ICES CM 2009/N:22
Theme session N: Quality and precision of basic
data underlying fish stock assessment and
implications for fishery management advice

DEEPFISHMAN: Management And Monitoring Of Deep-sea Fisheries And Stocks

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Deepwater fisheries pose particular difficulties for management. Target species are difficult to assess with adequate levels of certainty, they are slow growing and generally vulnerable to overfishing and many of these fisheries reside outside EEZs and are, therefore, not subject to national jurisdictions.

The EU project DEEPFISHMAN will develop a range of strategy options for the management of deepwater fisheries in the NE Atlantic that will take account of these factors. The primary objective of the project is to identify and develop new and more effective assessment methods, reference points, control rules and management strategies to be used in the short term. The second objective is to develop a long-term research and management framework in which additional data needs will be specified in order to fill current information gaps to achieve reliable long-term management requirements.

This research effort will be supported by a range of case studies selected to reflect the characteristics of the different types of deepwater fisheries found in the NE Atlantic. In addition, two case studies outside the NE Atlantic are selected to give a wider perception of the management and monitoring of deepwater fisheries in the world. Case studies will collate, store, combine and raise data to appropriate fisheries/stocks levels. The socio-economic aspect of the fisheries and the expected impact of the management strategy options will be examined. The project outputs will aim to provide robust guidelines for deepwater fisheries management suitable for adoption within the Common Fishery policy.

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EU FP7 project DEEPFISHMAN
Management and monitoring of deep-sea fisheries and stocks

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Introduction

DEEPFISHMAN is a research project funded by the European Union FP7. Its main focus will be on developing a range of strategy options for the exploitation of deep-water species in NE Atlantic.

DEEPFISHMAN relies upon interdisciplinary research from fishery science, ecology and socio-economy. It will establish strong involvement of stakeholders in the definition of monitoring and management frameworks for deepwater fisheries. It comprises thirteen partners from nine countries.

Objectives

1. To identify and develop new and more effective monitoring and assessment methods, reference points, control rules and management framework to be used in the short term
2. To develop a long-term monitoring and management framework in which additional data needs will be specified in order to fill current information gaps to achieve reliable long-term management requirements

The project will define a prototype ecosystem based management framework for deep-water fisheries in the NE Atlantic as an alternative to the current stock-based management regime

Background

Deepwater fisheries in the NE Atlantic are comprised of longstanding artisanal fisheries off the Azores and off Portugal and more recent time high-seas trawl/long line fishing. Deepwater fisheries pose particular difficulties for management. There are few independent surveys carried out, life history characteristics of deep sea fishes makes them difficult to assess and many of these fisheries are predominantly in international waters.

Most deep-water fish species are long-lived, slow growing and have a low reproductive capacity. They are adapted to live in an ecosystem of low energy turnover in which major environmental changes occur infrequently (ICES, 2001). These ecosystems, including deep-water fishery resources, are vulnerable and are considered in need of protection (OSPAR, 2000). Almost all deep-water fisheries in the NE Atlantic were, until 2003 unregulated. Current EU management measures comprise biennial TACs EC, 2002b, 2004, 2006), a vessel licensing scheme with aggregate power and capacity regulations and fishing effort regulations.

Stakeholder involvement

An initial start-up stakeholder workshop was held in Brussels on 29-30 June 2009.

A questionnaire will be developed and distributed to the different categories of stakeholders identified at the initial workshop.

The communication plan with stakeholders includes participation by DEEPFISHMAN partners in RAC meetings, collaboration with stakeholders at the Case Study level, a DEEPFISHMAN newsletter and two further workshops.
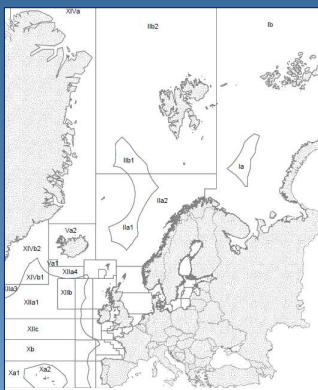
ICES new subareas and divisions defined in 2003 to deal with deepwater fisheries issues

Organization

The project comprises 8 work packages and 5 main case studies. A range of strategy options for monitoring and management will be developed which will incorporate an ecosystem approach to fisheries management. The socio-economic profiles of the case study fisheries and the impact of management strategies will be examined for selected stocks.

Further information

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http://wwz.ifremer.fr/deepfishman

WIKI site:
http://deepfishman.hafro.is/doku.php
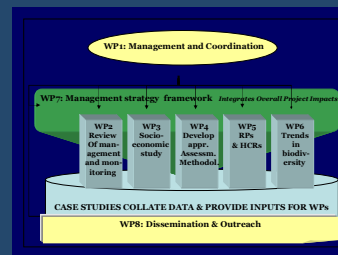
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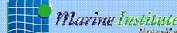OSPAR, 2000. Quality Status Report 2000 for the North-East Atlantic. Chapter 6, overall assessment, 19pp. Available at http://www.ospar.org

DEEPFISHMAN Partners

IFREMER, France — Ifremer   IMPERIAL, UK — Imperial College London   MI, Ireland — Marine Institute   IPIMAR, Portugal — IPIMAR

Cefas, Uk — Cefas   NatMIRC, Namibia   HCMR, Greece   IMR, Norway — Institute of Marine Research

UoI, Iceland   AZTI, Spain — azti tecnalia   IEO, Spain   UoP, UK — University of Portsmouth   MRI, Iceland

DEEPFISHMAN OBJECTIVES

Target species in the Deep-water fisheries have posed particular difficulties for monitoring and management. There are few fisheries independent surveys carried out, their life history characteristics makes them difficult to assess and many of these fisheries are predominantly in international waters.

The primary objective of the project is to identify and develop new and more effective monitoring and assessment methods, reference points, control rules and a management framework to be used in the short term. The second objective is to develop a long-term monitoring and management framework to achieve reliable long-term management requirements.

The project outputs will aim to provide robust guidelines for deepwater fisheries management suitable for adoption within the Common Fishery Policy.

Photo: SCAPECHE

DEEPFISHMAN PARTNERS

- **IFREMER** Institut Francais de Recherche pour l'Exploitation de la MER, France

- **Cefas** Centre for Environment, Fisheries and Aquaculture Science, UK

- **UoI** Institute of Economic Studies (IoES), University of Iceland, Iceland

- **IMR** Institute of Marine Research, Norway

- **IMPERIAL** Imperial College of London, UK

- **NatMIRC** National Marine Information and Research Center, Namibia

- **AZTI** Fisheries and Food Technological Institute, Spain

- **IPIMAR** National Institute of Biological Resources, Portugal

- **MI** Marine Institute, Ireland

- **HCMR** Hellenic Centre for Marine Research, Greece

- **IEO** Spanish Institute of Oceanography, Spain

- **MRI** Marine Research Institute, Iceland

- **UoP** University of Portsmouth, UK

EU Seventh Framework
Programme 2009-2012
DEEPFISHMAN

Project Management And Coordination
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DEEPFISHMAN

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http://www.ifremer.fr/deepfishman

DEEPFISHMAN ORGANISATION
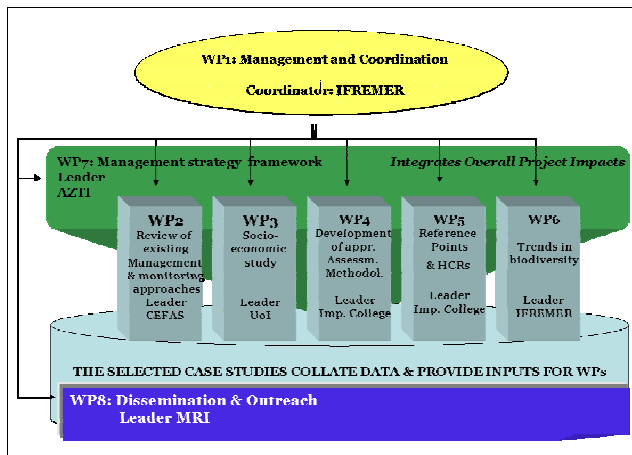
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Photo:Benjamin Planck

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The case studies are selected to reflect the characteristics and diversity of deepwater fisheries. Their output will contribute to several of the work packages for further data analysis.

- **Directed single species fisheries**: Highly vulnerable: Orange roughy (*Hoplostethus atlanticus*)/ Less vulnerable: Blue ling (*Molva dypterygia*)

- **Mixed demersal trawl fisheries**

- **Artisanal fisheries**: Highly vulnerable: Red Seabream (*Pagellus bogaraveo*)/Less vulnerable: Black scabbard (*Aphanopus carbo*)

Photo: Juan Gil Herrera

- **Data rich stocks**: Oceanic redfish (*Sebastes mentella*)

- **Data rich stocks:** Greenland Halibut (*Reinhardtius hippoglossoides*)

Photo: IEO Cadiz

STAKEHOLDERS' CONTRIBUTION

Stakeholder's involvement is an essential part of the project, since they offer a source of unique information in undertaking proposed approaches. Their involvement is realized through workshops were views on the present and possible future management regimes will be formulated. Communication with stakeholders through out the project will be carried out and maintained through a stakeholder outreach and dissemination program.

Photo Juan Gil Herrera