



**GENERAL FISHERIES COMMISSION FOR THE
MEDITERRANEAN
COMMISSION GÉNÉRALE DES PÊCHES POUR
LA MÉDITERRANÉE**



GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

SCIENTIFIC ADVISORY COMMITTEE (SAC)

**Meeting of the Sub-Committees (SCSA, SCESS, SCMEE, SCSI)
Malaga, Spain, 30 November – 3 December 2009**

PROVISIONAL COLLECTION OF ABSTRACTS*

***As received by the GFCM Secretariat**

SCSA

Stock assessment of *Mullus barbatus* in GSA9.-

by Alvaro Abella :

The assessment of the status of the *M. barbatus* stock has been performed using different approaches . Data sources are time series of commercial catches including age structure of the landings and trawl surveys. Non-equilibrium Production Models and LCA were used. Reference points based on fishing mortality were defined. The species is considered overexploited

Stock assessment of *Merluccius merluccius* in GSA9.-The assessment of the status of the *M. merluccius* stock has been performed using time series of commercial catches including age structure of the landings and trawl surveys. SURBA and LCA were used for estimating current F. Reference points based on fishing mortality were defined. The species is considered highly overexploited

Stock assessment of *Parapenaeus longirostris* in GSA9.-

by Alvaro Abella :

The assessment of the status of the *M. barbatus* stock has been performed using time series of commercial catches including age structure of the landings and trawl surveys. SURBA and LCA were used for estimating current F. Reference points based on fishing mortality were defined. The species is considered fully exploited.

Stock assessment of *Nephrops norvegicus* in GSA9.-The assessment of the status of the *N. norvegicus* stock has been performed using time series of commercial catches including age structure of the landings and trawl surveys. SURBA was used for estimating F. Reference points based on fishing mortality were defined. The species is considered fully exploited.

Stock assessment of hake (*Merluccius merluccius*) from the trawl fishery off the GFCM-GSA 05 (Balearic Islands)

by Beatriz Guijarro, Francesc Ordines, Maria Valls and Enric Massutí

IEO-Centre Oceanogràfic de les Balears, Moll de Ponent s/n, 07015 Palma (Spain)

The trawl fishery off Mallorca (Balearic Islands; GFCM-GSA05) is developed by around 40 vessels, which total annual landings are approximately 1400 tons. The European hake (*Merluccius merluccius*) is a target species for this fishery, mainly exploited on the deep shelf and upper slope, with annual landings oscillating between 50 and 190 tons during the last decades.

The information used for the assessment of the stock consisted in annual size composition of catches (estimated from monthly sampling), official landings and the biological parameters estimated from the Data

Collection Programme (2003-2007). The vector of natural mortality by age was calculated from Caddy's formula, using the PROBIOM Excel spreadsheet. The methodology applied was: (i) a tuned virtual population analysis (VPA), applying the Extended Survivor Analysis (XSA) method on the period 1980-2008 and considering catch per unit effort (CPUE) from commercial trawl fleet (2000-2008) and bottom trawl surveys (2001-2008) as tuning fleets; and, (ii) a VPA and yield per recruit (Y/R) analysis on a mean pseudocohort from the periods 1980-89, 1990-99 and 2000-08. The software used was the Lowestoft VPA

program, EXCEL and VIT program, respectively.

Stock assessment of *Mullus surmuletus* from GFCM GSA-05 (Balearic Islands)

by Antoni Quetglas, Beatriz Guijarro, Francesc Ordines and Joan Moranta

IEO-Centre Oceanogràfic de Balears

Striped red mullet (*Mullus surmuletus*) is one of the most important target species in the trawl fishery developed by around 40 vessels off Mallorca (Balearic Islands, GFCM-GSA05). A fraction of the smallscale fleet (~100 boats) also directs to this species during the second semester of the year, using both trammel nets and gillnets. During the last decade, the annual landings of this species have oscillated between

73-117 and 17-29 tons in the trawl and small-scale fishery, respectively.

The stock of *Mullus surmuletus* of the GFCM-GSA05 has been assessed using data from both the trawl and the small-scale fishery on a time series covering nine years (2000-2008). The assessment has been

carried out applying tuned VPA (Extended Survivor Analysis, XSA) on the cohorts present during 2000-2008 and both VPA and Y/R analysis on a mean pseudo-cohort from that period. These approaches were performed using monthly size composition of catches, official landings and the biological parameters estimated within the framework of the Data Collection Programme (2003-2004). The VPA was tuned with

CPUE from commercial trawl fleet (2000-2008) and bottom trawl surveys (2001–2008). The vector of natural mortality by age was calculated from Caddy's (1991) formula, using the PROBIOM Excel spreadsheet (Abella et al., 1997). The softwares used were the Lowestoft VPA program (Darby and Flatman,

1994) for the XSA and the VIT program (Lleonart and Salat, 1992) for the VPA and Y/R analysis from a mean pseudo-cohort.

References

- Abella, A., Caddy, J.F., Serena, F., 1997. Do natural mortality and availability decline with age? An alternative yield paradigm for juvenile fisheries, illustrated by the hake *Merluccius merluccius* fishery in the Mediterranean. *Aquat. Liv. Res.*, 10: 257–269.
- Caddy, J.F., 1991. Death rates and time intervals: is there an alternative to the constant natural mortality axiom? *Rev. Fish. Biol. Fish.*, 2: 109–138
- Darby, C.D. and S. Flatman, 1994. Virtual Population Analysis: version 3.1 (Windows/DOS) user guide. *Info. Tech. Ser., MAFF Direct. Fish. Res., Lowestoft, n° 1*, 85 pp.
- Jardim, E. and Azevedo, M. (2004). FLeda - an R package for fisheries exploratory data analysis, version 0.0-2.
- Lleonart J. and J. Salat (1997) VIT: Software for fishery analysis. User's manual. FAO Computerized Information Series (Fisheries). N° 11. Rome, FAO, 105 pp.

Stock assessment of Norway lobster (*Nephrops norvegicus*) from GFCM-GSA05 (Balearic Islands)

by Beatriz Guijarro, María Valls, Francesc Ordines and Enric Massutí

IEO-Centre Oceanogràfic de Balears

The Norway lobster (*Nephrops norvegicus*) is one of the target species of the bottom trawl fishery developed off Mallorca by a fleet of around 40 vessels, being captured on the upper slope, between 350 and

600 m depth, jointly with other by-catch species such as *Merluccius merluccius*, *Lepidorhombus* spp., *Micromesistius poutassou* and *Lophius* spp.

The assessment of this stock has been carried out by means of virtual population analysis (VPA) and yield-per-recruit (Y/R), on a mean pseudo-cohort for the period 2002-2008. It has been used monthly size composition of catches by sex, estimated from on board sampling between 2002 and 2008, and official

landings (daily sale bills). The biological parameters for both sexes (growth, length-weight and first maturity) were the same than previous assessment of this species in the Catalan Sea (GSA-06; Sardà *et al.*, 1998). Natural mortality was estimated from Pauly's method (1980). Analysis was performed using VIT software (Leonart and Salat, 1992).

The assessment of the red shrimp (*Aristeus antennatus*) in the GSA-5,
by Ana Carbonell Quetglas

The assessment of the red shrimp (*Aristeus antennatus*) in the GSA-5, was carried out by length cohort analysis (LCA and VPA). The stock has been assessed using data from trawl fishery on a time series covering nine years 2000-2008 year, applying VPA and Y/R analysis on a mean pseudo-cohort from that period, due the great stability in catches, size distribution and effort for the period. These approaches were performed using monthly size composition of catches, official landings and the biological parameters estimated for the area. The VPA was tuned with CPUE from commercial trawl fleet (2000-2008) and bottom trawl surveys (2001–2008). The software used were the Lowestoft VPA program (Darby and Flatman, 1994) for the XSA and the VIT program (Leonart and Salat, 1992) for the VPA and Y/R analysis from a mean pseudo-cohort.

“SARDONE: Improving Assessment and Management of Small Pelagic Species in the Mediterranean”
by Betulla Morello

SARDONE Project is aimed at developing a series of tools to better understand stock assessment and fishery management of small pelagic fish resources (anchovy and sardine) of the Mediterranean. The three major stocks and fisheries were chosen: the NW Mediterranean, the Adriatic Sea and the Aegean Sea. Investigations have focussed on detecting nursery areas; developing acoustic surveys for the estimation of recruitment strength; filling the gap in knowledge on the ecology of late larvae and juveniles; improving the selectivity of current fishing gear; assessing the impact of fry fisheries on the stocks; and exploring the application of novel stock assessment methodologies to Mediterranean small pelagic stocks.

Abstract of the contribution by Said Benchoucha:

The long line fishery in Mediterranean is characterised by its seasonality, by the multitude of the species targeted and by the multitude of fishing gears used. 70% of the long liners are based I Tangier port. The most fishing gears used by this fishery are selective and the main species sizes targeted are the big sizes.

Stock assessment form *Aristaemorpha foliacea* GSA 15 and 16

by Leyla Knittweis and F. Fiorentino at SGMED 09-02.

PowerPoint:

Understanding the distribution of vulnerable life cycle stages of commercially important demersal species aids in the identification of stock fractions and their dynamics, and is vital information for the implementation of spatially explicit fisheries effort management measures. Trawl survey data gathered around the Maltese Islands during the MEDITS project in 2003-2008 were analysed for *Merluccius merluccius*, *Mullus barbatus*, *Mullus surmuletus*, *Parapenaeus longirostris*, *Aristaemorpha foliacea* and *Nephrops norvegicus*. Abundance as well as biomass indices were calculated, and maps of the

distribution of immature individuals plotted in order to reveal the potential location of nursery sites. Results revealed that juveniles of the species *M. barbatus*, *M. surmuletus* and in particular *M. merluccius*, *P. longirostris* were concentrated to the east / north-east of the Maltese Islands, in the vicinity of the Malta Bank. The distribution of *N. norvegicus* and *A. foliacea* juveniles was found to be patchier, with sites distributed throughout the deeper waters lying to the west / northwest of the Maltese Islands

Progress in the implementation of the FAO–ArtFiMed PROJECT (Développement durable de la Pêche artisanale Méditerranéenne au Maroc et en Tunisie) in Morocco and Tunisia

by J.A. Camiñas and M. Bernardon

Summary: Le projet ArtFiMed s'intègre à la fois (i) aux priorités des pays en matière de lutte contre la pauvreté, d'amélioration des conditions socio-économiques des populations côtières et de réhabilitation des pêches artisanales, (ii) aux préoccupations régionales en matière d'échange d'expériences, d'amélioration de la gestion des stocks partagés et des espèces d'intérêt commun, (iii) aux recommandations et objectifs internationaux énoncés dans le cadre des objectifs pour Millénaire et du Comité des Pêches de la FAO.

Dans une première étape, des rapports diagnostics des trois sites sélectionnés pour la mise en œuvre du projet, Dikky au Maroc, et El Akarit et Ghannouch en Tunisie ont été élaborés et seront présentes. Ces rapports ont fait l'objet d'un processus de concertation avec les communautés bénéficiaires pour évaluer précisément le contexte dans les zones d'intervention et permettre ainsi l'identification participative des besoins et des activités qui seront mises en œuvre dans le cadre du projet.

Abstract of the contribution: Power point presentation by Isabel Palomera

The biomass of North Western Mediterranean anchovy stock was estimated in 2007 and 2008 spawning seasons by means of the Daily Egg Production Method (DEPM), covering the GFCM Geographical SubAreas 6 and 7. Values of anchovy stock spawning biomass (SSB) were 20850 t in the Gulf of Lions (GSA7) and 3047 t in the Northern Spain area (GSA6). Results show an important decline of anchovy biomass since the last evaluation made with the same method in 1994, being a 70% decrease in the Northern Spain area and around 50% in the Gulf of Lions. These results together with the poor fisheries results for the past years allow us to consider that the anchovy stock in the North Western Mediterranean might be in a critical situation, especially in the southern area (GSA 6-Northern Spain).

Stock assessment of Giant Red Shrimp (*Aristaeomorpha foliacea*) in GSA 15 and 16 (Strait of Sicily)

by Fabio Fiorentino¹, Leyla Knittweis², Vita Gancitano¹, Mark Dimech²

¹ Italian National Research Council (CNR) - Institute for Coastal and Marine Environment (IAMC)

² Ministry for Resources and Rural Affairs (MRRA), Government of Malta

The giant red shrimp stock in GSA 15 and 16 (Strait of Sicily) was assessed at the SGMED 02-09 meeting by using both fisheries dependent and fisheries independent information collected within the frameworks of European and National Programs on fishery resources. *A. foliacea* stock exploitation state was evaluated by running SURBA analysis on trawl survey data (1994-2008), and VIT analyses on commercial catches (2006-2008). The Biological Reference Points were estimated using both YIELD and VIT packages. All the approaches suggest similar diagnoses regarding the long term exploitation state. Considering F_{0.1} as the target reference point, a reduction of at least 30% of the current F is needed to reach a more sustainable exploitation pattern. With the exception of VPA results based on the 2006 pseudo-cohort (VIT), a reduction of current F is also suggested if F_{max} is considered as Biological Reference Point.

Abstract: Report of the Secretariat on the progress to establish regional protocols for surveys-at-sea (by the Secretariat)

Upon request of the Scientific Advisory Committee (SAC), the GFCM Secretariat contacted national research institutions and regional projects to provide any available protocols for surveys-at-sea. The present document reports on the progress in gathering this information. So far, the Secretariat received two documents in connection with protocols for trawl surveys and one other for an acoustic survey. The document also calls on the need for further action to be undertaken.

Abstract of the contribution : by Maria Teresa Spedicato

The data used in the analyses were from trawl surveys (time series of Medits and Grund surveys from 1994 to 2008 and from 1994 to 2006 respectively). Information on effort and landings were also used. The analyses on the population were conducted using ALADYM, SURBA and YIELD models and software in a complementary way. Outcomes from Aladym converged with the Z estimates of Surba and yield simulated using Aladym well approximated the observed ones. Given the results of the present analysis, the stock of hake appears overexploited since the current fishing mortality is higher than $F_{0.1}$ and F_{max} .

Assessment of Norway lobster, *Nephrops norvegicus*, in the central Adriatic Sea

by Elisabetta Betulla Morello

Nephrops norvegicus is of major commercial importance throughout the NE Atlantic and Mediterranean distribution, including in the Adriatic Sea. In the Adriatic, *Nephrops* ranks first of all crustacean species exploited in terms of value, and second in terms of weight, with a decreasing trend in catches since 1993. It is found on muddy grounds between 50 m and 400 m depth, with important fishing grounds at around 70 m off Ancona and around 200 – 270 m in the Pomo pits. Stock assessment of *Nephrops* is complicated by the fact that the species is caught in commercial trawling gear only when it emerges from its burrow. Emergence varies with time of day, season, animal size, sex, and reproductive status, so the fishery exploits the population selectively and in a different manner according to sex. Moreover, *Nephrops* lack hard structures bearing marks indicative of age, so the standard age-based methodologies applied in fishery-dependent stock assessment cannot be applied. Methods relying on length compositions have been applied, but they depend on reliable growth data, which are not always available.

For these reasons, fishery-independent methods of stock assessment are of particular relevance to the species, and the most practical of these uses burrow counts as an index of stock abundance. The methodology for this involves the use of towed, underwater television (UWTV) or still photography. Towed, the UWTV methodology is now used as standard in the UK (Marrs et al., 1998; Tuck et al., 1999), where more than 50% of the European catch of *Nephrops* is taken.

Usually, UWTV surveys provide an index of stock abundance that can be used to assess trends in stock status, but in other, instances, and subject to certain assumptions, they can be used to provide stock-biomass estimates. The Istituto di Scienze Marine (CNR – ISMAR) of Ancona and the Institute of Oceanography and Fisheries of Split joined forces, under the auspices of FAO – ADRIAMED, towards the evaluation and assessment of the *Nephrops* stocks in the Pomo pits using the towed UWTV methodology. The sampling was carried out in the period 5 – 27 May 2009 on board CNR's RV G. Dallaporta. The aim of this contribution is that of presenting the results of such UWTV survey.

SCSI

Development of a new fishery statistical system in Morocco

by Aziz Lamtai

Presentation of “Development of a new fishery statistical system in Morocco” (SIH) . This system will include the statistical data of National Marine Research Institute (INRH), Fishery National Office (ONP) and Marine Fishery Department (DPM). The goal of SIH is to save the information, it's integrity, continuity, monitoring quality, valorization and diffusion.

SCCESS

Comparison of GFCM and EU regulations for fisheries management in the Mediterranean about implementation of the 40 mm”

by Marzia Piron, Roberto Odorico, Cristina Castellarin, Fabrizio De Pascale

- General overview of the categorization of the different GFCM sources: harbours, controls, IUU etc
- Comparison among specific GFCM measures reported about implementation of the 40 mm square mesh;
- Examples of application of the comparison to some GFCM and EU specific measures about these issues

Analyse des performances économiques de la flotte de pêche à la crevette royale dans le golfe de Gabès

by Scander Ben Salem

L'objectif de cette étude est l'analyse comparative de performance économique de la flotte de pêche à la crevette royale dans le golfe de Gabès (Tunisie). Les paramètres de performance utilisés sont le chiffre d'affaires, les profits brut et net, le taux annuel moyen de rentabilité et la valeur ajoutée générée par cette flotte. La flottille de pêche a été segmentée sur la base de la puissance motrice pour les chalutiers et de la longueur pour la flottille artisanale. Quatre segments ont été identifiés : groupe 1 (chalutiers > 400 cv), groupe 2 (chalutiers \leq 400 cv), groupe 3 (Artisanal \geq 10m) et groupe 4 (Artisanal < 10m). L'analyse de la composition du chiffre d'affaires (CA) permet d'affirmer l'importance de la crevette royale dans l'activité de la flotte notamment pour le groupe 3 (51,25% du CA total) suivi des groupes 2, 4 et 1 avec respectivement des taux moyens de 47,5%, 43% et 32%. Concernant le profit brut estimé (PBE) il est positif pour tous les segments. Cependant, le profit net estimé (PNE) est négatif pour les segments 1 et 2 des chalutiers et il est positif pour les segments 3 et 4. Selon ces résultats et la structure des coûts notamment ceux de l'amortissement et du carburant, on remarque qu'actuellement les barques artisanales sont plus rentables que les chalutiers.

SCMEE

Abstract of the contribution by Sadia Belacaid

Dans le cadre de la protection et la réservation des mammifères et des tortues marins, l'INRH fait le suivi de l'échouage de ces animaux sur les côtes de la Méditerranée et l'Atlantique adjacents. Durant la période allant du janvier 2005 à décembre 2008, la zone littorale située entre Asilah et Saidia a connu une centaine (100) échouages.

L'interaction avec les engins de pêche non sélectifs et la collision avec les bateaux sont les causes primordiales de ce phénomène. Ces menaces dont il faut évaluer l'impact afin de contribuer à la protection et la conservation de ces populations.

Plus de l'interdiction ou à la limitation de l'emploi de ces engins mais d'autres mesures de gestion doivent êtres envisageables pour limiter l'impact de la pêche sur les populations de ces animaux. En conséquence, la mise en place d'une gestion des pêches qui soit compatible avec la conservation des ressources.

Abstract of the contribution :

by Ali Cemal Gücü

The hake had not been a significant commercial fish in GSA-24 until 1990's when a sudden increase in the landing was experienced. Following a series of good years, the landings were sharply declined. Undoubtedly the intensity of trawl fishery in the area had a role in the decline, however as the decline occurred shortly after a sudden increase, the event can hardly be explained within the fisheries context only. In this study, I tried to analyze the behavior of hake on the continental shelf in association with environmental parameters. The results indicated that formation and movements of different water masses in the area has primary importance on the occurrence of hake on the continental shelf. The growth pattern incurred from the modal shift in monthly length-frequency distributions showed that the species undergoes fast growth phase on the continental shelf which is most likely associated with intense feeding. As results the most likely conclusion to the appearance/disappearance event in the GSA-24 was that the change in the hydrology of the region which was probably linked to the cold period prevailed at the same time, has temporarily altered the clupeid composition and distribution on the continental shelf. The change in the small pelagic species along with the changes in the hydrology favored the hake which ascends to the coastal waters in the region to feed mainly on clupeids

The effect of Fisheries Restricted Areas on the deep water red shrimp resources of the Mediterranean

by Mark Dimech^{1,2,4}, Michel J. Kaiser¹, Sergio Ragonese³ and Patrick J. Schembri⁴

Fishing with demersal towed gears has dramatic effects on the structure and functioning of marine ecosystem. We studied the ecosystem effects of the deep-sea red shrimp trawl fishery (500-800 m) in the Strait of Sicily, at the population and community level by sampling in trawled and non-trawled treatment sites as determined by the Vessel Monitoring System (VMS) fishing effort data. The study was conducted within the Maltese 25 Nautical Mile Fisheries Management Zone as part of the ongoing MEDITS trawl survey. Samples were collected using an experimental otter trawl net with a cod end stretched mesh size of 20 mm (IFREMER GOC 73) from 7 stations located in trawled sites (mean depth 616 m ± 26 m) and from 7 stations from non-trawled sites (mean depth 556 m ± 40 m). Both population

and community indicators were compared across the trawled and non-trawled treatment sites. The populations of *Aristaeomorpha foliacea* and *Etmopterus spinax* did not show any differences in biomass between the trawled and non-trawled treatment sites while the biomass of *Plesionika martia*, *Nephrops norvegicus*, *Helicolenus dactylopterus dactylopterus*, and *Galeus melastomus* was four, sixteen, six and twice higher, respectively, in the non-trawled sites. Changes in the length structure were also detected for all the species except *Etmopterus spinax*. At the community level, higher biomass, density and diversity indices were recorded in the non-trawled sites. Multivariate analysis gave two main groups which corresponded to the trawled and non-trawled sites. This study provided evidence for the alteration of the ecosystem due to fishing, with the shrimps *A. foliacea* and *P. martia* showing a high resilience to trawling activities. The possibility of setting up trawling lanes as a management option with a minimal impact on species with slow growth rates and low resilience is discussed in light of the results of this study.

“Developing a network of Specially Protected Areas of Mediterranean Importance in the Mediterranean open seas including deep seas”

By Daniel Cebrian

A Joint Management Action of the European Community with the United Nations Environment Programme/Mediterranean Action Plan (UNEP MAP) aims to promote the establishment of a representative network of protected areas in the Mediterranean. The action, entitled ‘Identification of possible SPAMIs in the Mediterranean areas beyond national jurisdiction’ is implemented by the UNEP MAP Regional Activity Centre for Specially Protected Areas (RAC/SPA) and envisages a process developed in two phases. The first phase of the initiative concludes promptly on 2009, and includes an assessment to identify a possible network of SPAMIs in the Mediterranean open seas, including deep seas, on the basis of available scientific knowledge. The assessment has been aided by the elaboration of a tailored GIS, and by a document on fisheries management/conservation and step-relief areas in the Mediterranean open seas, including deep seas, prepared by the consultants Ms. Silvia de Juan and Mr. Jordi Leonart. It includes a chapter on sensitive habitats existing in those marine areas. A list of potential SPAMIs has been elaborated and revised at a recent meeting of the project Steering Committee (Genoa, 18-19 November 2009), which comprises International and Regional institutions, including FAO and GFCM. The list will be further revised by the BC Parties to the SPA/BD Protocol. Several of the potential SPAMIs were considered having regard of the concurrent known existence of valuable marine resources deserving protection from damages related to unsustainable fishing activities, and include within their areas all the presently existing FRAs.

Key words: Specially Protected Areas of Mediterranean Importance; deep seas; sensitive habitats of conservation interest ; selection criteria; FRAs

Artificial reefs by Jarboui:

Now days, the fishing activities is very developed in all the world, the techniques and gears used is often destructives and didn't take care on the sea bottom and the marine ecosystem. Thus, numerous measures and procedures were developed to protect the ecosystems and to manage fisheries resources. The most important tool used actually is the artificial reefs. In Tunisia, this tool was used since 1993 and, actually, with the collaboration the JICA (Japan), we initiate a research program concerning the use of artificial reefs particularly to protect coastal zones in Gabes gulf against the illegal trawling activities. The preliminary obtained results showed that this tool can be one of the effective measures to be implemented in protecting sea bottom and managing fisheries resources in the studied area. So, in this scientific paper we will deal with the theoretical aspect of artificial reefs, their possible uses and some applicability of these tools in Tunisian waters.

Transversal Session

Climate change and its impact on fisheries and ecosystems

by Matthew Camilleri (GFCM Secretariat)

The concerns about direct and indirect impacts of climate change on the physical marine environment, marine ecosystems, living marine resources and the livelihoods of people who exploit them are shared globally. Over the last few years, the FAO Fisheries and Aquaculture Department (FI) has been addressing this issue through a specially established internal working group on Climate Change in which the GFCM Secretariat is represented. In April 2008, the FI held an Expert Workshop on Climate Change Implications for Fisheries and Aquaculture (FAO Fisheries Report 870) to respond to the request made by the FAO Committee on Fisheries (COFI) to address the subject and to provide inputs to the FAO High-Level Conference on World Food Security. The Workshop identified and reviewed key issues, from the physical changes, the impacts on aquatic resources and ecosystems and how these ecological impacts translate into human dimensions of coping and adapting within fisheries aquaculture. It also evaluated policy options, mitigation, impact reduction means and the building of adaptive capacity to climate change. Three technical papers formed the basis of the technical discussions and have been recently published by the FAO (FAO Fisheries and Aquaculture Technical Paper 530). In addition, the FAO along with several other international organisations have published a joint policy brief entitled “Fisheries and aquaculture in our changing climate”.

With a forecasted significant increase in sea surface temperature and sea level rise over the next century, the Mediterranean and Black Sea fisheries and aquaculture industries are also particularly vulnerable to climate change. In this respect and in the light of the outputs of the FAO workshop referred to above, there is a growing need for the GFCM Scientific Advisory Committee to focus on the issue of climate change and to include it in various components of its programme of work.