EU FP7 Project CREAM
Coordinating research in support to application of EAF (Ecosystem Approach to Fisheries) and management advice in the Mediterranean and Black Seas

Deliverable 4.2
Summary report on the knowledge in the assessment and management of Mediterranean and Black Sea Fisheries

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ABSTRACT

The Work Package 4 of the “Coordinating research in support to application of ecosystem approach to fisheries and management advice in the Mediterranean and Black Seas”, or CREAM has as main objective to “Coordinate and harmonize data collection, research and management activities carried out by international/regional bodies regarding the EAF implementation in the Mediterranean and Black Sea.” With the objective of collecting information on activities carried out by international organizations in relation to the Ecosystem Approach to Fisheries in the Mediterranean and Black sea, the CREAM project launched a questionnaire asking the representatives in of these organizations about their regional research programmes and management actions. In this document the different organizations and their main activities in the field of interest to CREAM and the answers to the questionnaires are presented, including their main worries about the implementation of EAF to the Mediterranean and Black Sea. The presentation of the results contained in this deliverable has taken more time than expected because of the delay in the signature of one of the main partners (FAO). On the other hand, not all the international organizations involved in CREAM have responded to the questionnaires, therefore this document is not complete. However we complemented the description with some information from their webs and publications. Among the various international organizations developing activities related to the implementation of EAF in the Mediterranean, some of them recognized gaps, shortcomings and needed synergies and coordination in data collection, assessment, advice and management. Management is the item where more difficulties were identified. The importance of the cooperation projects funded by EU and EU countries and managed by FAO, as well as several EU research projects, must be highlighted. The complete filled-out questionnaires can be found in the Annex.

INTRODUCTION

Task 4.2. of the CREAM project has the objective of collecting information about activities (particularly, regional research programmes and fisheries management actions) of the international organizations present in the Mediterranean and Black sea areas. The purpose of this exercise is to identify gaps in the information available and overlaps among actions carried out by international organizations in the context of the application of Ecosystem Approach to Fisheries in the region.

To fulfil this objective, the methodology employed was: i) to identify the international organizations in the Mediterranean and Black sea relevant to the application of EAF, ii) to convene specific session meetings with their representatives during the project's kick-off meeting and 1st Annual meeting, and iii) to circulate a standardized questionnaire to compile their activities and their opinions regarding information gaps and overlap. Each questionnaire reported on one specific activity, normally a research project, but we explicitly excluded information on activities carried out by these organizations deriving from their statutory mandate.

The international organizations (or Regional Fisheries [Management] Organizations: RF[M]Os) identified are: GFCM, FAO, ICCAT, UNEP RAC/SPA and BSC. Some organizations had difficulties in filling out the questionnaires or delayed their response considerably, thus jeopardizing the production of this analysis by CREAM partners. After receiving 6 correctly filled questionnaires from 3 organizations, the present report summarizes the steps currently carried out in the Mediterranean and Black sea towards the implementation of EAF, along with data deficiencies, information gaps and overlapping. Other organizations (WWF, Greenpeace, ACCOBAMS, CIESM, MedPAN) with programmes relevant to the application of EAF in the Mediterranean and Black sea are also identified and their activities reported.

The delay in releasing this deliverable is due to the time that a very important organisation (FAO) took to join the CREAM concerted action as external advisor. Only after joining CREAM officially the FAO co-operation projects could officially submit the questionnaires to CREAM. On the other hand, two members of the external advisory committee (ICCAT and UNEP RAC/SPA) have not yet sent the questionnaire at the time of drafting this. No updated information has been received regarding the ongoing GEF project "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem – Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas" whose fisheries aspects are being implemented by the FAO under the general coordination of UNEP/MAP. Other fisheries-related organisations involved in this GEF initiative are UNEP RAC/SPA and WWF MedPO.

The questionnaire contained 3 thematic blocks: i) general information on the organization and their field of activities, ii) a summary of their results related to EAF, including public output, and iii) their perception on needs, gaps and shortcomings in the implementation of EAF, as well as overlaps with other organizations.

Specifically, this report contains three main parts: a description of each Regional Fisheries Management Organizations, a summary of their answers to our questionnaires and the main aspects related to their activities in Ecosystem Approach to Fisheries. The original filled-out questionnaires are provided in the Annex.

DESCRIPTION OF THE ORGANIZATIONS

The Regional Fisheries Management Organizations (RFMOs) are working in different projects related to EAF, as described below, along with the main aims in which they are involved and their principal activities.

GFCM

The General Fisheries Commission for the Mediterranean (GFCM) was founded in 1949. Consisting of 23 Member countries along with the European Union, its principal objectives are to promote the development, conservation, rational management and best utilization of living resources, and the sustainable development of aquaculture in the Mediterranean, Black Sea and connecting waters.

The GFCM is instrumental in coordinating efforts by governments to effectively manage fisheries at regional level, in cooperation with other Regional Fisheries Management Organizations (RFMOs), following the Code of Conduct for Responsible Fisheries.

The main objectives of the Commission shall be to promote the development, conservation, rational management and best utilization of living marine resources, as well as the sustainable development of aquaculture in the Mediterranean, Black Sea and adjacent waters. GFCM is the authority to issue binding recommendations in the whole area, moreover GFCM's other recommendations to avoid incidental catches of sharks, monk seals, sea birds and sea turtles, to limit the exploitation of red coral and protected sensitive habitats have very recently been adopted. Parameters of catches and effort or the analysis of the impact of the measures adopted in the economic sectors concerned are the socio-economic indicators in the cover area.

Available Outcomes: scientific advice for management purposes, annual assessments of stocks (main commercial species), recommendations on conservation and management, on monitoring, control, surveillance, and on data and information reporting.

The GFCM involves 22 Mediterranean and Black Sea countries plus EU and Japan and is considered of high relevance to the EAF (Ecosystem Approach to Fisheries).

The Commission also consists of several committees and subcommittees to study different aspects related to the issues of the Commission and working parties. These sub-committees can be special or standing. Their mission is to give recommendations on specific technical issues.

There are four different Committees, but the most outstanding for the EAF is the SAC (Scientific advisor committee), which is divided into four sub-groups that are working in different subjects. In particular the SCMEE (Subcommittee on Marine Environment and Ecosystems) deals with EAF. Its terms of reference are[1]:

- Establish links with existing regional bodies concerned with studies on the relationship/interaction between environment and marine ecosystems;
- Provide analysis of ecosystems trends and environmental conditions in relation to trends in fishery resources, biodiversity and genetic resources;
- Evaluate the impacts of human action on the marine ecosystem, including fisheries and propose measures that aim to limit the negative effect of these actions;

[1] General Fisheries Commission for The Mediterranean. Report of the First Session of the Scientific Advisory Committee Rome, Italy, 23-26 March 1999 Appendix F. http://www.fao.org/docrep/005/x2843b/x2843b00.htm

- Assess the relevance of international agreements on conservation and environment protection on Mediterranean fishery resources management.
- Propose to the SAC research programmes related to the impacts of fisheries on the marine environment and marine ecosystems.

The complete information is in their web page: http://www.gfcm.org

Publications:

i. Many papers, stock assessment results and reports, all available at the website: www.gfcm.org

ii. The journal "Studies and Reviews". http://www.gfcm.org/gfcm/topic/16096/en

iii. The reports of the subcommittees, in particular the SCMEE can be found in http://www.gfcm.org/gfcm/topic/16092/en

FAO

The FAO Fisheries and Aquaculture Department (FAO/FI) has as a mission to strengthen global governance and the managerial and technical capacities of members and to lead consensus-building towards improved conservation and utilization of aquatic resources.

FI has not any specific mandate on the Mediterranean and Black Sea, but rather in giving support to the development countries, some of which are on the shore of the Mediterranean and Black Sea. In order to fulfill this task, FAO/FI has promoted, with the collaboration of developed countries and the UE, a set of co-operation projects, four of which are currently ongoing: COPEMED II, ADRIAMED, MEDSUDMED and EASTMED. The activity of these projects is very relevant in the matter of EAF and its implementation in the Mediterranean (the Black Sea is not covered).

For further information: http://www.fao.org/fishery/en

Publications: http://www.fao.org/fishery/publications/en

COPEMED II

Coordination to support fisheries management in the Western and Central Mediterranean (GCP/INT/028/SPA - GCP/INT/006/EC). The second phase of the CopeMed Project started in 2008, continuing the first part of the project (1996-2005). The Project aims to maintain the sustainability of marine fisheries in the central and western Mediterranean Sea, taking into consideration environmental, biological, economic and social issues, and to promote scientific cooperation among the coastal nations. One of the main aims is to reduce the differences in fisheries management between Northern and Southern Mediterranean countries, encourage a sub-regional approach in fisheries research and management. The main activities developed in the project are activity monitoring, stock assessment, preparatory work to management, management advice, training and capacity building, database development, resources bibliographic reports, fisheries socioeconomic data collection. The project is also working in the development of pilot activities to assist the artisanal fisheries sector.

The countries involved in the project are Algeria, France, Italy, Libya, Malta, Morocco, Tunisia and Spain. With Spain and DG Mare (UE) as a source of funding, the geographical coverage includes Western and Central Mediterranean.

The relevance to the EAF (Ecosystem Approach to Fisheries) is estimated as medium-high.

Since February 2008, the FAO Mediterranean Project COPEMED II has been contributing in the implementation of the Ecosystem Approach in order to maintain the sustainability of marine

fisheries, by taking into account institutional, biological and socio-economic issues in the Central and Western Mediterranean Sea:

- Through the compilation of statistical data on catches and effort. Including biological and socio-economic data. Presentation of stock assessment studies (sardine) and creation of working groups on other small pelagic and demersal fisheries (anchovy, blackspot seabream, hake and deep-water rose shrimp).
- By the elaboration of socio-economic indicators corresponding to the small pelagic fisheries in the Alboran Sea.
- By enhancing the institutional and scientific research capacity at national and at sub-regional levels (between countries and with Regional Fisheries Organisations).

More information: www.faocopemed.org

EASTMED

EastMed "Scientific and Institutional Cooperation to Support Responsible Fisheries in the Eastern Mediterranean" GCP/INT/041/EC – GRE - ITA. The project began in September 2009 and it is expected to end in August 2014. There are eight countries involved (Italy, Greece, Turkey, Syria, Lebanon, Gaza Strip and West Bank, Cyprus and Egypt). The relevance on the EAF is medium-high.

The countries with waters included in the GFCM Geographical Sub-Areas (GSAs) 19-20 and 22-28 cover the geographical area.

The long-term development objective is to contribute to the sustainable management of marine fisheries in the Eastern Mediterranean and to support national economies and protect the livelihoods of those involved in the fisheries sector.

The immediate objective is to improve and support the capacity of national fishery departments, to increase their scientific and technical information base for fisheries management and to develop coordinated and participative fisheries management plans in the Eastern Mediterranean sub-region.

FAO Mediterranean Project EastMed works towards sustainable management of the resources in the Eastern Mediterranean Sea through:

- Training activities for national research institutes and fisheries administrations in data collection and analysis for fisheries management.
- Supporting and improving the capacity of national fishery departments to increase their scientific and technical information base for fisheries management and to develop coordinated and participative fisheries management plans in the Eastern Mediterranean sub region.
- Implementing activities in fishing fleet statistics, catches and effort data collection and monitoring
- Providing support on socio-economic and ecosystem data collection relevant to the fishery
- Facilitating networking to encourage cooperation among the countries

More information on the project: www.faoeastmed.org

ADRIAMED

The FAO-AdriaMed Project (Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea) is a Regional Project of FAO that was established in 1999.

The partners are: The Republic of Albania, Croatia, Italy, Slovenia and Montenegro.

The relevance to EAF is medium to high.

There is a Coordination Committee (CC) that discusses, orientates and approves an annual programme planned by the project. The CC also assists Adriamed in coordinating the project activities and consists of representatives of the Governments of Republics of Albania, Croatia, Italy, Slovenia, Montenegro and FAO's Fisheries and Aquaculture Department.

Furthermore, the AdriaMed National Focal Point is a group of experienced fishery scientists that are working in order to have direct and constant contact with the participating countries. The group ensures an effective communication flow to and from the national scientific counterparts and provides all the necessary support in information gathering and data collection.

Finally, there are Working Groups that share the scientific knowledge on fisheries at Adriatic level. The WG represents the first important stage in the creation of a scientific regional network at basin level.

Its main goal is to improve the management of fishing activities in conformity with the Code of Conduct of Responsible Fisheries (FAO 1995). Some of the specific objectives are to develop common basic knowledge and support regional fishery management, improving scientific coordination in fishery institutions.

The main aim that AdriaMed project seeks is to develop a common knowledge basis to support international processes aimed at fisheries management. The project aims to foster scientific cooperation among the Mediterranean countries. Other objectives are:

- Strengthening the sub-regional network by involving relevant institutions of the fisheries sector.
- Supporting the establishment of a sub-regional fisheries monitoring system.
- Strengthening international and regional cooperation.

For further information: www.adriamed.org

MEDSUDMED

Assessment and Monitoring of the Fishery Resources and the Ecosystems in the Straits of Sicily – MedSudMed (GCP/RER/010/ITA Module II). The countries involved in the project are: Italy, Libya, Malta and Tunisia.

The relevance to EAF is medium to high. The project's most important achievement is the establishment of a sub-regional system for monitoring fisheries resources and their ecosystems, supporting the scientific communities of the countries participating in this monitoring (GSAs 12, 13, 14, 15, 16 and 21).

The most specific objective of MedSudMed is to develop a common cognitive basis to support international processes aimed at fisheries management. Reinforcing the established network in fishery management activities among the main institutions of the Mediterranean is another goal derived from the previous one.

- Supporting scientific standardization of the methodologies.
- Improving scientific knowledge of fishery resources and their ecosystem.
- Strengthening and supporting scientific cooperation among institutions involved in the project activities.
- Strengthening technical and scientific cooperation at Mediterranean level.

For further information: www.faomedsudmed.org

BSC (Black Sea Commission)

The Commission for the Protection of the Black Sea Against Pollution (The Black Sea Commission or BSC) is the intergovernmental body established with the implementation of the

Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention). The mission is to implement the provisions of the Convention on the Protection of the Black Sea Against Pollution (signed and ratified on the 21-04-1992 by the Black Sea countries) and the Black Sea Strategic Action Plan. The overall objective of the Convention is to prevent, reduce and control the pollution in the Black Sea in order to protect and preserve the marine environment and to provide a legal framework for co-operation and concerned actions to fulfil this obligation.

The countries involved are: Bulgaria, Georgia, Rumania, The Russian Federation, Turkey and Ukraine.

The Commission focuses mainly on achieving sustainable management of marine living resources, pursuing sustainable human management and combating pollution from land-based sources and maritime transport. The Black Sea Commission takes into account that the Black Sea has a diversity of species approximately three times lower than the Mediterranean; The Commission needs specific and special measures to preserve the vulnerable ecosystem and species.

The measures to be achieved are: the conservation of biological diversity, expansion of protected territories, promotion of responsible fisheries, reduction of river pollution, the introduction of ICZM, promotion of EIA environmental audit, ecologically sound technologies, involving the public in environmental decision-making and sustainable livelihood.

To sum up, the national and international efforts of the Black Sea coastal states are, on the one hand; preventing pressures from human activities when transitional economies of the Black Sea coastal states begin to recover and, on the other hand, achieving environmental conditions in the Black Sea similar to those observed in 1960s.

Projects of BSC: http://www.blacksea-commission.org/_projects_observers_partners.asp

Further information: www.blacksea-commission.org

Publications: http://www.blacksea-commission.org/_publications.asp

ICCAT

The International Commission for the Conservation of Atlantic Tunas is an inter-governmental fishery organization responsible for the conservation of tunas and tuna like species in the Atlantic Ocean and its adjacent seas. The organization was established at a Conference of Plenipotentiaries, which adopted the International Convention for the Conservation of Atlantic Tunas (Rio de Janeiro, 1966) and finally entered into force in 1969.

There are about 30 species directly related to ICCAT, which is the only fisheries organization that can undertake the amount of work required for the study and management of tunas and tuna-like fishes in the Atlantic.

There are forty-eight contracting parties. There are also five cooperating parties (Chinese Taipei, Curaçao, Colombia, Suriname and El Salvador). The Commission is focused on the study of the effects of fishing on stock abundance, towards the analysis of statistical information relative to current conditions and trends of the fishery resources in the Convention area. Furthermore, it undertakes the compilation of data for other species (mainly sharks) caught during tuna fishing operations.

For further information: http://www.iccat.es/en/assess.htm

Publications: http://www.iccat.int/en/pubs_CVSP.htm

UNEP RAC/SPA

The Regional Activity Center for Specially Protected Areas (RAC/SPA) was created in order to assist Mediterranean countries in implementing the Protocol (SPA/BD Protocol) concerning Specially Protected Areas and Biological Biodiversity in the Mediterranean in the framework of the Barcelona Convention (“Mediterranean Action Plan”: UNEP/MAP).

The 22 Contracting Parties to the Barcelona Convention are: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, the European Community, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia and Turkey.

The aims of RAC/SPA are formulating recommendations for guidelines and common criteria for the selection of marine and coastal protected areas (databases on Specially Protected Areas and species, directories, bibliographical databases, etc), preparing reports and technical studies for the implementation of the SPA/BD Protocol, technical assistance to the Contracting Parties, implementing training programs, cooperating with national, regional and international organizations.

More information: http://www.unepmap.org/index.php

Publications: http://rac-spa.org/publications

OTHER ORGANIZATIONS

MEDPAN

Network Managers Mediterranean Marine Protected Areas is an association created in 2008. Its main goal is to promote the creation, sustainability and operation of a Mediterranean network of marine protected areas. The association works with governmental and non-governmental, local, national, regional and international organizations to develop its activities. The last year (2012) MedPan focuses on MAPAMED (database AMP), support for MPA management, science strategy, governance and regional and international coordination, and in the area of education and communication.

Web page: http://www.medpan.org/en/la-mediterranee

Publications : http://www.medpan.org/mnp_publications

WWF

The World Wide Fund for Nature is one of the oldest international organizations for nature. It was created in 1961.

WWF is working to preserve the environment and in the Mediterranean Sea specifically, they launched the Mediterranean Initiative of WWF, whose overall objective is to preserve the ecological integrity of one of the most extraordinary regions of the planet. To achieve this goal there are several offices in Spain, France, Greece, Italy and Turkey, together with the Programme Office of the Mediterranean Sea, European Policy Office of WWF and WWF international. All these partners joined their efforts to achieve the Mediterranean Initiative, whose challenges are:

- To protect and preserve biodiversity.
- To take care of freshwater ecosystems.
- To preserve marine ecosystems
- To protect Mediterranean ecosystems from climate change.

WWF is working with different agents of civil society, international and governmental institutions, setting up alliances with the private sector, reaching agreements with scientific institutions and being funded by donors.

http://www.wwf.es/que_hacemos/iniciativa_mediterranea_de_wwf/

http://mediterranean.panda.org/

Publications: http://mediterranean.panda.org/publications/

GREENPEACE

It is an environmentalist, pacifist and independent international organization. It works by means of awareness-raising campaigns with the objective of changing people's habits and attitudes to take care of the environment and to promote peace. In relation to marine issues and to an EAF the organization works in several areas, like CFP (Common Fisheries Policy), conservation of tuna-like species, consumption and supermarkets, marine protected areas (MPAs), against whale hunting, coast conservation and sustainable fishing.

They produced a report focused on the conservation status of the Mediterranean Sea, which describes the ecosystem, the main problems, the definition of Marine Reserves and politics of protection.

Web page of Marine Reserves for the Mediterranean Sea:
http://www.greenpeace.org/france/PageFiles/266559/marine-reserves-med.pdf

Publications: http://www.greenpeace.org/international/en/#tab=2

ACCOBAMS

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area is a cooperative tool for the conservation of marine biodiversity in the Mediterranean and Black Seas. The main objective is to reduce threats to cetaceans in Mediterranean and Black Sea waters and to improve the knowledge of these animals. This agreement has a high relevance on EAF due to the fact that it is the first Agreement binding the countries in these two sub-regions and enabling them to work together on a matter of general interest. The cooperative tools are: UNEP/MAP (Mediterranean Action Plan), BSC (Black Sea Commission), CMS (Convention on Migratory Species) and The Bern Convention on the Conservation of European Wildlife and Natural Habitats.

Web page:
www.accobams.org/index.php?option=com_content&view=article&id=45:introdcution&catid=68:presentation&Itemid=1

Web page of the agreement:

http://www.accobams.org/images/stories/Accord/text%20of%20the%20agreement%20english.pdf

Publications:
http://www.accobams.org/index.php?option=com_docman&task=cat_view&gid=41&Itemid=50

CIESM

The Mediterranean Science Commission has had a long trajectory since 1908. This commission is made up by a network of more than one thousand marine researchers, organized in a board, advisory committee, Director General, six scientific committees (Hydrochanges, Jellywatch, MedGloss, Species, Partnership and Tropical Signals) and various taskforces. They work as a service to society besides science, to deliver impartial and authoritative advice on a variety of issues, focused on the dynamics, processes, biodiversity, pollution and lasting protection of this unique ecosystem which is the Mediterranean Sea. Furthermore, the Commission keeps a watch at regional level over sensitive indicators of change, trace contaminants, introduced exotic species, recording warming trends, seasonal changes in absolute sea-level, zooplankton indicators and harbour biodiversity.

The overall scope of the Commission is to promote communication and active cooperation among marine scientists of various disciplines and from diverse horizons engaged in research on the Mediterranean and Black Seas.

Web page: http://www.ciesm.org/marine/index.htm

Publications: http://www.ciesm.org/catalog/

UNEP / MAP

The United Nations Environment Programme (Mediterranean Action Plan or “Barcelona Convention”) is a regional cooperative effort involving several Contracting Parties to meet the challenges of protecting the marine and coastal environmental with regional and national plans to achieve sustainable development.

At first, the aims of the MAP were to assist the Mediterranean countries in the assessment and control of marine pollution, to formulate environmental policies, to improve the ability of governments to optimize the choices for allocation of resources and to identify the best options for alternative patterns of development. Now, the future challenges of MAP are mainly, to intensify the integrated planning of coastal areas, to monitor the spreading of invasive species, to promote sustainable development in the Mediterranean region, to reduce pollution from land-based sources, to protect marine and coastal habitats, and an integrated planning of coastal areas, among others.

Web page: http://www.unepmap.org/index.php

Convention of the Protection of the Marine Environment and the Coastal Region of the Mediterranean: http://195.97.36.231/dbases/webdocs/BCP/BCP_eng.pdf

The Status of Signatures and Ratifications of all of the parts involved: http://www.unepmap.org/index.php?module=content2&catid=001001004

Publications:
http://www.unepmap.org/index.php?module=library&mode=pub&action=results&s_category=MAP%20Publications

ACTIVITIES

Regional Fisheries Management Organisms (RFMOs) are aware of initiatives aiming at the application of EAF in the Mediterranean and are working to minimize duplications and overlapping.

This part consists of questions on four main issues, answered by each one of these regional bodies. The questions are on:

1-General Information (reported previously)

2-Summary of results related to EAF

3-Main identified needs, gaps, shortcomings

4-Overlappings with other international/regional bodies regarding EAF implementation in the Mediterranean and Black Sea.

GFCM

The General Fisheries Commission on the Mediterranean Sea assesses 40 stocks per year. Socio-economic indicators are included in the current data submission schemes. Studies on the implementation of a 40 mm square mesh in the cod-end of trawls are under way.

There are nursery areas identified for the main demersal stocks. Moreover, there are recommendations related to: limits to gear characteristics, limits to fishing power and other effort limits, by-catch management, discards management, technological creeping control, MPAs (FRAs or any other figures of protected areas) and temporal closures (all of them are listed on the questionnaire).

The main EAF indicators implemented are catches, effort, fishing, mortality, spawning, stock biomass, age structure, and exploitation rate. The precautionary approach embodies the cornerstone of any GFCM conservation and management measure.

The monitoring, control and surveillance are developed by the GFCM Compliance Committee and National Administrations, enforced by other recommendations.

FAO

COPEMED II

The stock assessment includes *Sardina pilchardus* GSAs 01-03, *Parapenaeus longirostris* GSAs 01, 03, 04, and *Pagellus bogaraveo* GSAs 01, 03. In the socio-economic assessment, *S. pilchardus* GSAs 01-03, and *P. bogaraveo* GSAs 01, 03. There are preliminary works on small pelagics and *P. bogaraveo* and spawning areas assessment for *S. pilchardus* GSA 01-03, *P. bogaraveo* GSA 01-03. Moreover, there are management recommendations about limits to the gear characteristics (effects of the 40 mm square mesh size in Algeria and Tunisia), fish size limits (*P. bogaraveo*), by-catch management and discards management (preliminary Tunisian demersal fishery), MPAs (Al Hocemia MPA, Morocco, in relation with artisanal fisheries).

Publications: http://www.faocopemed.org/html/publications.html

EASTMED

The main results related to the EAF are the collection and analysis of socio-economic indicators in Lebanon, Egypt, Turkey and Gaza (socio-economic assessment) and hake spawning areas in deep waters of Lebanon. Regarding management recommendations, the most relevant aspects are the limits to gear characteristics, specifically in selectivity. Trials will take place soon in

Egyptian waters on the use of 40 mm square mesh on the trawler codends. There are MPAs: Italy, Greece, Turkey, Israel, Cyprus, Lebanon and Egypt and FRAs: The Nile Delta Cold Hydrocarbon Seeps and the Eratosthenes Seamount). Many countries apply temporal closures.

Publications: http://www.faoeastmed.org/html/publications.html

ADRIAMED AND MEDSUDMED

There are stock assessments on *Engraulis encrasicolus* and *S. pilchardus* GSA 17 and 18, on *Solea solea* GSA 17, Hake GSA 18, *Parapenaeus longirostris* GSA 18, *Merluccius merluccius* and *P. longirostis* GSA 12, 13, 14, 15 and 16. The data collection of socioeconomic data is located in Albania and Montenegro. There are nurseries identified for *M. merlucius*, *P. longirostis*, *Octopus vulgaris* in Central Southern Mediterranean and *M. merlucius* in GSA 17.

A preliminary work on small pelagic fish in the Adriatic and Central Southern Mediterranean (spawning areas) has been made. There are also preliminary works on discard management, MPAs and temporal closures.

Publications:

- AdriaMed: http://www.faoadriamed.org/html/doc/Publications.asp
- CopeMed: http://www.faocopemed.org/html/publications.html

BLACK SEA COMMISSION:

The BSC is involved in a set of research projects related to EAF, but some of them are not specific to the Black Sea. The list is useful to give an idea of the various projects currently ongoing in the region, both in the Black Sea and the Mediterranean.

KNOWSEAS

The main aim is to create a scientific knowledge base and practical guidance for the application of EAF to the sustainable development of Europe's regional seas.

The results obtained by the KnowSeas Consortium involve environmental and socio-economic assessments, which entail management recommendations referring to MPAs, temporal closures and economic measures.

Web page: http://www.knowseas.com/

Publications: Scientific papers and papers for general public are available at the website: http://www.knowseas.com/

MESMA

The research project on "MONITORING AND EVALUATION OF SPATIALLY MANAGED AREAS (MESMA)."

It presents as available outcomes the FLR library, which is a collection of tools in the R statistical language specifically suited for the construction of bio-economic simulation models of fisheries and ecological systems, for evaluations of fisheries management strategies.

Their results concern stock, environmental and socio-economic assessment, as well as habitat assessment by considering nurseries, feeding, spawning and other essential fish habitats areas. They also offer management recommendations in terms of access rights, temporal closures and economic measures.

The main EAF indicators implemented were spatial planning, spatial distribution of *Alosa sp*, *Scophthalmus maeoticus*, shellfish farming and zoobenthic species. The precautionary approach was strongly adopted through management plans in Bulgaria and Romania.

Further information: www.mesma.org

Publications: there are several papers;

- http://www.mesma.org/default.asp?ZNT=S0T1O74
- http://www.mesma.org/default.asp?ZNT=S0T1O7433 (Papers for general public).
- Reports: "GIS vector layer representing marine habitat types within Natura GR 2210002 SITE" (Laganas - Nisides Maratonisi Kai Pelouzo).

PEGASO

The principal mission of the project "People for Ecosystem based Governance in Assessing Sustainable development of Ocean and coast" is to develop existing capacities and common novel approaches to back up integrated policies for the coastal marine and maritime realms of the Mediterranean and Black Sea Basins. Taking into account the implementation of the ICZM Protocol for the Mediterranean, and fitting it to the Black Sea; constructing an ICZM governance platform (scientists and end users), moving towards efficient development and implementation of a Spatial Data Interface (SDI) to organize and standardize spatial data.

The project has implemented ICZM EAF indicators and the precautionary approach is addressed trough ICZM Protocol implementation.

For further information: http://www.pegasoproject.eu/

Publications: The project produced a leaflet poster for the general public "http://www.pegasoproject.eu/index.php?option=com_content&view=article&id=13&Itemid=22".
The web site is: www.pegasoproject.eu

BS SCENE

The UP GRADE BS SCENE project stimulates scientific cooperation, the exchange of knowledge and strengthens the regional capacity and performance of marine environmental data, underpins harmonization with European marine data quality control / assessment procedures and adoption of international meta-data standards and data management practices.

There are some results of environmental and socio-economic assessment; furthermore, there are management recommendations, such as economic measures and MPAs.

Web page: http://www.blackseascene.net/

Publications: The project has produced several scientific papers; available at (www.blackseacommission.org/_3BSCConf.asp).

Others: Conference Black Sea Outlook-31 Oct-4 Nov 2011, and several Newsletters published on their internet web page.

CBC88

Strengthening the regional capacity to support the sustainable management of the Black Sea Fisheries (SRCSSBSF) is the name of the research project.

There are results related to EAF of stock assessment, environmental assessment, socio-economic assessment, nurseries, feeding areas, spawning areas, and other habitats including sensitive habitats. There are several management recommendations for TACs and quotas, number of boats, fishing time, size or number of gear items, limits to the gear characteristics,

accompanying devices, limits to fishing power, other effort limits, fish size limits, by-catch management, discards management, MPAs, temporal closures and economic measures.

Web page: http://www.blacksea-commission.org/_projects_observers_partners.asp

Publications: There is a report on “Best practice guidelines on scientific surveys in Black Sea Area”.

ECBSEA

The Project on Environmental Collaboration for the Black Sea (ECBSea) is a research project. The project aims to improve regional cooperation, national capacities to implement and enforce environmental legislation and regulations to implement the Bucharest Convention, biological water quality and monitoring of pollution, integrated coastal zone management, national legislation, protection of marine biodiversity through the establishment of Marine Reserves and public participation and awareness-raising.

There are the following results related to EAF: Draft law of Environment in Ukraine, MPAs (guidelines for establishing the MPAs in the Black Sea), economic measures such as a draft strategy for ICZM in Georgia. Furthermore, there are EAF indicators implemented for management plans and socio-economic indicators. Institutions responsible for the monitoring, control and surveillance are from Ukraine, Moldova and Georgia, enforcement since 2009.

http://www.blacksea-commission.org/_projects_observers_partners.asp

Publications: papers and other information available.

- The publication of the Black Sea Commission newsletter (issue 11, Nov, 2007- Dec 2008); brochure “Saving the Black Sea Together” Banners (for general public)
- A report on an integrated plan for Sustainable Development of Tskhaltsminda Coastal Community
- The website: http://81.8.63.74/ecbsea/en/index.html
- Leaflet: ECBSea Project leaflet.

WISER

Is one of the projects that produced methodological contributions to implement the WFD (Water Framework Directive) whose main challenge is to quantify the uncertainty in ecological status class assessments by means of Bayesian techniques. The overall objective of WISER is to develop assessment systems for the BQEs (Biological Quality Elements) centered on four taxonomic groups: Benthic diatoms, macrophytes, benthic invertebrates and fishes by water categories and regions. The methodology was applied to European freshwater bodies, transitional coastal waters on selected sites along degradation gradients.

There are some results related to EAF in stock, environmental and socio-economic assessment. They refer to the habitat; nurseries, feeding areas, spawning areas and other areas (sensitive habitats). Among the results of the project are the WiserBUGS software designed to assess the uncertainty in estimates of ecological status class, as well as a special volume of the journal Hydrobiologia (vol. 704(1)) and an international conference.

The project describes management recommendations for MPAs and economic measures and develops and improves indicators, reference conditions and responses.

Webpage: http://www.wiser.org

Publications: The public products available are:

- Scientific papers: http://www.wiser.eu/publications/

- Papers for general public.

-Software: WISERBUGS - Uncertainty simulation software. Lake Load Response (LLR) – Web-based tool for planning river basin management. Taxa entry Tool (TET) & Taxa Validation Tool (TVT). Strackbein J. 2010. WISER metadatabase. Version: November 2010. Available at http://www.wiser.eu/results/meta-database/.

- Reports:

1. Reviewing existing multimetric approaches for fishes in transitional waters in Europe and elsewhere and the requirements and demands for harmonization based on available datasets.

2. Report on testing the behaviour and sensitivity / uncertainty of the reviewed multimetrics, and on single and multiple datasets.

3. Report detailing multivariate analysis of fish data and metrics against pressures and impacts for different transitional waters.

4. Report summarizing the definitions of reference conditions using predictive models for ecological endpoints for fish in transitional waters.

5. Final report indicating the potential for modelling approaches for fishes in transitional waters and the conclusions regarding harmonising suitable metrics and approaches for wider use.

- Other: European Aquatic Plants Taxonomic Database.

MARINE LITTER AND MARINE MAMMALS

Memorandum of Understanding (MoU) UNEP/ACCOBAMS on Marine Litter and Marine Mammals. This MoU resulted in a pilot project named "Involvement of Black Sea artisanal fisheries in anti-bycatch and marine litter activities". The project was implemented in Ukraine by 2 institutions (the Black Sea Council for Marine Mammals; BSCMM, an international NGO, and the Brema Laboratory: a private research institution). The project was also implemented in the western Turkish black sea coast by TÜDAV (Turkish Marine Research Foundation), see under Dolphins3.

The actions developed in the project were; raising awareness of the fishermen, to avoid derelict fishing nets, which represent a harmful type of marine litter, and efforts to find suitable findings and recommendations from Regional Marine Litter Action Plan, as applicable for the Black Sea region, into the Strategic Action Plan (SAP).

There are results of environmental assessments, management recommendations for number of boat and licenses, fishing time, size or number of gear items, limits about the gear characteristics, accompanying devices, by-catch management, MPAs and economic measures. The main EAF indicators implemented refer to the level of by-catch. The enforcement of monitoring, control and surveillance entered into force in 2008.

http://www.accobams.org/index.php?option=com_content&view=article&id=84:memorandum-of-understanding-marine-littermarine-mammals-joint-programme-2008-2009&catid=64:accobams-archives&Itemid=81

Publications: There is a paper available for the general public; *"Marine litter in the Black Sea Region: A review of the problem".*

BSERP

Black Sea Ecosystem Recovery Project is a UNDP/GEF Danube Regional Project. The main long term objective is to ensure that all of the Black Sea countries take concrete measures (including investment activities) in eutrophication causing sectors to move towards the reduction of the nutrient load and hazardous substances in Black Sea ecosystems and to include several recommendations to the national policies, strategies and national legislation.

There are results related to EAF in stock assessment, environmental assessment, socio-economic assessment, nurseries, feeding areas, spawning areas, other essential fish habitats and sensitive habitats. Moreover, there are management recommendations about size or number of gear items, limits to the gear characteristics, limits to the fishing power, fish size limits, by-catch management, MPAs, temporal closures and economic measures. Related to the indicators and reference points, BSERP has developed and improved indicators, reference conditions, responses and impacts.

In the BSERP project, the precautionary principle is applied to the activities that may increase the potential hazards to human health, harm living resources or ecosystems, damage amenities or interfere with other uses of the Black Sea.

http://www.undp-drp.org/drp/project_cooperation_BSERP.html

Publications: There are on the internet, public products such as scientific papers, papers for general public, reports. All of them are on the website: http://www.blacksea-commission.org/_publications.asp

COMFISH

Strengthening the impact of fisheries-related research through dissemination, communication and technology transfer is their research project.

The project aims to identify important fisheries topics with long term impacts and to ascertain that the scientific results have been properly communicated to fisheries stakeholders.

Regarding methodology, the project will facilitate the exploitation and transfer of national and European research results and proposes to use a mix of innovative and well tried mechanisms to improve communication and uptake of scientific knowledge amongst the stakeholders. ComFish will contribute to a better networking of the key stakeholders from the EU and beyond, encouraging uptake of innovation and knowledge by specific stakeholders and to raising awareness of the EU fisheries policy among the public.

The environmental assessment under EAF is a draft law of the environment in Ukraine. There is a preparation of a management plan for MPAs including management recommendationa. Moreover there are some guidelines for establishing MPAs in the Black Sea and a Draft strategy for ICZM was created in Georgia as an economic measure. The main reference points are management plans and socio-economic indicators. The institutions responsible for monitoring, control and surveillance are from Ukraine, Moldova and Georgia, enforced in 2009.

http://www.blacksea-commission.org/_projects_observers_partners.asp

Publications:
http://www.eurofish.dk/index.php?option=com_content&view=article&id=126&Itemid=37

ODEMM:

“Options for Delivering Ecosystem-Based Marine Management”

The overall objective is to define several fully-costed ecosystem management options through the scientifically based operational procedures for a transition from the current fragmented system to fully integrated management. The project takes into account the principles of the Marine Strategy Framework Directive, the Habitats Directive, the European Commission Blue Book and the Guidelines for the Integrated Approach to Maritime Policy.

The project reports results related to EAF in environmental assessment and socio-economical assessment. The project proposes management recommendations in access rights, TACs and quotas, limits to fishing power, MPAs and in economic measures.

The most important EAF indicator implemented is the consolidation of information (the objectives, management schemes, risk analysis and cost-benefit evaluation) to consider the acceptability of different scenarios by societal representatives and a consensus view of the way agreed. ODEMM

developed a plan that identifies the framework to deliver the new objectives. Monitoring, control and surveillance was enforced in 2008.

http://www.liv.ac.uk/odemm/

Publications:

- Scientific papers: Judith van Leeuwen, Luc van Hoof, Jan van Tatenhove. Institutional ambiguity in implementing the European Union Marine Strategy Framework Directive. Marine Policy 36(2012);636-643 and K. Ounanian, A. Delaney, J. Raakjaer, P. Ramirez-Monsalve. On unequal footing: Stakeholder perspectives on the marine strategy framework directive as a mechanism of the ecosystem-based approach to marine management. Marine Policy 36(2012);658-666.
- Papers for general public: http://www.liv.ac.uk/odemm/partner_publications
- Others: www.liv.ac.uk/ODEMM

DOLPHINS 3

Dolphins3 is a project carried out by TÜDAV under the MoU UNEP/ACCOBAMS. Project of cetacean by-catch and stranding (MM: Marine Mammals) related to turbot fishery and marine litter (ML) pollution in the western Turkish black sea coast. (BSC-ML/2008). The main components that have special relevance in this project are: Turbot fishing operations, Cetacean by-catch (MM), other species in bottom gillnets, Marine Litter (ML), coastal surveys, and Cetacean stranding (MM). TÜDAV attempts to raise fishermen awareness and the derelict fishing nets, which are considered as a harmful type of marine litter.

The project provides results of environmental assessment and sensitive habitats, management recommendations on number of boats and licenses, fishing time, size/number of gear items, limits to the gear characteristics, devices, by-catch management and MPAs. The indicator is the level of by-catch. Monitoring, control and surveillance enforcement was in 2008.

Publications:

- Papers for general public: MM Poster for the fishermen and student. “Our dolphins” and “ML Poster for fishermen and students”.
- Others: The field study of the project was filmed by “IzTv” (Turkish documentary channel). The film was shown more than 5 times in a documentary series which was named “Garbage dump in the Bosphorus”.
  A photo exhibition named “New Species…” was organized in Sofia BS-HOT Conference.

MAIN NEEDS, GAPS, AND SHORTCOMINGS IDENTIFIED

All of the participating countries and regional bodies are developing different projects to improve their management and to combine results in the pathway of the ecosystem approach. Nevertheless, it is necessary to identify any gaps, needs or shortcomings in order to efficiently merge results and the data bases to guarantee a unified management system in the Mediterranean and Black Sea.

The most important needs, gaps and shortcomings that were found in current projects by the respondents (in brackets, source for the identified problem) are as follows:

- On data
  - Need of a unified data collection system (FAO COPEMED, ADRIAMED)
  - Lack of detailed systematic fisheries data for some species and some countries, due to the lack of financial resources of the under-supported fisheries departments. (EASTMED)
  - Differences in regional and national levels related to data and methodologies.(CBC88)
- On assessment and advice
  - Gaps in the knowledge of the state of fish stocks due to the lack of financial resources (EASTMED)
  - Shortcomings in the implementation of GFCM recommendations (EASTMED)
  - Fragmented and irregular fish stock assessment and monitoring activities.(CBC88)
  - Problems at regional level (lack of annual assessment and monitoring) (CBC88)
  - Insufficient scientific advice to the Commission for the adoption of binding recommendations. The procedures and decision-making processes are outdated and vague. (GFCM)
- On management
  - Shortcomings in coordinated fisheries management and monitoring nationally (EASTMED).
  - Gaps in legal framework (non-compliance and infringements). (GFCM).
  - A comprehensive system of monitoring, control and surveillance is lacking. (GFCM)
  - Need for more integration of coastal and marine aquaculture development, within an ICZM Framework, Marine spatial planning and implementation of Allocation Zone for Aquaculture. To sum up, all aspects related with integrated maritime approach. (GFCM)
  - Need to deliver the long term conservation, optimum utilization of marine living resources, enforcement mechanisms and relevant compliance.
  - Lack of implication of some countries. (ECBSEA)
  - Development of marine mammals management plan for the Black Sea. Adverse effects of fishing on the cetaceans. (ACCOBAMS)
- General
  - Need to improve the capacity of involved members to provide the information, implement recommendations and more efforts in securing assistance to developing states. (GFCM).

OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL ORGANIZATIONS

There are connections between regional bodies and other organizations related to activities on EAF. Nevertheless, the collaboration with other regional bodies to promote synergies and share objectives is the best way to work to avoid duplication of effort.

The tighter cooperation among regional bodies and other institutions is a strong reinforcement to the Regional Fisheries Management Organization in the Mediterranean and Black Sea.

To work in a joint way, formal collaborations among FAO projects, GFCM, BSC, and other institutions that develop their work in this region sharing similar mandates and interests should be established.

One example of a successful collaboration is the CopeMed project, which contributed to the standardization of methodologies in the Mediterranean, supporting professional training and international courses, organizing workshops and seminars. Furthermore, in 2012 CopeMed II financed the participation of 58 experts and consultants in different activities, according to the FAO projects, GFCM, national focal points, in activities mainly related to the assessment of the stocks. CopeMed II continued working in marine issues and various fisheries with other FAO projects in the Mediterranean, the GFCM and the fisheries administration of the project´s countries.

CopeMed distributes the information of the project, and information from other resources, to contribute with fisheries administrations, stakeholders and main fisheries organizations.

EastMed project interacts closely with the FAO sub-regional projects, with Adriamed, CopeMed, MedSudMed, by coordinating meetings with the objective of consolidating and envisageing common activities, in order to avoid overlapping of activities. EastMed supports GFCM activities by funding the participation of 225 experts from the Eastern Mediterranean countries and by providing scientific contributions for discussion to GFCM and other international activities.

AdriaMed project is developed by joining efforts with other scientific institutions and fisheries administrations of the two regions. It is included within the Framework Programme of the GFCM and works with the other FAO Regional Projects: Copemed II and EAstMed.

CONCLUSIONS

The implementation of EAF to Mediterranean and Black Sea is far from being undertaken in a coordinated way. Many activities and projects are carried out, some may be redundant and a good deal of overlapping has been identified by the organizations themselves. Although cooperation is very close in some cases, especially the FAO Cooperation Projects and GFCM, in other cases the organizations do not work so closely, for instance regarding MPA implementation.

This report has some significant absences that made it incomplete. Not all members of the CREAM external advisory committee have sent back their filled-out questionnaires, and regarding important projects related to EAF that are being implemented in the Mediterranean we must mention the GEF “Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem – Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas”. We have knowledge of the existence of this project from external sources, but no direct information from our partners was received. This is one more instance of the shortcomings of coordination and information-sharing in the region.

The limitations identified for the correct application of EAF in the Mediterranean and Black Sea derive, at least partially, from the fact that the organizations are underfunded and understaffed, but also because of the redundancy in their mandates and objectives. Rationalizing the number of actors in the Mediterranean and Black Sea fisheries scene and enhancing coordination would help improve the effectiveness of their actions.

ANNEX (QUESTIONNAIRES FILLED)

Information provided by	**General Fisheries Commission for the Mediterranean (GFCM)**
1. GENERAL INFORMATION	
Title of the activity:	Fisheries Management
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Stock Assessment, technical meetings, Reports, Publications and Binding Recommendations.
Leader Institution:	GFCM
Coordinator Name:	Ex. Secretary: Mr Abdellah Srour
Countries/Partners involved:	22 Mediterranean and Black Sea Countries plus Japan and the EU
Source of funding:	Autonomous Budget funded by Members
Geographical Coverage:	Mediterranean, Black Sea and adjacent waters
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	Founded in 1949
Relevance to EAF (low, medium, high)	High
Activity Summary Short summary (max 500 words): context, objectives, methodology, results	
GFCM's objectives are to promote the development, conservation, rational management and best utilization of living marine resources, as well as the sustainable development of aquaculture in the Mediterranean, Black Sea and connecting waters. GFCM has the authority to issue binding recommendations in the whole area. To date, a series of Binding decisions have been adopted to tackle all the steps of the management process from the data collection scheme to the implementation of technical measures for the fishing operations. Other recommendations to avoid incidental catches of sharks, monk seals, sea birds and sea turtles, to limit the exploitation of red coral and to protect sensitive habitats have very recently been adopted. Socio-economic indicators have been set to follow up the evolution of such parameters along with that of catches and effort and to analyze the impact of the measures adopted in the economic sectors concerned.	
Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.	
Annual assessments of stocks of the main commercial species as specified in the GFCM agreed list of priority species, particularly focusing on shared stocks. Scientific advice for management purposes. Recommendations on conservation and management, on monitoring, control, surveillance, and on data and information reporting.	

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	40 stocks assesed annually
	Socio-economic indicators set up and included in the current data submssion schemes. Case studies on the implementation of 40 mm square mesh in cod-end of trawls.
2.2 Habitat assessment	
	Identification of Nursery areas
2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	REC.CM-GFCM/35/2011/2 On the exploitation of red coral (prohibitions regarding the use of Remotely Operated Underwater Vehicles) REC.CM-GFCM/33/2009/2 On the minimum mesh size (40mm) in the codend of demersal trawl nets REC.CM-GFCM/22/1997/1 on the limitation of the use of driftnets in the Mediterranean
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	RPOA on the management of Fishing Capacity
Other effort limits	RES. GFCM/33/2009/1 On the management of demersal fisheries in the GFCM Area (reduction of bottom-trawling fishing effort by a minimum of 10%)
Fish size limits	
By-catch management	REC.CM-GFCM/35/2011/3 On reducing incidental by-catch of seabirds in fisheries in the GFCM Area REC.CM GFCM/35/2011/4 On the incidental by-catch of sea turtles in fisheries in the GFCM Area REC.CM GFCM/35/2011/5 On fisheries measures for the conservation of the Mediterranean Monk Seal in the GFCM Competence Area. REC.DIR-GFCM/33/2009/3 On the implementation of the GFCM Task 1 statistical matrix that includes indications to gather By-catch data

Discards management	Workshop on By-catch and discards held in December 2011 in Antalya, Turkey
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	REC.CM-GFCM/33/2009/1 On the establishment of a Fisheries Restricted Area in the Gulf of Lions to protect spawning aggregations and deep sea sensitive habitats REC.CM-GFCM/30/2006/3 On the establishment of fisheries restricted areas in order to protect the deep sea sensitive habitats REC.CM-GFCM/29/2005/1 On the management of certain fisheries exploiting demersal and deepwater species (prohibition of towed dredges and trawlnets fisheries at depths below 1000 meters)
Temporal closures	REC.CM-GFCM/30/2006/2 On the establishment of a closed season for the dolphin fish fisheries using Fishing Aggregation Devices
Economic measures	
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Catch, Effort, Fishing mortality, Spawning Stock Biomass, Age structure, Exploitation rate.
Is precautionary approach addressed? How?	The precautionary approach embodies the cornerstone of any GFCM conservation and management measure. All the conclusions and recommendations adopted by the SAC, or at GFCM technical meetings addressing assessment of resources or habitats, are taken up on the most conservative option within the precautionary approach.

2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	GFCM Compliance Committee and National Administrations REC.MCS-GFCM/34/2010/3 Concerning the identification of non-compliance
	REC. MCS-GFCM/35/2011/1 Concerning the establishment of a GFCM Logbook, amending REC.MCS/35/2011/1 REC.MCS-GFCM/33/2009/6 Concerning the establishment of a GFCM record of vessels over 15 metres authorized to operate in the GFCM area REC.MCS-GFCM/33/2009/7 Concerning minimum standards for the establishment of a Vessel Monitoring System (VMS) in the GFCM area REC.MCS-GFCM/33/2009/8 On the establishment of a list of vessels presumed to have carried out IUU fishing in the GFCM area repealing recommendation GFCM/30/2006/4 REC.MCS-GFCM/32/2008/1 Regional scheme on port state measures to combat illegal, unreported and unregulated fishing activities in the GFCM area REC.MCS-GFCM/30/2006/5 Criteria for obtaining the status of cooperating non-contracting party in GFCM area RES-GFCM/29/2005/1 General guidelines for a GFCM control and enforcement scheme: needs and principles
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	X
Papers for general public	X
Software	X
Reports	X
Website	www.gfcm.org
Other	All available at the website

4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS

A Performance Review of the GFCM made by an pannel of independent experts in 2010 identified among others, the following areas where room for improvement was clear in the full implementation of an effective management framework in accordance with the EAF.

- Need for a more comprehensive system of monitoring, control; and surveillance
- Mechanisms to ensure follow-up of infringements and non-compliance
- Insufficient transposition of scientific advice to the Commission for the adoption of binding recommendations; Decision-making Processes and procedures are outdated and vague;
- The Commission should continue efforts to develop the capacity of its Members to provide the information to, and implement Recommendations, and continue its efforts in securing assistance to developing States.
- Need to improve all the aspects related to integrated maritime approach, particularly the integration of coastal and marine aquaculture development within an ICZM framework, Marine Spatial Planning and possibly through the implementation of Allocation Zone for Aquaculture.

A Task Force has been set up which is currently assisting the Commission in the identification of the necessary modifications of the GFCM Agreement and its associated rules to make it more effective. The last Session of the Commission being held in Marakesh, Morocco form 14-19th May 2012, approved the outcomes of the work developed by this Task Force and decided upon a series of necessary steps that must be undertaken during the next Intersessional period to update the Agreement in a way that allows the Commission to overcome the said difficulties and to deliver the long-term conservation, optimum utilization and production of the marine living resources within a precautionary and ecosystem approach to fisheries management, including relevant compliance and enforcement mechanisms.

5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA

To avoid overlapping and to promote synergies with other regional bodies sharing objectives and geographical coverage, GFCM has in the recent years formalized collaboration with organizations sharing similar mandates and interests through the framework of the six Memoranda of Understanding (MoUs) recently signed:

- Memorandum of Understanding between GFCM and UNEP-MAP
- Memorandum of Understanding between GFCM and ACCOBAMS;
- Memorandum of Understanding between GFCM and BLACK SEA COMMISSION;
- Memorandum of Understanding between GFCM and MedPAN;
- Memorandum of Understanding between GFCM and RACMED;
- Memorandum of Understanding between GFCM and EUROFISH.
- Memorandum of Understanding between GFCM and ICES
- Memorandum of Understanding between GFCM and CIHEAM
- Memorandum of Understanding between GFCM and IUCN

Information provided by	**Juan A Camiñas, CopeMed II Coordinator**
1. GENERAL INFORMATION	
Title of the activity:	**FAO Mediterranean Project CopeMed II**
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Monitoring activity, Stock assessment, preparatory work to management, management advice, Training and Capacity building, database development, Resources bibliographic reports, socioeconomic fishery data collection**
Leader Institution:	**FAO-FIRF**
Coordinator Name:	**Camiñas, Juan Antonio**
Countries/Partners involved:	**Algeria, France, Italy, Libya, Malta, Morocco, Tunisia, Spain**
Source of funding:	**Spain and DG Mare (UE)**
Geographical Coverage:	**Western and Central Mediterranean**
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	**2008 (February) to now**
Relevance to EAF (low, medium, high)	**Medium-High**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

The overall objective of CopeMed II aims at maintaining the sustainability of the marine fisheries in the Central and Western Mediterranean Sea and its ecosystem, taking into consideration environmental, biological, economical, social and institutional issues. In addition the project is contributing to strengthen the regional collaboration by supporting the participation of the countries in regional scientific working groups, such as the FAO General Fisheries Commission for the Mediterranean (GFCM), the EU MEDIAS experts group and other and by improving the collaboration with the other FAO Mediterranean projects and the FAO Fisheries and Aquaculture Department focused on fishery sustainability and the implementation of the Code of Conduct for responsible fisheries and the Ecosystem Approach to Fisheries.

The summary of immediate objectives are:

1. Strengthening the national capacity to obtain statistical data on catch and effort, including biological and socio-economic data.
2. Strengthening fishery scientific research and upgrading the research activity in the national and international context.
3. Strengthening the institutional capacity at national level (organization and network of fishery stakeholders, development of management strategies) and at sub-regional level (cooperation between countries and with Regional Fisheries Organisations).

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Technical support to countries on statistics

- Actions to improve software prepared by MedFisis to Morocco, in coordination with the FAO-FIRF officers.
- Provide technical support to Tunisia on statistics in the diagnosis of the national small scale fishery statistical system, including the identification of weaknesses and gaps, and to prepare a draft project for monitoring these fisheries:
- Several missions to the CopeMed countries with different objectives, including statistics, were organised in Morocco; Tunisia and Algeria.
- Prepare the statistical data necessary for analysis of shared stocks, including socio-economic data,
- Organize annual meeting of the working group (WG) and compile the data on small pelagic (sardine and anchovy) and demersal GT (white shrimp and hake).

Socio-economic indicators

- Publish a document on socio-economic indicators prepared during CopeMed phase I.
- Elaboration of socio-economic indicators corresponding the small pelagic fisheries in the Alboran Sea (Algeria, Morocco and Spain)

Subregional research activities related with shared stocks

- WG on small pelagic Alboran Sea. Shared stocks sardina: 2 assessment presented to the GFCM with data from Morocco and Spain. Documentation on anchovy fishery: GSAs 01,02,03 and 04
- WG demersal Alboran Sea. Shared stocks *Parapenaeus longirostris* and *Merluccius merluccius* Stocks for Algeria, Morocco and Spain (GSAs 01, 02, 03 and 04
- WG on Pagellus boraveo shared stock between Morocco and Spain (GSAs 01 and 03)
- Workshop on Fisheries and appraisal of *Palinurus elephas* in the south-central and western Mediterranean Sea.

Networking:

To improve coordination and work of permanent demersal and pelagic Working groups within the CopeMed region, the project organised two thematic networks:

- ✓ "CopeMed Regional Network on Demersal Fishery Resources (CopeMed RND)"
- ✓ " CopeMed Regional Network on Small Pelagic Fishery Resources (CopeMed RNSP) "

Standardisation of common methodologies

- Participation of experts from south countries at Pan-Mediterranean Pelagic survey (MEDIAS)
- Supporting actions on the implementation of the 40 mm square size bottom-trawl experimental survey
- Funding experts' participation at international fisheries surveys

Training activities

- on the Job training on growth parameters and otolith lecture of juveniles of hake (*Merluccius merluccius*)
- On the job training course at laboratory (biological parameters, methodologies and software) and at landing port (sampling methodology, sampling parameters) work needed to monitor the growth parameters (*P. bogaraveo*) for a Moroccan expert
- training workshop on Growth parameters for elasmobranch
- GFCM-CopeMed Workshop on Mediterranean gears, fishing technology and selectivity.
- Training course on Introduction to Fish Stock Assessment models.
- International Master on Sustainable Fisheries Management. Alicante, Spain. Jointly organized by the University of Alicante, the Spanish Ministry of the Environment and Rural and Marine Affairs, through the General Secretariat of the Sea and the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM).
-

Cooperation with the project GEF_MedSea LME – MPA: Workshop on selectivity and fisheries effects on non target species. Meeting with the INRH experts (Nador) for the definition of methodologies and guidelines for monitoring small scale fisheries activity in Al Hoceima National Park	
2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	Sardine GSAs 01-03; P. longirostris GSAs 01,03,04; P. bogaraveo GSAs 01,03
	Sardine GSAs 01-03; P. bogaraveo GSAs 01,03
2.2 Habitat assessment	
	Preliminary works on small pelagics and P. Bogaraveo
	S pilchardus GSA 01-03; P. bogaraveo 01-03
2.3 Management recommendations	
Access rights	Na
TACs and quotas	Na
Number of boats/licenses	Na
Fishing time	Na
Size or number of gear items	Na
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	Working on effects of the 4o mm square mesh size in Algeria and Tunisia. Preliminary.
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	Na
Limits to fishing power	Na
Other effort limits	na
Fish size limits	P, bogaraveo
By-catch management	Preliminary Tunisian demersal fishery
Discards management	Preliminary Tunisian deemrsal fishery
Technological creeping control	Na
MPAs (or FRAs, or any other figure of protected area)	Al Hoceima MPA (Morocco) in relation with a rtisanal fisheries
Temporal closures	Na
Economic measures	Na

2.4 EAF Indicators and reference points	
Main EAF indicators implemented	
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	Na
	Na
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	CopeMed Web www.faocopemed.org
Papers for general public	CopeMed Web www.faocopemed.org
Software	CopeMed Web www.faocopemed.org
Reports	CopeMed Web www.faocopemed.org
Website	CopeMed Web www.faocopemed.org
Other	Occasional papers CopeMed Web www.faocopemed.org
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
Data collection systems, Monitoring; Biological data; capacitation	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	
Activities on EAF (training ,mainly) carried out in the framework of the FAO Fisheries Department in collaboration with other FAO Proejcts, including the Mediterranean.	

Information provided by	Konstantina Karlou-Riga, EastMed Coordinator
1. GENERAL INFORMATION	
Title of the activity:	**FAO Mediterranean Project EastMed**
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Monitoring activity, Stock assessment, preparatory work to management, management advice, Training and Capacity building, database development, Resources bibliographic reports, socioeconomic fishery data collection**
Leader Institution:	**FAO-FIRF**
Coordinator Name:	**Konstantina Karlou-Riga**
Countries/Partners involved:	**Italy, Greece, Turkey, Syria, Lebanon, Gasa Strip and West Bank, Cyprus and Egypt**
Source of funding:	**Greece, Italy and EU-DG Mare**
Geographical Coverage:	**Eastern Mediterranean, (GSAs 19-20 and 22-28)**
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	**September 2009 to August 2014**
Relevance to EAF (low, medium, high)	**Medium-High**
Activity Summary Short summary (max 500 words): context, objectives, methodology, results	

The project's longer-term development objective aims at contributing to the sustainable management of marine fisheries in the Eastern Mediterranean, and thereby at supporting national economies and protecting the livelihoods of those involved in the fisheries sector. The project's immediate objective aims at supporting and improving the capacity of national fishery departments to increase their scientific and technical information base for fisheries management and to develop coordinated and participative fisheries management plans in the Eastern Mediterranean subregion

The project with the principles of the FAO Code of Conduct for Responsible Fisheries and the concept of the Ecosystem Approach to Fisheries (EAF), implements activities aiming in training the staff of the national fisheries administrations and research institutes to undertake data collection and analyses required for fisheries management. It also implements activities in the field on fishing fleet statistics, catch and effort data collection and monitoring. It provides support on socio-economic and ecosystem data collection relevant to the fishery, while it supports development of skills in fisheries assessment and fisheries management necessary for elaborating the adequate techno-scientific framework for management plans. Finally the project facilitates networking to encourage cooperation among the countries. In general the various project activities are implemented under the following components:

- Institutional Strengthening
- Staff Training and Development
- Data Collection and Analyses
- Increased Participation and Cooperation

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Institutional strengthening

- Partneships were established in Egypt and Lebanon between local scientific community and Administration in order to produce sound policies
- Visitis to all the countries to promote the sustainable exploitation under EAF and create partneships among the varioius stakeholders to work for resources conservation, environment protection and suastainability of the sector.
- Appraisals in fisheries departments in Egypt, Lebanon and Gaza have taken place
- During the assessment of fishing gears in Lebanon, proposals were provided for the improvement of the fishing techniques, the re-srtructure of the fleet and changes in the associated fisheries legislation.
- Development of a web based Licensing System and Data Base in Lebanon
- The socio economic analysis of the Lebanese fishing fleet is reflected in a Technical Document supported by the project and published in English and Arabic
- A web-supported computer system was set up in Egypt for the storage and analysis of catch/effort data
- A Feasibility study for new fishing vessel designs and/or new vessel building materials was conducted for Lebanon needs
- A review of the national & international legal framework in the project area countries has been taken place
- A web based software was developed for the catch/effort data entry and analysis in Egypt

Staff Training and Development

- Cypriot scientists have been benefited from a training course on otolith age reading for *Spicara smaris* and *Mullus barbatus*
- The staff in Egypt, Turkey and Gaza has been benefited from training on statistical issues for catch and effort data collection as well as on biological sampling and collection of socio economic variables
- Experts from all the countries participating in the project have been benefited from a training course on Single-species Length based Stock Assessment methods organized by the project as well as from courses organized by the MedSudMed and CopeMed
- A sampling protocol in English and Arabic has been published
- The staff in Lebanon and Egypt have been benefited by courses on Inspection and Control
- Experimental trials for new fishing techniques were conducted in Lebanon, through which new fishing grounds were explored in deeper waters
- Plastic plates were prepared for the work on the field with the most commercial species in the Eastern Mediterranean region. Real photos of the species are given with their scientific names, their common in English and their common in the local language.
- Fishermen wives were trained on canning technology by the use of low value fishes
- Experimental trials were conducted in Egypt for training staff in exploring clams and thus diversify the fishing effort particularly exerted by trawlers
- Seminars on fishing gears technology were given to fishermen in Egypt including the positive impact on the resources by using square mesh size in the trawler codend
- Seminars on shrimps identification were given to data collectors in Egypt
- Training on catch assessment surveys was carried out in Lebanon followed by a pilot activity of those data collection
- A Seminar on the Utility of Data in Fisheries Management was provide to the managers of the participating to the project countries

- Skill on stock assessment is achieved through the Working Groups on stock assessment, while the concept of shared stocks is being handled
- A Sub-regional working group on deep-water biological resources of the eastern Mediterranean was conducted during which the occurrence of shared stocks in deep waters was acknowledged.

Increased Participation and Cooperation

- A network has been established of scientists with scientific experience on lessepsian species and their impact on Eastern Medietrraenan fishery
- The managers of the participaitng countries have benefited from a course on management strategies and approaches
- Memorandum of Understandings were signed between the project and Research Institutes in Lebanon and Greece
- The objectives of the project were promoted in MEDCOAST conference and the 10th Pan- Hellenic Symposium on Oceanography and Fisheries.
- A review of the biology of Lagocephalus sceleratus, its impact on fishing gears, fisheries information, related legislation and potential commercialization was supported by the project and is reflected in a Technical Document.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	Collection and analysis of socio economic indicators in Lebanon, Egypt, Turkey and Gaza
2.2 Habitat assessment	
Spawning areas	Hake in deep waters of Lebanon
2.3 Management recommendations	
Access rights	na
TACs and quotas	na
Number of boats/licenses	na
Fishing time	na
Size or number of gear items	na
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	Selectivity trials have to take place soon in Egytian waters by the use of 40 mm square mesh size on the trawler codend
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	na
Limits to fishing power	na
Other effort limits	na
Fish size limits	na
By-catch management	na
Discards management	na

Technological creeping control	na
MPAs (or FRAs, or any other figure of protected area)	MPAs : Italy, Greece, Turkey, Israel, Cyprus, Lebanon and Egypt. FRAs: The Nile delta area cold hydrocarbon seeps; The Eratosthemes Seamount
Temporal closures	Many counries apply this kind of measures
Economic measures	na

2.4 EAF Indicators and reference points	
Main EAF indicators implemented	na
Is precautionary approach addressed? How?	na
2.5 Monitoring, Control and Surveillance (MCS)	na
Institution(s) responsible of MCS	na
Enforcement	na

3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	
Software	
Reports	
Website	
Other	

4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS

Most of the countries in the Eastern Mediterranean sub-region, due to various reasons including lack of financial resources, have been sidelined where international and regional cooperation for fishery research and management is concerned. Many of these countries have been unable to participate in the meetings of the General Fisheries Commission for the Mediterranean (GFCM) or to contribute to them, and hence, are not fully benefiting from their GFCM membership. Fisheries departments and fisheries research institutes in this sub-region are often under-supported. This has resulted in significant gaps in information and data on the state of the fish stocks, fisheries and ecosystems in the Eastern Mediterranean, and in shortcomings for coordinated fisheries management and monitoring nationally and within the context of the GFCM recommendations and resolutions.

Since the Inception of the Project, it was noticed that data colection schemes were lacking from the most of the countries in the Eastern Mediterranean, leading to the failure of providing management advice. Moreover there is a little attempt to move towards a more integrated and participative form of fisheries management. Many weaknesses exist in the supporting fisheries institutional framework required for fisheries management including, in the legal framework, the means for implementing adequate monitoring, control and surveillance, and effective industry participation in management.

5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA

Activities on EAF (mainly training) carried out in the framework of the FAO Fisheries Department.

Acitvities implemented under GFCM Framework Programme

nformation provided by	**Enrico Arneri** **AdriaMed and MedSudMed Project Coordinator**
1. GENERAL INFORMATION	
Title of the activity:	**FAO Mediterranean Regional Projects AdriaMed and MedSudMed**
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Monitoring activity, Stock assessment, preparatory work to management, management advice, Training and Capacity building, database development, Resources bibliographic reports, socioeconomic fishery data collection**
Leader Institution:	**FAO-FIRF**
Coordinator Name:	**Enrico Arneri**
Countries/Partners involved:	**AdriaMed: Albania, Croatia, Italy, Montengro and Slovenia;** **MedSudMed: Italy, Lybia, Malta and Tunisia**
Source of funding:	**Italian Government, Regione Siciliana, European Commission DG MARE**
Geographical Coverage:	**Adriatic Sea, Central Southern Mediterranean**
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	**AdriaMed 1999-to now** **MedSudMed 2001-to now**
Relevance to EAF (low, medium, high)	**Medium to high**
Activity Summary Short summary (max 500 words): context, objectives, methodology, results	
AdriaMed, like all the other FAO Mediterranean regional projects, focuses primarily.on the sustainable use and conservation of fishery resources. More specifically, they seek to develop a common knowledge basis to support international processes aimed at fisheries management. One of the tools used by the projects in this regard is to further progress on stock assessments thereby allowing for improved monitoring of marine stocks. This in turn enables informed and improved decision making for sustainability in the broader ecosystem context. It entails scientific cooperation between the Mediterranean countries. It also reinforces the permanent network that has been established - thanks in large part to the projects - between the main institutions of the Mediterranean involved in fishery management activities. **MedSudMed**, like all the other FAO Mediterranean projects, is primarily geared at supporting the capacity development of participating countries (including through cooperation) to progress toward a sustainable use of the fisheries resources and the ecosystems. More specifically, they seek to develop a common cognitive basis to support international processes aimed at fisheries management. One of the tools used by the projects in this regard is to further progress in the monitoring of marine stocks and the fishery ecosystem in coherence with the FAO Code of Conduct for Responsible Fisheries and the Ecosystem Approach to Fisheries. This in turn enables informed and more perfected management decisions in view of environmental sustainability. It entails scientific cooperation between the Mediterranean countries. It also reinforces the permanent network that has been established - thanks in large part to the projects - between the main institutions of the Mediterranean involved in fishery management activities.	

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

AdriaMed

Objective 1) Strengthening of the sub-regional network in involving relevant institutions of the fisheries sector to follow up on aspects of scientific coordination and cooperation;

Objective 2) Supporting the establishment of a sub-regional fisheries monitoring system, based on standardized research methodologies;

Objective 3) Identification of management schemes to be applied on a pilot scale in selected zones towards strengthening international and regional cooperation;

Objective 4) Supporting shared resource management decisions, including the promotion of harmonized fisheries legislation;

MedSudMed

Objective 1) Support the scientific standardization of the methodologies applied in the relevant studies related to fishery resources and to the relationships between fishery resources and biotic and abiotic factors;

Objective 2) Improve the scientific knowledge on fishery resources and their ecosystem in the project area through the finalization of the research activities program;

Objective 3) Strengthen the national expertise through on-the-job training and working groups, and support the national research institutions in enhancing scientific expertise;

Objective 4) Strengthen and support scientific cooperation between the different experts and institutions involved in the project activities;

Objective 5) Strengthen the technical and scientific cooperation at the Mediterranean level, among the participating countries and between the project, the General Fisheries Commission for the Mediterranean (FAO GFCM) and other FAO regional projects.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	Anchovy and Sardine GSA 17 and 18; Solea solea GSA 17; Hake GSA1 18; Deep rose Pink Shrimp GSA18 Hake ans Deep Rose Shrimp GSA 12, 13, 14, 15 and 16
Environmental assessment	
Socio-economic assessment	Data collection of socioeconomic data in Albania and Montenegro
2.2 Habitat assessment	
Nurseries	Hake, Deep Rose Shimp, Octopus in Central Southern Mediterranean; Hake in GSA 17
Feeding areas	
Spawning areas	Preliminary work on small pelagic fish Adriatic and Central southern Mediterranean
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	na

TACs and quotas	na
Number of boats/licenses	na
Fishing time	na
Size or number of gear items	na
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	na
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	na
Limits to fishing power	na
Other effort limits	na
Fish size limits	na
By-catch management	na
Discards management	Preliminary work
Technological creeping control	na
MPAs (or FRAs, or any other figure of protected area)	Preliminary work
Temporal closures	Preliminary work
Economic measures	na
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	na
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	X
Papers for general public	X
Software	X
Reports	X
Website	X
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
Lack of detailed sistematic fishery data for some species and some countries	

5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA
Work done in collaboration with many scientific institution and fishery administration of the two regions; in concertation with the other FAO Regional Projects Copemed II and EastMed and included in the Framework Programme of the GFCM

Information provided by	Dr.Violin Raykov
1. GENERAL INFORMATION	
Title of the activity:	**Knowledge-based Sustainable Management for Europe's Seas (KnowSeas)**
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Research Project**
Leader Institution:	**Scottish Association for Marine Science (UK)**
Coordinator Name:	**Professor Laurence Mee**
Countries/Partners involved:	**AWI (Germany), BNI (Sweden), Cefas (UK), CNR-IIA (Italy), CSIC (Spain), Deltares (Netherlands), ENVISION (UK), EUCC (Netherlands), HZG (Germany), IEEP (UK), IMAR (Portugal), IOBAS (Bulgaria), KNAW (Netherlands), LASA (Italy), Megapesca (Portugal), METU (Turkey), NILU (Norway), SAHFOS (UK), UoP-MI (UK), SDU (Denmark), SFI (Poland), SYKE (Finland), UBO (France), UCC (Ireland), UEA (UK), UiB (Norway), UNIVE (Italy), UoB (UK), VU (Netherlands), USE (Spain), IBER-BAS (Bulgaria)**
Source of funding:	FP 7 EU
Geographical Coverage:	Baltic, Black, Mediterranean and NE Atlantic
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2009-2013
Relevance to EAF (low, medium, high)	high

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

The overall objective of the project is to provide a comprehensive scientific knowledge base and practical guidance for the application of the Ecosystem Approach to the sustainable development of Europe's regional seas. This will increase the evidence base available for decision makers and facilitate the practical implementation of the Ecosystem Approach, currently seen by some stakeholders as confusing and nebulous. It will be delivered through a series of specific sub-objectives that lead to a scientifically based suite of tools to assist policy makers and regulators with the practical application of the Ecosystem Approach. It is also expected to deliver high quality scientific outputs that advance our understanding of coupled social and ecological systems.

Ecology, Economics, Governance and Policy

The KnowSeas consortium brings together key natural and social scientists with unique experience of the marine environment. The project team has developed a new approach of Decision Space Analysis to investigate mismatches of scale between human drivers and the consequences to the marine environment. KnowSeas will work at the two geographical scales envisaged for new EU policy: the Regional Sea Scale and Member State Economic Exclusive Zones (EEZs). Core teams examining and modeling the causes and consequences of ecosystem change, costs and benefits, and institutional and social aspects, will interact with cross cutting case studies in the regional seas in order to develop a systems approach. Knowledge created through the earlier FP6 European Lifestyles and Marine Ecosystems project (ELME) will be augmented with necessary new studies of climate effects, fisheries and maritime industries. New research will examine and model economic and social impacts of changes to ecosystem goods and services and costs and benefits of various management options available through existing and proposed policy instruments. Institutional and social analysis will determine conflicts of interest and examine governance as well as stakeholder values an perceptions. Our research will be participatory, engaging with stakeholders through Regional Liaison Groups and a multisectoral Project Advisory Board.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Data on landings of commercial species, Fishing effort, number of fishing vessels, employment in the sector, various statistical information, economic information in GSA 29 – Black Sea.

The KnowSeas consortium will strengthen the science base for managing Europe's seas through the practical application of systems thinking. The consortium will work with stakeholders to develop a common understanding of terms such as 'ecosystem-based management' in the context of Europe's seas. It will use compatible methodologies to develop case studies of key problems affecting each sea. These will be of immediate management use but will also contribute information for developing a better understanding of how humans interact with marine ecosystems at all scales and the management options available for their sustainable use. This knowledge should support the further development of integrated policy at the national and EU scales and help to resolve conflicts. It will also generate high-quality scientific publications on systems science. At a practical level the project will develop and test a toolbox that will include:

Application of Decision Space Analysis;

Modelling causality using 'joint fact finding';

Indicator suite for Ecosystem Approach application;

Assessment of the benefits of European marine ecosystems goods and services and the costs of human induced changes;

Adaptive Management of Europe's Seas;

Sustainable development options appraisals for Europe's seas; and a

Conflict resolution guidance and toolkit.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	
Environmental assessment	yes
Socio-economic assessment	yes
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	yes
Temporal closures	yes
Economic measures	yes
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	

3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	http://www.knowseas.com/links-and-data/project-publications
Papers for general public	http://www.knowseas.com/links-and-data/policy-briefs
Software	
Reports	
Website	http://www.knowseas.com/
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	**Monitoring and Evaluation of Spatially Managed Areas (MESMA)**
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Research project**
Leader Institution:	**Wageningen IMARES (Netherland)**
Coordinator Name:	**Luc van Hoof**
Countries/Partners involved:	
Source of funding:	Call: FP7- ENV.2009.2.2.1.4 Integrated Coastal Zone Management Specific Programme: FP7 Collaborative Projects - Large scale integrating project
Geographical Coverage:	EU coastal states, Black Sea
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2009-2013
Relevance to EAF (low, medium, high)	high
Activity Summary Short summary (max 500 words): context, objectives, methodology, results	
MESMA is expected to supply innovative methods and integrated strategies for governments, local authorities, stakeholders, and other managerial bodies for planning and decision making at different local, national, and European scales, for sustainable development of European seas. At the heart of the MESMA project is the MESMA framework. This framework explores in a logical way how the management initiatives in a certain area were established, so that they can be evaluated and monitored. In cases where no management plans are available, following this framework leads to recommendations for future plans. The main task of MESMA is the information analysis.	

Aim of Black Sea Case Study

We will focus in this case study on environmental improvement and cross border issues related to marine spatial planning. Important topics will be:

- International cooperation and agreements for sustainable development and protection of the Black Sea ecosystem,
- Assessment of establishment of a cross border Network of marine protected areas to represent the Black Sea Basin and stop further deterioration of the Black Sea marine environment, as well as actions to manage and plan human use and activities,
- Use of plankton species, such as e.g. jelly fish, as indicators for water quality changes in the system and human impact.

In the case study we will describe and analyse the links between economic, social and ecological marine spatial planning processes with the aim of provide practical input for the development of a long term strategy towards evaluation and monitoring of marine spatial planning in the Black Sea, both national and regional.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

The FLR library is a collection of tools in the R statistical language that facilitates the construction of bio-economic simulation models of fisheries and ecological systems. It is a generic toolbox, but is specifically suited for the construction of simulation models for evaluations of fisheries management strategies. The FLR library is under development by researchers across a number of laboratories and universities.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	**yes**
Environmental assessment	yes
Socio-economic assessment	yes
2.2 Habitat assessment	
Nurseries	yes
Feeding areas	yes
Spawning areas	yes
Other essential fish habitats	yes
Sensitive habitats	
2.3 Management recommendations	
Access rights	yes
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	

Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	
Temporal closures	yes
Economic measures	yes
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Spatial planning, spatial distribution of Alosa sp,turbot,shellfish farming, zoobenthic species
Is precautionary approach addressed? How?	Strongly addressed trough management plans of Bulgaria and Romania
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	http://www.mesma.org/default.asp?ZNT=S0T1O733
Software	
Reports	GIS vector layer representing marine habitat types within natura GR2210002 site (Laganas - Nisides Maratonisi kai Pelouzo).
Website	http://www.mesma.org/default.asp?ZNT=S0T1O474
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	People for Ecosystem-based Governance in Assessing Sustainable development of Ocean and coast - PEGASO
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	Universitat Autónoma de Barcelona (Spain).
Coordinator Name:	Françoise Breton
Countries/Partners involved:	• Universitat Autònoma de Barcelona • Universidad Pablo Olavide • Plan Bleu pour l'Environnement et le Developpement en Méditerrannee • Institut Français de Recherche pour l'exploitation de la Mer • ACRI Etudes et Conseil • Priority Action Programme/Regional Activity Centre • Union Internacional para la Conservación de la Naturaleza • The University of Nottingham • Vlaams Instituut Voor De Zee Vzw • Universita Ca'Foscari Di Venezia • Commission of the European Communities – Directorate General Joint Research Centre • Université de Genève • Hellenic Centre for Marine Research • Mediterranean Coastal Foundation • Institutul National de Cercetare Dezvoltare Delta Dunarii • Université Mohammed V-Agdal • Association de Réflexion, d'Échanges et d'actions pou l'Environnement et le Développement • National Institute of Oceanography and Fisheries • University of Balamand • Marine Hidrophysical Institute-Ukrainian National Academy of Sciencies • Fondation Tour du Valat • National Authority for Remote Sensing and Space Sciences • Permanent Secretariat of the Commission on the Protection of the Black Sea against Pollution • Intergovernmental Oceanographic Commission
Source of funding:	Call: FP7- ENV.2009.2.2.1.4 Integrated Coastal Zone Management Specific Programme: FP7 Collaborative Projects - Large scale integrating project
Geographical Coverage:	EU coastal states, Black Sea

Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	
Relevance to EAF (low, medium, high)	medium

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

Many efforts have been deployed for developing **Integrated Coastal Zone Management** in the **Mediterranean and the Black Sea**.Both basins have, and continue to suffer severe environmental degradation. In many areas this has led to unsustainable trends, which have impacted, on economic activities and human well-being. An important progress has been made with the launch of the **ICZM Protocol for the Mediterranean Sea** in January 2008.

The main objective of PEGASO is to build on existing capacities and develop common novel approaches to support integrated policies for the coastal, marine and maritime realms of the Mediterranean and Black Sea Basins in ways that are consistent with and relevant to the implementation of the ICZM Protocol for the Mediterranean.

PEGASO will use the model of the existing ICZM Protocol for the Mediterranean and adjust it to the needs of the Black Sea through three innovative actions:

- **Constructing an ICZM governance platform** as a bridge between scientist and end□user communities, going far beyond a conventional bridging.
- **Refine and further develop efficient and easy to use tools for making sustainability assessments in the coastal zone** (indicators, accounting methods, models and scenarios). They will be tested and validated in a multi□scale approach for integrated regional assessment through a number of relevant pilot sites.
- **Implementation of a Spatial Data Infrastructure (SDI)**, following the INSPIRE Directive, to organize and standardize spatial data to support information sharing on an interactive visor, to make it available to the ICZM Platform, and to disseminate all results of the project to the end users and interested parties.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

The methodology is organised according to 6 differentpackages with various key tangible outputs:

ƒ. The development of a shared ICZM Governance Platform as a bridge between scientists and end users (administration bodies, managers,...).

ƒ. A spatial data infrastructure of coastal and marine zones in the Mediterranean and Black Seas to allow partners to apply sustainability assessment tools aimed at a better informed decision-making at all levels.

ƒ. Technical and methodological multi-scale tools for the coastal zones will be produced to make a comprehensive assessment of the drivers and issues of coastal areas and to provide guidance on management strategies and options scenarios.

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An integrated regional assessment of the Black and Mediterranean Seas will be conducted to allow partners to identify both threats to regional seas and effective management responses. This output will integrate and promote the products developed and the lessons learned from its application on case studies sites. Training material on ICZM will be made available to build and enhance capacity among stakeholders and facilitate the implementation of the Protocol.

Mechanisms for strengthening networking and capacity development will be identified: Spatial planning will help improve co-operation and management of the range of different activities that take place in coastal waters. Training courses on sustainability tools and the spatial data infrastructure will also be organised to

ensure that the tools developed are incorporated into the ICZM platform.	
2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	
Environmental assessment	
Socio-economic assessment	
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	
Temporal closures	
Economic measures	

2.4 EAF Indicators and reference points	
Main EAF indicators implemented	ICZM indicators
Is precautionary approach addressed? How?	Yes,trough ICZM protocol implementation
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	Project leaflet, poster (http://www.pegasoproject.eu/index.php?option=com_content&view=article&id=13&Itemid=22)
Software	
Reports	
Website	http://www.pegasoproject.eu/
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	Dr.Violin Raykov
1. GENERAL INFORMATION	
Title of the activity:	The UP-GRADE BS-SCENE project is an FP7 EU funded project running from 2009-2011
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	MARIS, Netherlands
Coordinator Name:	Peter Davis
Countries/Partners involved:	Netherlands United Kingdom Belgium, Norway, Ukraine, Bulgaria, Georgia, Russian Federation, Romania, Turkey,Georgia,Netherlands,Greece,Poland
Source of funding:	FP7 EC
Geographical Coverage:	Black Sea coastal states:
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2009-2011 (4 years)
Relevance to EAF (low, medium, high)	**medium**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

The predecessor FP6 RI Black Sea SCENE project established a Black Sea Scientific Network of leading environmental and socio-economic research institutes, universities and NGO's from the countries around the Black Sea and developed a distributed virtual data and information infrastructure that is populated and maintained by these organisations to improve the identification, access, exchange, quality indication and use of their data and information about the Black Sea.

The Black Sea SCENE research infrastructure stimulates scientific cooperation, exchange of knowledge and expertise, and strengthens the regional capacity and performance of marine environmental data & information management, underpins harmonization with European marine data quality control/assessment procedures and adoption of international meta-data standards and data-management practices, providing improved data & information delivery services for the Black Sea region at a European level.
The UP-GRADE BS-SCENE project aims:
a) To extend the existing research infrastructure with an additional 19 marine environmental institutes/organizations from the 6 Black Sea countries.
b) To implement the results of the Joint Research Activities of the FP6 RI SeaDataNet project (common communication standards and adapted technologies to ensure the datacenters interoperability).
c) To network the existing and new Black Sea datacenters, active in data collection, and provide integrated databases of standardized quality on-line.
d) To realize and improve on-line access to in-situ and remote sensing data, meta-data and products.
e) To adopt standardized methodologies for data quality checking to ensure the quality, compatibility and coherence of the data issuing from so many sources.

UP-GRADE BS-SCENE is undertaken by 51 partners of which 43 are located in the Black Sea countries.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Expected impacts of the project

The resulting infrastructure will support the European research community by providing an overview and access of quality controlled marine environmental and socio-economic Black Sea data by integrating scattered marine databases and collections. These types of information are fundamental to many researchers working within the framework of the global change and ecosystems sub-priority, as well as to sustainable development and management of European marine ecosystems.

Contribution to Standards

By exploring and harmonizing with EU practices on data quality control, data quality assessment and data-management, the involved Black Sea partners will assure a common approach and quality control for future datasets. Within the project framework beneficiaries will adopt and implement internationally agreed protocols for cataloguing environmental and socio-economic datasets, by collecting meta-data and populating standardized meta-directories, and preparing exchange formats for the data sets, managed by regional partners. Metadata comprise the SeaDataNet EDMED, EDMERP, EDMO, CSR and CDI metadata services that are based upon ISO 19115.

Contribution to policy developments

The Upgrade Black Sea SCENE project will contribute the data & information infrastructure for research on sustainable development and rehabilitation of the Black Sea ecosystem, and its sustainable policy making, management and administration. Through involvement of the Black Sea Commission Secretariat a direct dialogue is guaranteed regarding their data and information needs and their requirements towards the functionality of the Black Sea data and information infrastructure.

Promotion and Dissemination

The partners are proactively addressing the end-users community to promote and disseminate the project's activities and results by direct links and formal/informal consultation platforms with regional, national and international governments, marine research and educational institutes, marine industries (pipelines, offshore, shipping, fishery, telecommunication, land reclamation, marine infrastructural works) and private companies using environmental and socio-economic data and information.

Dissemination will take place through:
1. Balkan Environmental Association (BENA) - Task leader
2. Centre of Excellence for Sustainable Development and Management of the Black Sea Region, located at IO-BAS (CESUM)
3. Black Sea NGO Network (BSNN)
4. Black Sea Commission Secretariat (BSCS)
5. Black Sea SCENE conference at the end of the project, to be organised in cooperation with the BSCS to ensure a good attendance of both scientists and policy makers.

Publishing data and data products via maps is more and more common practice as you will notice in the data access and metadata services in this website. This is stimulated by implementation of OGC services at more and more data providers.
Within the Upgrade BlackSeaScene project partner MSU has developed a central map catalogue that connects to the distributed map services of UBSS partners IBSS, SIORAS, SOI, IGGAS and others. You will find marine biological data as well as physical marine data products.

During the BlackSeaScene I project an initial overview of available Black Sea socio economic data has been collected by the partners. During Upgrade BlackSeaScene this has been extended. The information supports marine environmental science and the BlackSeaScene network, and can also be used by the public and institutes from outside the EU to learn more about the Black Seas threats, conditions etc.

 Mnemiopsis leidyi Database - A database of a small but harmful type of jellyfish, abundant in the Black Sea. This species created the tremendous ecosystem damage and big economic losses in the region in the late 1980-s, 1990-s. It was recognized as one of the main ecological problems for the Black Sea ecosystem. The Mnemiopsis database (when filled with data) will give a possibility to analyze in details the special distribution and the variability at different time scales of this important species from time of its invasion into the Black Sea till nowadays.

 Black Sea Zooplankton Checklist - A species list and identification checklist (in Wiki-form) of zooplankton in the Black Sea. The Black Sea zooplankton and phytoplankton checklists are being created for marine biologists working with Black Sea plankton. The aims of Black Sea plankton checklists are to be the source of reliable species information, to fill the gaps within global checklists and to serve as the quality control tool for Black Sea plankton data. A wiki is a collection of web pages designed to enable anyone who accesses it to contribute or modify content, using a simplified markup language.

 Black Sea Phytoplankton Checklist - A species list and identification checklist (in Wiki-form) of phytoplankton in the Black Sea. Identical to the Zooplankton list wiki pages about phytoplankton have been developed.

 Marine Protected Areas - According to the UNEP-World Conservation Monitoring Centre (World Protected Areas Data Base, 2008), some 125 protected areas have been designated bordering the Black Sea coast.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	
Environmental assessment	yes
Socio-economic assessment	yes
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	

Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	Yes
Temporal closures	
Economic measures	Yes
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	http://www.blacksea-commission.org/_3BSCConf.asp
Papers for general public	
Software	
Reports	
Website	http://www.blackseascene.net
Other	• Fifth Newsletter of the Upgrade Black Sea Scene Project, 23 November 2011 • Fourth Newsletter of the Upgrade Black Sea Scene Project, 14 March 2011 • Third Newsletter of the Upgrade Black Sea Scene Project, 30 October 2010 • Second Newsletter of the Upgrade Black Sea Scene Project , 12 April 2010 • First Newsletter of the Upgrade Black Sea Scene Project, 26 November 2009 **Conference Black Sea Outlook - 31 Oct - 4 Nov 2011**

4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	Strengthening the regional capacity to support the sustainable management of the Black Sea Fisheries (SRCSSMBSF)
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	National Institute for Marine Research and Development "Grigore Antipa" Constanta, Romania (NIMRD)
Coordinator Name:	**Dr.eng.Simion Nicolaev**
Countries/Partners involved:	Romania, Ukraine,Bulgaria,Turkey (IFR; IOBAS; YugNIRO; CFRI; KTU-MSF)
Source of funding:	Joint Operational Programme "BLACK SEA 2007-2013"
Geographical Coverage:	Black Sea
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	14.Nov2011-14.Nov.2013 (24 months)
Relevance to EAF (low, medium, high)	**high**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

Sharing resources and competencies for environmental protection and conservation

Measure: Strengthening the joint knowledge and information base needed to address common challenges in the environmental protection of river and maritime systems

Overall objective

Cooperation between the Black Sea riparian countries for knowing and rationally managing the marine ecosystem and its resources, carrying out diagnostics of fish stocks status as well as advice on management strategies. The major task is to develop methods for joint-regional stock assessment for the Black Sea that will ultimately enable researchers to determine the condition of stocks and advice on management strategies.

Harmonization of methods and tools to assess the present state of fish stocks by scientific surveys, holistic models;

- Alignment of the common methods for sampling, processing and interpretation data from fisheries and stock assessment using analytic models;

- Awareness of the fishery organizations and decision–makers from national fisheries regarding the need to use in the management strategies of the advice from research and joint – regional stock assessment.

Stock assessment is presently based on two major sources of data: from scientific surveys and fisheries. In the Black Sea the following two model groups will be used:

a/ The holistic models will be used in the situations when the data are limited, a few population parameters are available;

b/ The analytic models, based on the detailed description of the stocks, need a great quantity of data, qualitative superior comparatively with the holistic models;

Depending on the available data and financial and logistic resources supply, the both methods can be used in the assessment process.

The stock assessment by scientific surveys is required at all stages of the development of a fishery, but the need for accuracy and precision is different. A practical advantage of survey-based assessments is that advice can be provided quickly after the completion of surveys, thus solving the timeliness issue which frustrates managers. More generally, they can be used alongside existing methods of fish stock assessment, they can be used alongside existing methods of fish stock assessment, to cross-check the results and/or to bring in more biological knowledge make conclusions more robust.

Historical stock levels and the catch rate by fisheries are in most cases obtained from analyses of commercial fisheries data using Virtual Population Analysis (VPA) or alternative stock number at age based models.

Within the holistic models, the following methods are to be standardized at regional level:

- Methods of swept area (bottom trawl survey, egg and larval survey, juvenile survey);

- Hydroacoustic methods;

Within the analytic models - To describe population dynamics of fish stocks, many models have been developed, among the most often used models are Virtual Population Analysis (VPA), simple production model (Schaefer model) and Yield per Recruit model (Beverton and Holt model).

The goal of the awareness is to promote the use of research results as a basis for the setting of management objectives, reference points and performance criteria, as well as for ensuring adequate linkages between applied research and fisheries management. Through a sustained awareness campaign at the fishermen and decision- makers level, will increase the acceptance and observance degree of the recommendations and measures proposed by national authorities for fisheries management.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

- Meetings of specialists in assessment from the Black Sea coastal countries;

- Working visits and trainings of specialists;

- A bst-practice guideline for stock assessment using scientific surveys realised in the national languages of partners and English (a guideline and standardized protocol which include the sampling gear (feature and handling), the design of the survey, the information collected, and the management of the data as far as the common standard analysis of the data);

- Manual of protocols on international methodology for sampling, samples processing, analysing and discussions of data and results, fishery statistics, stocks assessment by analytical models;

- Report on state of the Black Sea Fisheries;

- Management Plan for Black Sea Fisheries;

- Inventories of the national authorities, focal points, scientists and non-governmental organizations concerned with fisheries;

- Regional Workshop for design of the awareness campaign;

- Awareness materials;

Results:

- Standardization at regional level and in conformity with the international practice of the methods and tools for sampling, processing, analyzing and interpreting the data and information as well as the fish stock assessment;

- Competitive and comparable data, scientific support of marine fishery management which must to be economically efficient, socially responsible and healthy for environment;

- Recommendations for the most practical and appropriate method for regular, multi-species, stocks assessment in the Black Sea with suggestions on how to fill knowledge/data/information gaps in the future;

- Methods to help individuals, organizations and communities better understand the stressors and other factors that influence the productivity of the fishery;

- Improvement of management of the Black Sea fish stock exploitation based on harmonized methodologies of assessments based on agreed regional criteria;

- Facilitate the dimensioning of the fishing activity depending on the ecosystem's capacity of support;

- A better scientific understanding of the basin-wide marine environment/ecosystem status;

- Rational management of ecosystem and living resources from the Black Sea in compliance with the principles of Code of Conduct for a responsible fishing;

- Support the establish of the total admissible catch depending on the stock status, permitting the efficient allocation of the fishing quotas and the corresponding dimensioning of the fishing effort;

- Assessments of the efficiency of fisheries

Provide the best possible advice and technical support to marine ecosystems and sustainable use of the marine living resources. - Facilitate the dimensioning of the fishing activity depending on the ecosystem's capacity of support; - Establish the total admissible catch depending on the stock status, permitting the efficient allocation of the fishing quotas and the corresponding Permit to achieve o maximum sustainable yield (MSY) without threatening the environment and living marine resources.

- Assure the stable places of work both in the production of materials and fishing equipment, and also in processing and marketing;

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	**yes**
Environmental assessment	yes
Socio-economic assessment	yes
2.2 Habitat assessment	
Nurseries	yes
Feeding areas	yes
Spawning areas	yes
Other essential fish habitats	yes
Sensitive habitats	yes
2.3 Management recommendations	
Access rights	
TACs and quotas	yes
Number of boats/licenses	yes
Fishing time	yes
Size or number of gear items	yes
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	yes
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	yes
Limits to fishing power	yes
Other effort limits	yes
Fish size limits	yes
By-catch management	yes
Discards management	yes
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	yes
Temporal closures	yes
Economic measures	yes
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	
Is precautionary approach addressed? How?	

2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	
Software	
Reports	Best practice guideline on scientific surveys in Black Sea area.
Website	
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
The fish stock assessment and monitoring activities at national level are fragmented and irregular; - Lack of annual assessment of the fish stocks at regional level; - There is no process for assessment of fish stocks, even for shared and migratory species, at the regional level. - Data and methodologies used at national level for assessment purpose are not compatible and comparable for regional purposes;	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	Project on Environmental Collaboration for the Black Sea (ECBSea)
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	Ministry of environmental protection, Kyiv, Ukraine
Coordinator Name:	Caroline la Chapelle – Project Director Tatiana Zaharchenko – Team Leader
Countries/Partners involved:	Ukraine,Moldova,Georgia
Source of funding:	EC, The EuropeAid Programme
Geographical Coverage:	**Black Sea coastal states: Ukraine,Moldova,Georgia**
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2,5 years (starting from March 29, 2007)
Relevance to EAF (low, medium, high)	**medium**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

The Project's overall objective
is to contribute to the sustainable development of the Black Sea Basin by:

- prevention and reduction of pollution to the Black Sea (from river discharges or direct discharges)
- sustainable management of natural resources and protection of biodiversity of the Black Sea basin.

The Project aims to improve:

- regional cooperation for protection of the Black Sea;
- national capacities to implement and enforce existing environmental legislation, secondary laws and regulations to implement the Bucharest Convention;
- national legislations, secondary laws and regulations to implement the Bucharest Convention at national level, taking into account convergence to EU water related legislation, in particular the Water Framework Directive (WFD) and the forthcoming EU Marine Strategy (see also the page on International and EU legislation);
- biological water quality monitoring of pollution;
- integrated coastal zone management;
- protection of marine biodiversity through the establishment of Marine Reserves;
- public participation and awareness raising.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

1. Text of Amendments to the Bucharest Convention

2. Guidelines for the Establishment of Marine Protected Areas in the Black Sea (in English and Russian)

3. Background paper for the regional NGO workshop: "The Bucharest Convention: How to improve transparency and accountability?"

4. Draft Law of Ukraine on Coastal Zone (in Ukrainian and English)

5. Explanatory Note On the Fulfillment of the Legal Component - EU/TACIS Project "Environmental Collaboration for the Black Sea" for Ukraine (in Ukrainian and English)

6. Guidelines on Territorial Planning in Coastal Zone of Ukraine (in Ukrainian and English)

Figures in Ukrainian and English

7. Current State and Perspectives of Legal Regulation for Wetlands of National and Local Importance in Ukraine (in Ukrainian)

8. Designation Dossier for the Establishment of the Marine Protected Area in the Black Sea, Ukraine (in Ukrainian and English):

- Desk Study of Small Phyllophora Field MPA in Karkinitsky Bay
- Field Survey of Karkinitsky Bay MPA
- GIS maps of Karkinitsky Bay

9. Preliminary Management Plan for the Small Phyllophora Field Marine Protected Area in Karkinitsky Bay for Ukraine (in Ukrainian and English)

10. Proposal for the Declaration of the Marine Protected Area: "Botanical Reserve of National Importance, Small Phyllophora Field of Karkinitsky Bay" for Ukraine (in Ukrainian and English)

11. Water Sector Convergence Plan (Road Map) for the four EU Directives for Georgia

12. Concept for the New Framework Water Law of Georgia

13. Integrated Coastal Zone Management Strategy for Georgia

14. Integrated Plan for Sustainable Development of Tskhaltsminda Coastal Community in Georgia

15. Report on Results of Coastal Community Survey on Sustainable Development in Tskhaltsminda for Georgia

16. Report on Water Directives Convergence Evaluation in the Republic of Moldova (in Romanian and English)

17. Convergence plans for the three EU water Directives for the Republic of Moldova:

- Water Framework Directive 2000/60/EC (in Romanian and English)
- Urban Wastewater Treatment Directive 91/271/EEC (in Romanian and English)
- The Protection of Waters against Pollution caused by Nitrates ... Directive 91/676/EEC (in Romanian and English)

18. Draft Regulation on Surface Water Protection for the Republic of Moldova (in Romanian and Russian)

Explanatory note for Draft RWP (in Romanian and Russian)

19. Draft Regulation on Identification, Delimitation and Classification of Water Bodies for the Republic of Moldova (in Romanian and Russian)

20. Regulatory Impact Assessment for the draft Regulation on Surface Water Protection for the Republic of Moldova (in Romanian and English)

21. Regulatory Impact Assessment for the draft Regulation on Identification, Delimitation and Classification of Water Bodies for the Republic of Moldova (in Russian)

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	
Environmental assessment	Draft Law of Environment in Ukraine
Socio-economic assessment	
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	Preparation of management plan of MPAs in Ukraine
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	Guidelines for establishing the MPAs in Black Sea

Temporal closures	
Economic measures	Draft strategy for ICZM in Georgia
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Management plans elaborated, socio-economic indicators;
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	Ukraine,Moldova,Georgia
Enforcement	2009
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	he publication of the Black Sea Commission newsletter (issue 11, Nov 2007-Dec 2008); brochure "Saving the Black Sea Together".Banners;
Software	
Reports	Integrated Plan for Sustainable Development of Tskhaltsminda Coastal Community
Website	http://81.8.63.74/ecbsea/en/index.html
Other	ECBSea Project leaflet
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
The Russian Federation has chosen not to participate in the Project. It never properly endorsed the Terms of Reference. Nevertheless, since Project initiation, the European Commission and the Project team made steady efforts to encourage Russian participation. With no progress visible, the first SC meeting (the 7th of November, 2008) put a deadline of December 15, 2007 for a Russian Federation decision to join the Project. But there was no response to the EU Commission's letter to that effect. As a result, the second SC that took place on 19th of May, 2008, decided to use expert days planned for Russia for activities benefiting Ukraine, Moldova, Georgia and the Black Sea Commission Permanent Secretariat. In the same time, in line with the regional focus of the Project and per consultations with EC management, the Project continues to support involvement by Russian specialists in the regional meetings, such as, for example, the Regional Meeting on Biodiversity in September 2008 in Odessa.	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	UNEP/ACCOBAMS: Involvement of Black Sea artisanal fisheries in anti-marine litter activities
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	BREMA laboratory, Ukraine,Black Sea council on marine mammals
Coordinator Name:	Dr.Alexei birkun
Countries/Partners involved:	Ukraine
Source of funding:	MoU between UNEP and BSC /ACCOBAMS
Geographical Coverage:	UKRAINE
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2007-2008 (2 years)
Relevance to EAF (low, medium, high)	High

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

The extent of two phenomena: By-catch, a principal cause of human-induced mortality of Black Sea dolphins and Fi which contribute to marine litter pollution and additional by-catches by means of so-called ghost fishing caused by th abandoned fishing nets.The F/V “Klyon” was used, 22m LOA, and the area of teritorrial sea of Ukraine off the weste 10^{th} net (10.1%) contained 1-2 cetaceans.Total number of by-catches amounted to 120 including 118 harbor porpois (Ph.phocoena), 98.3%) and 2 bottlenose dolphins (T.truncatus), 1,7%). All cetaceans were found dead. Harbor porp caught by 15.6% of turbot nets and by 5.1% of dogfish nets.A total of 895 pieces of polyethylene film, plastic bags, f packaging matter and some other polymer items were recorded in and collected from 397 nets (37.0% of all nets tha examined).Plastics were found in a good half of turbot nets (51.0%) and in a quarter of dogfish nets (25.3%).Genera entrapped plastic litter twice as much (14 pieces/km) than dogfish ones (7 pieces/km).Turbot nets contained both tu cetaceans more often and on a larger scale per one net if they contained also plastic debris.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundan indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, tota stock assessment.

Raising awarnes of the fishermen. Derelict fishing nets represent harmful type of marine litter.

Incorporated suitable findings and recommendations from the Regional Marine Litter Action

Plan, as applicable for the Black Sea region, into the Strategic Action Plan (SAP);

A pilot activity on *Marine Litter and Marine Mammals Conservation in the Black Sea*jointly by BSC/ACCOBAMS/UNE

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	**no**
Environmental assessment	yes
Socio-economic assessment	no
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	yes
Fishing time	yes
Size or number of gear items	yes
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	yes
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	yes
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	yes
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	yes
Temporal closures	
Economic measures	yes
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Level of by-catch
Is precautionary approach addressed? How?	

2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	2008
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	Report entitled "*Marine litter in the Black Sea Region: A revie* *problem*";
Software	
Reports	I
Website	
Other	

4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS

Development of marine mammals management plan for the Black Sea.Assessment of the abundance and distributio marimne mammals in the Black Sea. Adverse effects of fishing on the cetaceans.

5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATIO MEDITERRANEAN AND BLACK SEA

This pilot project on the Involvement of Black Sea Artisanal Fisheries in Anti-Bycatch and Anti-Marine Litter Activities was carried out during the period from January to November 2008 within the Joint BSC PS, UNEP and ACCOBAMS PS Programme on Marine Litter and Marine Mammals Conservation in the Black Sea, established upon consultations with the UNEP Regional Seas Programme. The project was implemented by two partner organisations located in Ukraine, including the Black Sea Council for Marine Mammals (BSCMM, international NGO) and the Brema Laboratory (private research institution)

The project was supported by the UNEP Regional Seas Programme (Nairobi, Kenya), the Permanent Secretariat of the Black Sea Commission (BSC PS, Istanbul, Turkey) and the Permanent Secretariat of ACCOBAMS (ACCOBAMS PS, Monaco) in frames of the Joint BSC and ACCOBAMS Programme on Marine Litter and Marine Mammals Conservation in the Black Sea, upon consultations with the UNEP Regional Seas Programme.

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	Black Sea ecosystem recovery project
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	GEF/UNDP BSC PS
Coordinator Name:	Dr.Yegor Volovik
Countries/Partners involved:	Members of the Black Sea Commission, BSC Permanent Secretariat Team, National Project Coordinators, representatives of UNOPS, UNDP/GEF, UNDP Turkey, UNEP GPA, European Commission, UNDP/GEF BSERP PIU including CTLs, BSNN, BSEC, Istanbul Technical University and Consultants,Black Sea countries; individual experts
Source of funding:	
Geographical Coverage:	
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2001-2007
Relevance to EAF (low, medium, high)	**high**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

THE LONG-TERM DEVELOPMENT OBJECTIVE

of the proposed Black Sea Ecosystem Recovery Project (BSERP) is to contribute to sustainable human development in the Black Sea area through reinforcing the cooperation and the capacities of the Black Sea countries to take effective measures in reducing nutrients and other hazardous substances to such levels necessary to permit Black Sea ecosystems to recover to similar conditions as those observed in the 1960s. The overall objective of the project is to ensure (i) that all of the Black Sea countries take concrete measures (including investment activities) in the eutrophication causing sectors to reduce load of nutrients and hazardous substances on the Black Sea ecosystem and, (ii) that major findings and recommendations of the project have been incorporated in national policies, strategies and, where possible, in national legislation.

THE OVERALL OBJECTIVE

of the current GEF/UNDP Black Sea Ecosystem Recovery Project is to support participating countries in the development of national policies and legislation and the definition of priority actions to avoid that discharge of nitrogen and phosphorus to the Black Sea exceed those levels as observed in 1997. This will require countries to adopt strategies and measures that permit economic development whilst ensuring the rehabilitation of coastal and marine ecosystems through pollution control and reduction of nutrients and hazardous substances. At the end of the Project Phase II (2007), it is expected that the institutional mechanism of the Black Sea Commission is reinforced and fully operational ensuring cooperation between all Black Sea countries to efficiently implement joint policies and actions and operate common management and control mechanisms.

SPECIFIC OBJECTIVES

of the BSERP are (i) to reinforce regional cooperation under the Black Sea Convention, (ii) to set up institutional and legal instruments and to define priority actions at regional and national levels to assure sustainable coastal zone management, (iii) to protect of coastal and marine ecosystems and habitats in order to secure sustainable use of coastal and marine resources.

Due to over fishing in the early 1970s-1980s, the structure of catches has shifted significantly.

Declining stocks of predatory species such as bonito, horse mackerel and bluefish resulted in an increase in non-predatory species such as anchovy and sprat. Consequently, fishing fleets have increasingly targeted these smaller species, resulting in increased by-catches of larger, 6 less abundant fish species. Total fish landings are now about half of what they were in the latter half of the 1980s.

Commercially important marine living resources have been greatly affected by alien species introductions, eutrophication, over-fishing and habitats change/damage. Annual total fish catch statistics show an improving situation, but these figures are dominated by catches of anchovy and sprat. There have been recent improvements in catches of some other fish, such as bonito, but turbot, dogfish and whiting catches have either shown no improvement or have fallen over the past decade-or-so. Sturgeons remain endangered. Unsustainable fishing practices are still in relatively common use.

The importance of *Rapana*, the Japanese Snail has increased and has helped to off-set the decline in mussel and clam landings (the decline being due, in large part, to predation by *Rapana* anyway). The contribution of illegal fishing activities to damage/change of marine living resources is not clearly understood, but there a general acceptance that this is a causative factor.

The seafood industry is a major coastal employer, particularly for some countries.

Aquaculture is not strongly developed in the region and there is scope for this to be expanded, providing environmental considerations are taken into account.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Information provided by	Dr.Violin Raykov
1. GENERAL INFORMATION	
Title of the activity:	COMFISH Strengthening the impact of fisheries related research through dissemination, communication and technology transfer
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	**Research Project**
Leader Institution:	Ludwig-Maximilians-Universität München Institut für Kommunikationswissenschaft und Medienforschung
Coordinator Name:	Paul Pechan
Countries/Partners involved:	Poland,Norway,Spain,Germany,Bulgaria, The Netherlands,Denmark, Italy
Source of funding:	EU FP7 FP7-KBBE-2011-5
Geographical Coverage:	North Sea,Mediterranean Sea,Black Sea,Baltic Sea
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	36 months (started February 2012)
Relevance to EAF (low, medium, high)	**High**

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

ComFish takes the view that it is not sufficient to focus on pressing issues in fisheries or on communication impasses between stakeholders in isolation (scientists – industry – policy makers). A broader view is necessary, and this is very much in line with the ecosystem approach of the revision of the Common Fisheries Policy to be implemented in 2012.

In this frame of mind, ComFish aims to identify important fisheries topics with long term impacts and ascertain whether scientific results have been properly communicated to fisheries stakeholders. If yes, why and how was this done? If not, then the question must be answered which communication needs must be addressed. What are the related challenges, needed actions and possible solutions?

ComFish will identify these topics and through five regional participatory stakeholder events address these communication impasses. Next, ComFish will use the outcome of the events to prepare Information Packages, that include audio-visual materials, and communicate the identified priority issues to a wider circle of stakeholders as well as to EU citizens. Finally, ComFish will organise a Partnering Event to facilitate network building amongst stakeholders, to jointly address and overcome communication impasses and to stimulate collaborations. All activities are supported by a robust science based impact analysis.

ComFish has nine partners in eight EU countries: four are communication specialists and five are institutions engaged in marine research and policy advice. The project benefits from an extensive Advisory Board with representation from all major fisheries stakeholders in Europe as well as over 40 Project Associated Members, mostly FP6/FP7 research project co-ordinators. The project lasts 36 months."

Methodology

The project will facilitate exploitation and transfer of national and European research results through friendly-user applications and technologies. Specific attention should also be given to dissemination towards the EU citizens. The ComFish project proposes to use a mix of innovative and well tried mechanisms to improve communication and uptake of scientific knowledge amongst the stakeholders. This includes the following activities:

- stakeholder led regional focus meetings with science-based post- and inter-event evaluations.
- presenting and discussing scientific results, practical solutions and novel technologies to the stakeholder groupings and individuals that either take part in the ComFish network or will join the network once the project takes shape.
- the use of multimedia to disseminate the accumulated knowledge to key stakeholder groupings, including the youth and the general public.
- a final project meeting to present the project's deliverables, stimulate B2B contacts and discuss future activities and developments.

The activities will contribute to a better networking of the key stakeholders from the EU and beyond, encouraging uptake of innovation and knowledge by specific stakeholders and contribute to raising awareness of the EU fisheries policy among the public.The project has started its activities in February 2012.

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	
Environmental assessment	Draft Law of Environment in Ukraine
Socio-economic assessment	
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	Preparation of management plan of MPAs in Ukraine
TACs and quotas	
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	

Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	Guidelines for establishing the MPAs in Black Sea
Temporal closures	
Economic measures	Draft strategy for ICZM in Georgia
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Management plans elaborated, socio-economic indicators;
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	Ukraine,Moldova,Georgia
Enforcement	2009
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	
Software	
Reports	
Website	
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	Options for Delivering Ecosystem-Based Marine Management (ODEMM)
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	University of Liverpool, Liverpool, UK
Coordinator Name:	Robinson L.A. and A.M. Knights
Countries/Partners involved:	17 partners from 13 countries University of Liverpool (ULIV), Liverpool, UK National Institute of Oceanography, Israel Oceanographic and Limnological Research (NIO-IOLR), Israel Hellenic Centre for Marine Research (HCMR), Greece Sea Fisheries Institute (SFI), Poland Institute of Biology of Southern Seas (IBSS), Ukraine University of Thessaly (UT), Greece Innovative Fisheries Management (IFM-AAU), Denmark Centre for Environment, Fisheries and Aquaculture Science (CEFAS), UK Institute of Marine Sciences, Middle East Technical University (IMS-METU), Turkey Marine Law and Ocean Policy Research Services Ltd (MLOPRS), Ireland Scottish Agricultural College, Edinburgh (SAC), UK Wageningen Univeristy (WU), Netherlands National Institute for Marine Research and Development (NIMRD), Romania Institute of Oceanology, Bulgarian Academy of Sciences (BAS), Bulgaria Wageningen Institute for Marine Resources and Ecosystems Studies (IMARES), Netherlands. Finnish Environment Institute (SYKE), Finland Department of Zoology, Tel Aviv University, Tel Aviv, Israel
Source of funding:	Large-scale integrating project – EU FP7

Geographical Coverage:	Community waters (EU)
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	42 months 01.03.2010 (starting date)
Relevance to EAF (low, medium, high)	High

Activity Summary Short summary (max 500 words): context, objectives, methodology, results

PROJECT OBJECTIVES

The overall aim of the ODEMM project is to develop a set of fully-costed ecosystem management options that would deliver the objectives of the Marine Strategy Framework Directive, the Habitats Directive, the European Commission Blue Book and the Guidelines for the Integrated Approach to Maritime Policy. The key objective is to produce scientifically-based operational procedures that allow for a step by step transition from the current fragmented system to fully integrated management.

METHODOLOGY

This will be achieved by: (1) providing a comprehensive knowledge base to support policy for the development of sustainable and integrated management of European marine ecosystems: (ii) developing Operational Objectives to achieve the High-Level Policy Objectives

set by the MSFD and the HD, and with reference to the proposed Maritime Policy; (iii) identifying Management Options (individual management tools and combinations of tools) to meet the Operational Objectives; (iv) providing a risk assessment framework for the evaluation of Management Options and to assess the risk associated with the different options; (v)conducting a cost-benefit analysis of a range of Management Options using appropriate techniques; (vi) identifying stakeholder opinions on the creation of governance structures directed towards implementation of the ecosystem approach, and to elaborate different scenarios for changing governance structures and legislation to facilitate a gradual transition from the current fragmented management approach towards fully integrated ecosystem management; (vii) documenting the steps necessary for the transition from the current fragmented management scheme to a mature and integrated approach, and providing a toolkit that could be used to evaluate options for delivering ecosystem-based management, and (viii) communicating and consulting on the outcomes of the project effectively with policy makers and other relevant user groups.

Major steps forward in methodology and knowledge base related to sustainable management and regional governance of the European marine environment will be made in this project. These will be published in journal articles, and through a series of technical reports or electronic newsletters and briefings. In addition to this a number of key results or expected outputs are listed below:

1. Technical report of the 'Current State of Knowledge on the Sustainability of European Seas'

Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

Pressure assessment userguide - ODEMM Guidance Document Series No. 2 (http://www.liv.ac.uk/media/livacuk/odemm/docs/Pressure_Assessment_Guidance.pdf)

ODEMM Linkage Framework Userguide ODEMM Guidance Document Series No 1

 Given the multiple (national and international) policy needs for effective monitoring and management of the marine environment, there is a clear requirement for a tool that could be used to prioritise resources. Identifying the key pressures, specifically from human activities, on marine ecosystem characteristics will allow management action to be focused on the most damaging activities and identify the most vulnerable ecosystem characteristics. Here we describe the ODEMM pressure assessment approach, which identifies the sector/pressure combinations that currently present the greatest threat to marine habitats and their associated assemblages and its application to Europe's regional seas.

The ODEMM Linkage Framework is a conceptual tool to describe the relationships between the ecological, socio-cultural and economic characteristics of the European marine environment and addresses the

integrated approach required by the MSFD. This linkage framework guidance document presents part of this integrated concept by specifically describing the linkages between the MSFD High Level Objectives, the ecological characteristics of the natural environment, and the ecosystem goods and services provided by these ecological characteristics.

Additional linkages describing the relationships between the sectors, and socio-cultural and economic characteristics, will be published in Autumn 2011 to fulfil the MSFD requirements of the integrated approach.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	no
Environmental assessment	yes
Socio-economic assessment	yes
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	
2.3 Management recommendations	
Access rights	yes
TACs and quotas	yes
Number of boats/licenses	
Fishing time	
Size or number of gear items	
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	
Limits to fishing power	yes
Other effort limits	
Fish size limits	
By-catch management	
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	yes
Temporal closures	
Economic measures	yes

2.4 EAF Indicators and reference points	
Main EAF indicators implemented	In order to provide a common basis for the project the existing knowledge base covering the scientific understanding, environmental, social and economic status of the European marine system will be reviewed. This will provide a codification of the ecosystem, with humans as an integral part, and will highlight drivers of change.The current mechanisms of governance in the marine sectors across Europe and existing environmental objectives set in regional or sector specific frameworks will be reviewed and consolidated into a single framework. This will highlight gaps, overlaps and conflicting management objectives.The consolidation of information on existing regional objectives will be assessed against the high level objectives that derive from the Marine Strategy Framework Directive and the Habitats Directive in order to produce a series of SMART operational objectives. The risks of the scheme delivering the intended benefits and the risks of other outcomes need to be evaluated and the economic costs of action and the resulting benefits are quantified along with the costs and benefits of alternative actions, including a do nothing, business as now, scenario.With this information (the objectives, management schemes, risk analysis and cost-benefit evaluation) the acceptability of different scenarios will be considered by societal representatives and a consensus view of the way ahead agreed.Having developed a set of operational objectives and evaluated a series of management schemes the ODEMM team will develop a fully costed practical implementation plan that identifies how the current regulatory framework can be adapted/expanded to deliver the new objectives (WP 8).
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	2008

3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	Judith van Leeuwen, Luc van Hoof, Jan van Tatenhove. Institutional ambiguity in implementing the European Union Marine Strategy Framework Directive. Marine Policy 36(2012);636-643 K. Ounanian, A. Delaney, J. Raakjaer, P. Ramirez-Monsalve. On unequal footing: Stakeholder perspectives on the marine strategy framework directive as a mechanism of the ecosystem-based approach to marine management. Marine Policy 36(2012);658-666 (Word version available here).
Papers for general public	http://www.liv.ac.uk/odemm/partner_publications/
Software	
Reports	
Website	www.liv.ac.uk/ODEMM
Other	
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	

Information provided by	**Dr.Violin Raykov**
1. GENERAL INFORMATION	
Title of the activity:	PROJECT OF CETACEAN BYCATCH AND STRANDING RELATED TO TURBOT FISHERY AND MARINE LITTER (ML) POLLUTION IN THE WESTERN TURKISH BLACK SEA COAST (BSC-ML/2008)
Type of activity: Research Project, Monitoring activity. Stock assessment, Modelling, Management recommendation, Report, Other (Indicate)	Research Project
Leader Institution:	Istanbul University, Faculty of FisheriesTurkish Marine Research Foundation (TUDAV)
Coordinator Name:	Arda M. TONAY
Countries/Partners involved:	Turkey
Source of funding:	Joint Programme of the BSC PS and ACOBAMS on Marine Litter and Marine Mammals Conservation in the Black Sea.
Geographical Coverage:	Turkey
Duration (start and end date) Recent (i.e. 5 years) or older if it is highly relevant to EAF	2008
Relevance to EAF (low, medium, high)	High

Activity Summary Short summary (max 500 words): context, objectives, methodology, results
Components: Turbot fishing operations Cetacean bycatch (MM); Other species in bottom gillnets Marine Litter (ML); Coastal surveys Cetacean strandings (MM) Marine Litter (ML) Methods: Turbot fishing operations The fishing boat used is 12 m long, has a team of 5-6 fishermen and operates in the western part of the Turkish Black Sea. ML / Marine litter in bottom-set fishing nets was collected, dried, counted, weighted and recorded. The coastal surveys of a 43 km long sandy beach over 200 km seashore areconducted seasonally. MM / Stranding cetaceans arerecorded, photographed, measured and sampled for further researches. Results: The fishing observation continued from 2ndApril till prohibition period of turbot fishing (1stof May). The boat hauled total 279 bottom gill nets with a soak time of 8-16 days in approximately 130km^2 . Only one Harbourporpoise (*Phocoenaphocoena*) was bycaught Total 332 turbots were caught. Turbot fishing operations -ML•Most of them were plastics and nylon bags (94%). •Total 4.45kg and 555items(18.4 pieces/km)were found.•24 items were identified for their origin.Almosthalfof themwere from foreign countries. Total 17 stranded cetaceans were found; 9 harbourporpoise(53%), 5 bottlenose dolphin(29%), one common dolphin (6%) and two unidentified individuals. •Strandingsper km are 0.09, 0.1 and 0.2 individuals for spring, summer and autumn, respectively. Total 13,419 items were found. •More than half of them were collected in autumn period (60.3%). ML Plastics materials were the dominant solid waste. Cetacean bycaugtnumber are generally low in April in Turkish Western Black Sea. In May and June, the number is increasing as in previous studies (e.g. Tonay&Öztürk, 2003). Marine litter on the seabed is important issue also for cetaceans. According Tonayet al.(2007), plastic debris were found in the stomachs of five Harbourporpoises. The debris in one bycaughtindividual's stomach consisted of plastic bags and sheeting with dry weight of 40,9g.
Available Outcomes Short description (max 500 words) of the main available outcomes: ex. species lists, abundance and biomass indices, size structure, biological and demographic parameters (relative and absolute growth, sex ratio, maturity, total mortality), stock assessment.

2. SUMMARY OF RESULTS RELATED TO EAF	
2.1 Assessment	
Stock assessment	no
Environmental assessment	yes
Socio-economic assessment	no
2.2 Habitat assessment	
Nurseries	
Feeding areas	
Spawning areas	
Other essential fish habitats	
Sensitive habitats	yes

2.3 Management recommendations	
Access rights	
TACs and quotas	
Number of boats/licenses	yes
Fishing time	yes
Size or number of gear items	yes
Limits to the gear characteristics (mesh size, square mesh, material of the nets, type and size of hooks, etc,) even forbidden gears	yes
Accompanying devices (FADs, dolphin exclusion devices, trawl sorting grids, detection devices, etc.)	yes
Limits to fishing power	
Other effort limits	
Fish size limits	
By-catch management	yes
Discards management	
Technological creeping control	
MPAs (or FRAs, or any other figure of protected area)	yes
Temporal closures	
Economic measures	
2.4 EAF Indicators and reference points	
Main EAF indicators implemented	Level of by-catch
Is precautionary approach addressed? How?	
2.5 Monitoring, Control and Surveillance (MCS)	
Institution(s) responsible of MCS	
Enforcement	2008
3. PUBLIC PRODUCTS AS OUTPUT OF THE ACTIVITY (attach a list of the bibliographic references)	
Scientific papers	
Papers for general public	MM Poster for the fishermen and student. “Our dolphins” ML Poster for fishermen and students
Software	
Reports	I

Website	
Other	The field study of the project was filmed by “IzTv”(Turkishdocumentary channel). The filmwas shownmore than 5 times in a documentary series which named “Garbage dump in the Bosphorus”. A photo exhibition was organized, which named “New Species…”in Sofia BS-HOT Conference.
4. MAIN IDENTIFIED NEEDS, GAPS, SHORTCOMMINGS	
Development of marine mammals management plan for the Black Sea.Assessment of the abundance and distribution of the marimne mammals in the Black Sea. Adverse effects of fishing on the cetaceans.	
5. OVERLAPPINGS WITH OTHER INTERNATIONAL/REGIONAL BODIES REGARDING EAF IMPLEMENTATION INT HE MEDITERRANEAN AND BLACK SEA	