

Ecosystem-based management: from principles to implementation

The EU context

Last year the European Commission proposed a Thematic Strategy for the Protection and Conservation of the Marine Environment, including proposals for binding legislation. On 7 June this year it adopted and put out for public consultation a Green Paper on a future Maritime Policy.

This Green Paper is a consultative document. It is available in this room. And we shall be receiving and digesting comments on it throughout the next twelve months before we move forward with action proposals.

It is my intention today to share with you some thoughts on its potential relevance for ecosystem-based management. I wish to emphasize that it does not yet represent EU policy. In the conception of the Commission, the Marine Environment Strategy represents the environmental pillar of a future maritime policy.

The detailed assessment of the state of the marine environment which the Marine Strategy will provide will be particularly valuable to devising the frameworks through which all uses of the oceans can be regulated.

Conversely the regulation of maritime activities on the basis of an integrated analysis will provide the means to achieve the aims of the Marine Strategy.

The key aim is to achieve good status of the EU's marine environment by 2021.

It introduces the principle of eco-system based spatial planning to be implemented at regional level.

Without this, we will soon be unable to manage the increasing, and conflicting, uses of the oceans.

The ecosystem-based approach: principles and problems

If we are to succeed in implementing the ecosystem-based approach we would do well to keep the presentation of the concept simple. This is imperative in order to both explain it to our citizens and gain the necessary political and public support.

We define it as: "the comprehensive integrated management of human activities based on 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 the marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity."

This is not exactly a sound-bite.

So from the very beginning let us retain as important the need to work at communicating, at simplifying, at educating.

If ecosystem-based management remains the domain of experts we will never be able to bring about the transformation of modes of thought in our societies which will be necessary over the longer term for its success.

A working definition of the ecosystem-based approach is generally understood as encompassing the following elements:

- 1. Sustaining ecosystem health and the activities it supports,**
- 2. Obtaining and maximizing in the long term the socio-economic benefits resulting from these activities without compromising the ecosystem,**
- 3. Generating knowledge about the marine environment itself and the impact human activities exert on it.**

Each of these elements poses problems for implementation. So let us have a look at some of these.

The first problem posed by ecosystem-based management is surely that real systems are complex and at best we can model them incompletely.

We have looked in the EU at the different elements of our marine ecosystems, we have begun to assemble information on their spatial distribution, we have analyzed the many, and increasingly important economic activities which affect them, and we have identified the many government agencies which deploy their efforts on our coastal waters in order to monitor and enforce the rules on their behaviour.

What we have found is at best an approximation to reality. But what is clear is the fragmentation of our efforts to influence it.

Currently, our marine ecosystems are dealt with by a plethora of instruments, not by a coherent system of governance.

Our second problem is linked to the concepts of restoring systems to a state of health or maintaining their pristine nature.

And yet the world is changing.

The climate shifts we are bringing about by our profligate emissions of greenhouse gases are causing changes, some subtle, some massive, to ecosystems.

We can hardly ignore these changes and base our immediate ecosystem goals on a denial of this reality.

Nor can we adopt a baseline of zero human influence.

Our goal is sustainable economic development on the oceans.

So we are faced with the reality of shifting baselines and with the perhaps unpalatable need to balance science and economic reality and science and politics.

As we have learned more about our one ocean we have also to understand that it consists of a diversity of ecosystems.

The ecological characteristics of Europe's coastal waters and the structure and intensity of the maritime activities which take place on them vary widely between the Baltic, the Mediterranean, the Atlantic and the North Sea, and the Black Sea.

The latter, by the way, will become an EU coastal water with the accession of Romania and Bulgaria.

The Baltic is shallow, with a connection to the Atlantic, and minimal tides.

The Mediterranean is much deeper, but also has minimal exchange with the Atlantic.

The waters of the Black Sea, which are deep, are, however, largely devoid of the oxygen needed for a vibrant ecosystem.

The North Sea and the Atlantic seaboard have strong currents and high tidal variation.

So decisions which work for one ecosystem may not be good for another. Centralised decision-making is not the way forward.

This is recognised in our Marine Strategy proposal, which provides for a framework of action to be implemented at regional level.

In other words, no management measures will be adopted from Brussels as this would not be tailored to specific challenges faced.

Our seas are influenced by multiple human activities.

In the Task Force set up in the European Commission to develop our maritime policy, we now have no less 10 Commissioners, responsible for different policy areas, involved in the direction of our work.

We have been aware for a long time of fisheries and shipping as important users of our marine resources, and marine tourism and offshore extraction of hydrocarbons have entered public awareness over recent decades.

But fewer of our citizens are aware of the potential riches of blue biotechnology, few notice the proliferation of pipelines and cables on the sea floor.

Many have now woken up, thank God, to their interaction with bottom trawling fisheries.

And off European coasts we are about to witness a vast expansion of renewable energy generators, starting with wind, but also tapping wave and tidal energy.

The growth in these activities makes it essential to adopt planning systems which can police their competition for the use of the oceans and to ensure that the ecosystems remain healthy or can be restored to health.

Currently these different activities are subject to fragmented decision-making by multiple authorities.

A few of our Member States have begun with sophisticated spatial planning systems for their waters, but systems are in their infancy.

We have a long way to go.

The final challenge I would like to address is the implementation and monitoring of rules.

We live on a few large and many small islands occupying only 30% of the surface of our planet, and surrounded by a vast expanse of ocean.

To say that activities on this ocean are difficult to monitor would be an understatement.

Even on our coastal waters the number of police officials per square mile is orders of magnitude smaller than on land.

The challenge of enforcing rules is all the greater.

The way forward

In facing these challenges our work on the Green Paper suggests some elements of a practicable way forward.

First, we need to move from piecemeal instruments to integrated arrangements.

Luckily we are not starting from scratch.

Developments in international law have contributed in advance to building the new scenario.

The United Nations Convention on the Law of the Sea, to which the European Community is a Party, already offers the possibility to organise activities in on the oceans in an integrated fashion and the Johannesburg Declaration of 2002 points the way forward.

The work on our Green Paper does suggest that at least an integrated analysis of all aspects of human interaction with the oceans is essential, that increased coordination of policies and actions by government is appropriate, and that new actions can help to fill the gaps in existing arrangements.

Second, we need to have societal agreement on our goals and an understanding by stakeholders of the reasons for our actions.

There are inevitably tradeoffs in the use of an increasingly scarce resource.

There will therefore be no substitute for decision-making through democratically legitimated public processes.

We believe that the legitimacy and acceptability of decisions can be increased by the extensive involvement of stakeholders in these processes.

And the more they can be decentralized, the stronger this involvement can become.

Third, we must be aware that no form of decision-making can make the reality of sometimes conflicting interests of economic operators disappear.

And there will be cases in which we will have to decide between a better environment and more economic activity.

But experience in countries which have taken the road of integrated decision-making suggests that the integration of the best scientific knowledge into the equation, and its careful spelling out to stakeholders, can take the steam out of conflict and bring about a readier acceptance of the necessary decisions.

So science serves not just to define our goals and our measures but also to increase their acceptance, and the level of ownership of citizens in the rules they must respect.

These ideas underlie some of the provisions of our Marine Strategy.

In identifying the ecoregions, within which it should apply, we have tried to draw the boundaries of the appropriate management units for the seas surrounding Europe.

It has proven to be more difficult than expected, and we have to recognise that, although detrimental to a pure ecosystem view, social and political realities must be respected.

There are however, clear management units emerging like the Baltic Sea, North Sea or Black Sea.

The involvement of regional actors - in the sense of transnational organizations -has to be promoted (where they do not exist) and/or empowered.

Exchanges of best practice between these actors should be actively promoted.

Thus the efforts undertaken by the Baltic Countries to advance in the implementation of the ecosystem approach in the Baltic Sea, joining forces within HELCOM, as well as the activities carried out within OSPAR by North Sea countries with the same aim, should be highlighted.

I have already referred to the necessity we see of achieving ownership of agreed rules by stakeholders through their participation in decision-making.

But, of course, this is not enough for effective implementation.

We also need to reflect on how we can achieve their successful monitoring and enforcement, nationally and internationally.

So we are giving a lot of thought and will be consulting extensively on how to improve our performance in this area.

In our view, greatly improved surveillance of human activities on the oceans will be essential to this, as will reinforced flag and port state control.

The EU strategy

So I would describe our emerging strategy in maritime policy as follows

Ecosystems are the starting point.

The integrated analysis of all human interactions with the oceans and their implications for the ecosystems follow.

There will certainly be implications for the direction of many sectoral policies, whose course can be adapted and developed in the light of the findings of the analysis.

We also believe that the way forward must lie in systems of integrated spatial planning for activities off our shores.

We are devoting a lot of thought also to the appropriate tools which will be needed if planning is to be successful.

We will need more and better integrated research if sound science is to be able to play the role it must.

We need to know more about the oceans and their individual ecosystems, we need to better understand their dynamics.

We will need more and better data on the basis of which we can monitor changes and define indicators.

Our preliminary analysis suggests that an effort to construct a network of compatible data systems, bringing together information from multiple sources and making it available for multiple purposes, can provide a cost-effective way of doing this.

Extensive mapping of the seabed and of the occurrence of flora and fauna in the waters covering it is likely to be necessary.

We are looking also at how to rationalise, integrate, and generalise the many systems of vessel tracking which exist for many different purposes around our shores, with a view to increasing their usefulness and their efficiency.

In other words we are giving a high priority to the tools needed to turn words into effective action.

And, of course, whatever we believe we have achieved within the EU we will want to share with the world community.