convention. The international acceptance to manage environments in a more holistic way has led some countries to integrate an Ecosystem Approach into their working practices.

EU Policy and legislation

In 2007 the European Commission set out its vision for the marine environment through the Integrated Maritime Policy and accompanying Action Plan. This represented a move away from sectoral management and highlighted the need to ensure economic development that does not come at the cost of environmental sustainability. The Action Plan included the development of a roadmap for maritime spatial planning, the promotion of a network of maritime clusters and the introduction of new legislation to protect the marine environment.

EU Roadmap for Maritime Spatial Planning

One of the Actions under the EC's Integrated Maritime Policy was to produce a communication on Maritime Spatial Planning. Maritime or Marine Spatial Planning involves managing ocean uses to minimise conflicts and maximise synergies – allocating a variety of human activities while preserving critical habitats, ecological processes and ecosystem services. This communication outlines current and relevant efforts in Member States, highlights some of the issues and influences, and identifies key principles for delivery. Although it is up to Member States to introduce their own approach to maritime spatial planning, the roadmap gives a European context and can aid coherence throughout our seas. Species and habitats and many maritime activities are not restricted by arbitrary lines on a map, and management, therefore, is more sensible and strategic when applied at a regional seas scale through cooperation between Member States.

Marine Strategy Framework Directive

The environmental pillar of the EU Integrated Maritime Policy is the Marine Strategy Framework Directive (MSFD) and its overall aim is to promote sustainable use of the seas through fulfilling economic growth and conserving marine ecosystems. This Directive came into force in 2008 and is to be transposed into Member State legislation by July 2010. The Directive emphasizes the use of an ecosystem approach to management to achieve its aims in the sustainable management of marine resources.

The main goal of the MSFD is to achieve or maintain 'Good Environmental Status' (GES) in Europe's waters by 2020. GES is yet to be fully defined, but 11 descriptors have been produced to guide evaluation. The Directive suggests that management should follow identified marine regions. Each Member State is to produce a strategy for its marine region in cooperation with other Member States that share those waters. Each Member State must also produce an initial assessment of the state of its seas, determine what GES is, identify targets and indicators and institute a monitoring programme. Finally, by 2016 each Member State must draw up a programme of measures that is designed to achieve or maintain GES.

Marine strategies produced by Member States must protect and preserve the marine environment and prevent pollution. In its Article 1(3) the Directive stresses a balance between environmental, economic, and social objectives:

"Marine Strategies shall apply an **ecosystem-based approach** to the management of human activities, ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of good environmental status and that the capacity of marine ecosystems to respond to human-induced changes is not compromised, while enabling the sustainable use of marine goods and services by present and future generations".

It is clear that there are many activities in the marine environment that could have an impact on GES and some of these are regulated through other policies and measures. This is recognised in the MSFD where there is a need for policies, agreements and legislative measures to be coherent, and for all to integrate environmental concerns. This would apply to the Common Fisheries Policy and the Integrated Maritime Policy. There is also a clear requirement in the MSFD to inform the Commission of any issues that have been identified as having an impact on the environmental status of its marine waters which cannot be tackled by measures adopted at a national level or which are linked to another Community policy or international agreement.

Common Fisheries Policy

The Common Fisheries Policy (CFP) is the EU legislative tool for managing European fisheries. The main premise of the CFP is that EU fishing grounds are a common resource open to all Member States. In order to protect smaller fishing vessels, areas around the coastline are restricted to Member State vessels only.

The management of fisheries under the CFP is largely achieved through the allocation of Total Allowable Catches (TACs) and quotas for each stock. Initially, this was to divide what was thought to be a plentiful resource between Member States, but with the decline in abundance of many fish stocks, this is now used as a management measure to try to maintain fishing at an appropriate level.

The changing conditions of European fisheries indicate that the original Common Fisheries Policy has been in need of reform: decline in stocks, increase in size and power of vessels, and other factors such as climate change are all having an impact on fisheries and demand an adaptive management approach. One such reform of the CFP took place in 2002 and another is currently underway and due for completion in 2012.

The 2002 reform of the Common Fisheries Policy demonstrated a broadening in perspective to allow an ecosystem-based approach. Fisheries management needed to achieve sustainability in three key objectives: environmental, social *and* economic. The precautionary principle was also introduced to fisheries management, whereby under the possibility of a serious threat, the lack of scientific information should not be used as an excuse for inaction. The 2002 reform also moved towards more long-term planning with multi-annual management plans. Increased stakeholder involvement in decision-making was introduced by setting up Regional Advisory Councils, with representatives from fisheries, producer organisations, environmental organisations and other interests.

Despite the improvements in the CFP, it is widely held that EU fisheries management remains outdated, short-sighted, politically driven and ineffective. Of the managed stocks in EU waters, 88% are fished beyond a sustainable level and the profitability of the industry is compromised. There are problems of overcapacity in the fleet, discards and bycatch continue to decrease stocks, and quotas continue to be set above scientific recommendations. The CFP is in need of further reform to meet the demands of the current situation and ensure a sustainable fishing industry for generations to come. The Commission produced a Green Paper on the reform of the CFP in 2009 and highlighted the following priorities:

- Putting an end to fleet overcapacity by developing mechanisms capable of adapting fleet quantity to available resources.

- Refocusing the CFP's main objective on maintaining healthy, sustainable and exploitable stocks.

- Adapting the orientation of fisheries governance from today's centralised control by the Council of Fisheries Ministers, which adopts all decisions, towards regionalised (but not nationalised) implementation of the principles laid down at Community level.

- Involving the sector further in resource management and implementation of the CFP, for example by moving towards results-based management.

- Developing a culture of compliance with rules by obliging the sector and the Member States to apply CFP measures more effectively. Developing a simpler, less costly policy with greater proximity in decision-making.

The reform of the CFP creates an opportunity to modernise fisheries management and integrate it within wider marine management in European waters. The future of the fishing industry depends on a healthy marine environment and this should be a common goal, best delivered through an ecosystem approach.

UK Marine and Coastal Access Act – an example for others?

The UK Government hopes to deliver many of the requirements under the MSFD through the UK Marine and Coastal Access Act 2009. The UK Act is one of the first examples of national legislation within the EU area to introduce a holistic approach to marine management and protection. The Act introduces a new system of marine protected areas to protect nationally important biodiversity, a streamlined licensing regime, a system of marine planning and a new body to oversee management at a UK level.

Marine Management Organisation

The Act establishes a new organisation, the Marine Management Organisation (MMO), to simplify and streamline the management of marine activities and marine protection. The MMO has jurisdiction in English waters and UK waters for non-devolved activities. An equivalent organisation, Marine Scotland, has been set up in Scotland and the Welsh Assembly Government will deliver marine management in Wales. The Northern Ireland Assembly has yet to determine delivery in Northern Ireland. One of the activities of the MMO will be to issue licenses for activities under a new simplified regime. It should act as a 'one-stop shop' for developers, thereby reducing time and costs for applications.

Marine Planning

The MMO and devolved equivalents will also deliver a new system of marine planning in UK seas. This will be a dramatic change from the current ad hoc and piecemeal approach to management of marine activities to a strategic and coordinated approach where cumulative impacts are taken into account. The marine planning process will be guided by a Marine Policy Statement that will be agreed by all four UK administrations and will set out the objectives and prioritisation for marine management. The ability to consider all activities and impacts together through a marine planning process can be used as a tool to deliver an ecosystem approach.

Marine Protected Areas

New marine protected areas established under the Act will be known as Marine Conservation Zones (MCZs). The UK Government has a duty to designate an ecologically coherent network of these sites in order to protect rare, representative and fragile habitats and species. In England the identification of sites is being delivered through four regional projects. Each of these projects will work with all interested parties to identify sites that meet environmental, social and economic needs.

In Wales, a network of MCZs will also be identified and designated through a Welsh Assembly Government-led process. There is already a high percentage of Welsh waters designated under European designations (>30% SACs and SPAs), so the focus of the MCZ project is to designate highly protected sites, where no damaging or extractive activities can take place.

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