



# Fisheries management, the ecosystem approach, regionalisation and the elephants in the room



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## ABSTRACT

Many definitions of the ecosystem approach circulate, the common denominator being the system approach which seeks to take the entirety of a marine ecosystem into consideration. As marine ecosystems cover large geographical areas this approach calls for cooperation between the riparian states. This has been acknowledged in EU policies such as the Marine Strategy Framework Directive and the Marine Spatial Planning Directive. Yet implementing the ecosystem approach in practise runs into some operationalisation issues such as the position of regional cooperation between Member States vis a vis the treaty of the European Union; the positioning of the ecosystem approach between fisheries management and the Marine Strategy Framework Directive; the problem of stakeholder involvement and the balancing of ecological and economic concerns; the tension of the need for relative stability and the introduction of possible new models for organising regional cooperation. These issues appear to be like elephants in the room: obvious issues related to the need for regionalisation which apparently remain undiscussed. In this article, based on analyses within a number of European projects and discussions with relevant actors, the needed discussion on how to organise the management of human activities at the appropriate geo-political level matching the scale of the ecosystem, hence institutionalising marine management at the regional level, is initiated.

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## 1. Introduction

Over time the ecosystem approach is increasingly becoming corner stone of the marine and maritime policies of the European Union. In the 1992 Regulation (EEC) No. 3760/92, regulating the EU's Common Fisheries Policy (CFP), the ecosystem approach to fisheries management is not mentioned explicitly. In article 2 of the 1992 CFP the objective of the policy is formulated as 'to protect and conserve available and accessible living marine aquatic resources, and to provide for rational and responsible exploitation on a sustainable basis, in appropriate economic and social conditions for the sector, taking account of its implications for the marine ecosystem' [1 p2]. Hence the relationship between fishing activities and the impact on the ecosystem is acknowledged, yet not formulated as an ecosystem approach to fisheries management.

In its 2002 revision of the CFP, in which Framework Regulation (EC) No. 2371/2002 on the conservation and sustainable exploitation of fisheries resources repealed Regulations (EEC) No. 3760/92 and (EEC) No. 101/76, the ecosystem approach to fisheries management is mentioned for the first time. In this document the

heart of the CFP is described as to 'apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimise the impact of fishing activities on marine ecosystems. It shall aim at a progressive implementation of an ecosystem-based approach to fisheries management' [2 p62]. However this approach is not further detailed and operationalised in the regulation.

In the latest 2013 reform of the CFP the ecosystem approach is put centre stage. In Article 2 of the CFP it is stated that the CFP 'shall implement the ecosystem-based approach to fisheries management so as to ensure that negative impacts of fishing activities on the marine ecosystem are minimised, and shall endeavour to ensure that aquaculture and fisheries activities avoid the degradation of the marine environment' [3 p29].

Next to the CFP there are other European marine and maritime policies that define how our seas and oceans are being managed and that do have a take on the ecosystem approach. The 2008 Marine Strategy Framework Directive (MSFD) aims at achieving Good Environmental Status of European waters by 2020 and explicitly states that 'adaptive management on the basis of the ecosystem approach shall be applied' [4 p25]. In the words of the MSFD 'programmes of measures and subsequent action by Member States should be based on an ecosystem-based approach to the

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management of human activities' [4 p23]; 'priority should be given to achieving or maintaining good environmental status in the Community's marine environment' [4 p20].

The integrated Maritime Policy (IMP) of 2011 seeks to provide a more coherent approach to maritime issues, with increased co-ordination between different policy areas. The IMP fosters the development and implementation of integrated governance of maritime and coastal affairs [5]. It embraces implementation of the ecosystem approach. It acknowledges that maritime spatial planning and integrated coastal zone management are both important tools for the sustainable development of marine areas and coastal regions and both contribute to the aims of ecosystem-based management. Also the IMP seeks to facilitate coordination between Member States and other actors in implementing the ecosystem-based approach to the management of human activities and the precautionary principle [5].

In July 2014 the European Parliament and the Council adopted legislation to create a common framework for maritime spatial planning in Europe (FMSP, Directive 2014/89/EU). The FMSP explicitly refers to the use of the ecosystem approach: 'when establishing and implementing maritime spatial planning, Member States shall consider economic, social and environmental aspects to support sustainable development and growth in the maritime sector, applying an ecosystem-based approach, and to promote the coexistence of relevant activities and uses' and 'in order to promote the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources, maritime spatial planning should apply an ecosystem-based approach as referred to in Article 1(3) of Directive 2008/56/EC (the MSFD) with the aim of ensuring that the collective pressure of all 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 contributing to the sustainable use of marine goods and services by present and future generations' [6 p137].

Hence the ecosystem approach is increasingly becoming corner stone of the EU's marine and maritime<sup>1</sup> policies. Implementing the ecosystem approach in practice runs into some operationalisation issues such as the position of regional cooperation between Member States vis a vis the treaty of the European Union; the positioning of the ecosystem approach between fisheries management and the MSFD; the problem of stakeholder involvement and the balancing of ecological and economic concerns; the tension with the need for relative stability; and the introduction of possible new models for organising regional cooperation. These issues appear to be like elephants in the room: obvious issues related to the need for regionalisation which apparently remain undiscussed and hence, by going unaddressed, hamper the implementation of the ecosystem approach and obscure the relation between the ecosystem approach and fisheries management.

These issues will be analysed using information and data obtained through extensive observations and interviews with the major players from the fishing communities, fisheries organisations, fishers, Regional Advisory Council members, National, International and EU policy makers and the NGO community. These data were collected over the past 10 years during implementation of a suite of (EU and nationally funded) research projects and additional interviews, discussions and observations during relevant meetings. As such this study is a reflection on years of research and a re-interpretation of earlier findings reflecting on the

issues of today.

Main input was derived from the following projects: the EU FP5 funded project RESPONSIBLE, which focused on the evaluation of the process of devolution of responsibilities in the institutional landscape in European fisheries management [7]; the EU FP7 funded project MEFEP0 which among others focussed on exploring the options of regionalising the Common Fisheries Policy [8–10]; the EU FP7 funded project ODEMM which among others focussed on developing scenarios and models for the MSFD as a mechanism of implementing the ecosystem-based approach to marine management [11–15]; the EU FP7 funded programme MESMA, developing a framework and tools for the evaluation and monitoring of spatially managed areas [16,17] and the Dutch government funded programme Zee op Zicht (Sea at Sight) which linked the need for spatial planning, its institutional setting and the call for ecosystem management into a framework to weigh up marine activities [18].

In Section 2 a definition of the ecosystem approach is developed and the relation between the ecosystem approach and fisheries management is described. In Section 3 the relation between the ecosystem approach and regionalisation is analysed. In Section 4 the issues that are treated like the famous elephants in the room – present and for everybody to see but still continuously overlooked and avoided to be seen – issues that need to be handled when operationalising the ecosystem approach and regionalisation are illustrated. Finally in Section 5 the way to progress in the process of implementing the ecosystem approach and regionalisation is discussed.

## 2. Defining the ecosystem approach

With increase in EU marine and maritime policy referring to the need to apply the ecosystem approach, there is an equal increase in the confusion of what exactly this approach should entail. Whereas CFP, MSFD, IMP and FMSP all call for the application of the ecosystem approach it is only in the 2013 reform of the CFP that the approach is defined. Article 4 of the CFP defines the ecosystem-based approach to fisheries management as 'an integrated approach to managing fisheries within ecologically meaningful boundaries which seeks to manage the use of natural resources, taking account of fishing and other human activities, while preserving both the biological wealth and the biological processes necessary to safeguard the composition, structure and functioning of the habitats of the ecosystem affected, by taking into account the knowledge and uncertainties regarding biotic, abiotic and human components of ecosystems' [3 p40].

This definition provided by the CFP mixes a notion of systems thinking with the formulation of a policy goal. Hence a confusion between policy and methodology. The notion of *system* goes back to Aristotle's statement, 'The whole is more than the sum of its parts' [19 p407]. A system can be defined as an assemblage of elements contained within a boundary such that the elements within the boundary have strong functional relationships with each other, but limited, weak or non-existent relationships with elements in other assemblages; the combined outcome of the strong functional relationships within the boundary is to produce a distinctive behaviour of the assemblage such that it tends to respond to stimuli as a whole, even if the stimulus is only applied to one part [20b]. The natural living world can be conceived as a nested hierarchy of such systems (organism–population–community–ecosystem–biome–biosphere) each with a more or less well defined boundary and a distinctive system behaviour. According to Waltner-Toews et al. (2008) [20a] system thinking is one approach to simplification that has proven useful for answering certain sets of questions. For example in Farming Systems Research, system

<sup>1</sup> Marine and Maritime referring to respectively the sea and ocean ecosystem flora and fauna, its dynamics and interactions and maritime referring to the exploitation of sea and ocean resources.

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