

“AFRAME”

Towards fleet- and area-based fisheries management

Hitherto, most fishery assessment and management strategies have been based on single-species assessment across broad areas, with little reference to the ecosystem. The Common Fisheries Policy is now committed to an ecosystem-based approach to fishery management, a system which recognises that different fleets interact differently with the ecosystem and frequently operate over a more limited area than the broad management regions used to date. An area- and fleet-based management regime will be more responsive to local ecosystem as well as socio-economic needs and concerns.

As the complexity of the fisheries increases, in terms of number of fleets, areas and species, it becomes more necessary to develop an integrated approach to account for this complexity in the advice. Such an approach would require developments in a number of areas including the explicit representation of area and fleet aspects of fisheries, and the basis for, and nature of, the advice. Further, one implication of basing advice on fleets or fisheries, is the switch in focus from a biological unit (a fish stock) to a social one (a fleet or fishery). This necessitates much greater contact with stakeholders; thus the development of such approaches would also require social science input.

The **AFRAME** project aims to **develop a framework for fleet and area-based fishery management**. The project has three research themes:

- developing and testing frameworks for describing fleet activity in terms of the fisheries in which the fleet participates, and how it allocates its effort across these regions;
- developing an indicator approach to summarise information and present advice in relation to multi-

fleet and multi-species fisheries; and

- analysing stakeholder perceptions and institutional implications of a shift to fleet - and area-based management.

These themes will be developed through application in three contrasting case study areas:

- the demersal fisheries of the North Sea, which represent a relatively data-rich area with relatively few important commercial species, all of which are assessed routinely;
- the demersal fisheries of ICES areas VII and VIII (the English Channel, Celtic Sea and the Bay of Biscay), which have a relatively high number of target species, not all of which are assessed; and
- the Mediterranean fisheries, which have a high number of target species, with very little stock assessment information.

For developing and testing of the framework to describing fleet activity, AFRAME makes use of the Fisheries Library in R (FLR) framework that was developed as part of the FEMS (FF-ALL-ADVICE-06), COMMIT (FF-ALL-ADVICE-04) and EFIMAS (FF-ALL-ADVICE-01)

Project acronym:

AFRAME

Full title of Project:

A framework for fleet and area based fisheries management.

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**“AFRAME IS ADDRESSING
POTENTIAL CHANGES IN
THE FOCUS OF FISHERIES
MANAGEMENT AND THE
ADVISORY ROLE THAT
SCIENTISTS ARE PLAYING
IN THE PROCESS”**

projects. More in particular, it uses an approach, known as Fcube, which links the fleet and fishery aspects of the system with the single species assessments and thus provides a conceptual framework for the provision of fleet- and fisheries-based advice. The effects of changing from output management to input are studied, and models that aid to advise based on input management are evaluated. AFRAME project results are expected by early 2009.

AFRAME is addressing potential changes in the focus of fisheries management and the advisory role that scientists are playing in the process. This change in management strategies can be foreseen in the near future, and knowledge about new strategies will be essential for the scientific world to operate in advising stakeholders in the future.

Changing fisheries management into a more fleet- and area based framework will bring several advantages to the fisheries sector. First of all, such a framework will be more responsive to local needs and concerns. In addition, measures to safeguard environmental concerns can be focused on the relevant fishery sector without restricting sectors that are not giving rise to concern. This way, more refined fishery assessment and management will contribute positively to the long-term

sustainability of stocks and fisheries.