# THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES AND ITS IMPLEMENTATION IN THE MEDITERRANEAN

Honourable Minister, Excellencies, Ladies and Gentlemen,

Thank you for accepting our invitation. Welcome to the third APS Annual Seminar on the Development of Agriculture and Fisheries in Malta. These seminars focus on specific issues and assess them from several perspectives with the valid contribution of local and foreign speakers. It is not the intention to provide instant solutions. Rather, we hope to propose ideas and courses for action initially to a selected audience and, later on, following the publication of the proceedings, to a wider group of interested readers.

This year's theme is inspired from the Code of Conduct prepared for the global fisheries sector by the United Nations' Food and Agriculture Organisation. This document is now available in the Maltese language. APS Bank is proud to have rendered realisable such an initiative. Copies of the Maltese text have already been distributed to you. The Code will be made available to all those involved in the fisheries sector in Malta.

The fisheries industry in Malta has been seeking a coherent supportive policy objective and complementary strategies for some time. Such aims and policy tools are meant to encourage further initiatives by the many

operators already active in the sector. Apart from the many challenges that emanate directly from the natural environment, Maltese fishermen and their families have to earn their livelihood in a region where exploitation of fish resources is high. Besides, they have to do so with relatively poorly equipped capital and in danger to their lives. The fear of over-fishing leads to tension among fishermen from different countries. The clashes with the Sicilian and Tunisian fishermen that occurred in 2001 are cases in point and stark reminders of an underlying reality. In the absence of an international awareness and enforcement mechanism that encourages economic agents to abide by a code of conduct in the fishing sector in the Mediterranean, the sustainability of this economic activity and, more important, of the fishing stocks cannot be guaranteed.

APS Bank is honoured to collaborate closely with the FAO and the Department of Fisheries and Aquaculture in the organisation of today's seminar. Together we aspire to analyse a critical factor in the management of fisheries in the Mediterranean with the aim of understanding better those forces that contribute towards the viable sustainability of the fishing stock in the interests of mankind.

This collaborative spirit that has embraced the relationship involving APS Bank, the FAO and the Department of Fisheries and Aquaculture is today yielding another significant result. The FAO and the Department will be launching this morning the ***Maltastat Public***, an on-line database for the Maltese fisheries industry. Such an information development has long been awaited. The system could become an effective administrative and operational tool adopted by all interested parties in the years ahead. Mr. Salvatore Coppola, Fishery Resources Officer at the FAO, will demonstrate the properties of ***Maltastat Public***.





This presentation will be followed by the contributions of four distinguished speakers who combine hands-on experience with theoretical insights into the operations of the fisheries sector in the Mediterranean.

Mr. Jorge Csirke, Head of the Marine Resources Services at the FAO, will explain the utility and the vision of the FAO's Code of Conduct for Responsible Fisheries. His assessment reflects the views of a practitioner who looks forward to share his experience with an inquisitive audience.

Mr. R. Robles, Director of FAO's COPEMED project, will examine the importance of regional projects in the implementation of the Code of Conduct. It is evident that one has to pass from words to action in an attempt to effectively transmit an ideal into everyday reality. There is a lot to be learnt from such an experiment.

Mr. A. Gruppetta, Director of the Department of Fisheries and Aquaculture, will present an overview of the fishing industry in the Maltese Islands and will examine the ways adopted by the Department in collaborating with other local and foreign institutions in the interest of fish stock sustainability.

The fourth contribution is by Mr. M. Camilleri from the Malta Centre for Fisheries Services. Mr. Camilleri will expound upon the characteristics of the Maltese Exclusive Fishing Zone and the conditions leading to sustainability of resources within this zone.

On your behalf, and of all those who will be sharing the knowledge and insights put forward this morning, I thank these four gentlemen for their valuable inputs to the subject. The integration of Codes of conduct, data gathering, experimentation, organisation and assessment is an effective way to the attainment of sustainable fishing activities in the Mediterranean. I thank also the respective organisations for making possible this morning's participation by the speakers.

Once again we are honoured by the presence of the Minister of Agriculture and Fisheries who agreed to participate in this colloquium and explain the policy of the Malta government regarding responsible fisheries in the region. On behalf of APS Bank I thank the Minister and the personnel at the Ministry for the encouragement and support they always give us.



*The Hon. N. Zammit, Minister for Agriculture and Fisheries*

# OPENING SPEECH

Mr Chairman, distinguished FAO officials, distinguished guests, colleagues from the Department of Fisheries and Aquaculture, ladies and gentlemen.

For several decades Malta has given high priority to the sustainability of fisheries resources and has responsibly managed fishing effort not only within Maltese waters but also beyond. Malta has, in fact, complied with the obligations laid down in the United Nations Convention on the Law of the Sea since its beginnings and has always been a strong supporter of its instruments to safeguard our seas' living resources.

Today, Malta is renewing its commitment towards its conservation approach by hosting this seminar on the FAO Code of Conduct for Responsible Fisheries, which is globally recognised as the main tool for sustainable fisheries management. Malta is very proud to have published a Maltese version of this Code, which is being distributed for the first time at this seminar, and I trust that it will be an important reference for all persons involved in the local fishing industry.

Malta has always been an active participant in FAO activities, particularly in recent years through its

participation in the FAO sub-regional project COPEMED, which has made a very important contribution to fisheries science in the Mediterranean. Malta has also attended all meetings of the Scientific Advisory Committee of the General Fisheries Commission for the Mediterranean and has participated in several of its sub-committee meetings and activities. Malta strongly believes that the well-being of the Mediterranean depends on the GFCM and has, on more than one occasion, offered to host the headquarters should it become an autonomous body.

The FAO conference on responsible fisheries in the marine ecosystem recently held in Reykjavik was closely followed by a Maltese delegation who expressed their support for the proposed concept of ecosystem-based fisheries management which is seen to be a more responsible, though more complex, approach. The new FAO sub-regional project MedSudMed has clearly answered to the declaration made during this conference since it will focus its research on the ecosystem of the central Mediterranean as a whole. I can ascertain that Malta will be an active participant in this pioneer research project for the Mediterranean.

On accession to the European Union, Malta would face the challenge of safeguarding the sustainability of fisheries resources within the Maltese 25 mile Fisheries Conservation Zone through a non-discriminatory responsible fisheries management regime. Malta has highlighted the fact that the current levels of fisheries resources within the zone depends on a sustainable fishing effort and on the prevention of overcapacity.

From existing scientific data, it is quite evident that the 25 mile zone has served as a 'refugium' for important commercial species in the central Mediterranean, the other areas of which have been greatly overexploited. Malta has requested that, in line with the Precautionary Approach, as





described by the Code of Conduct for Responsible Fisheries, the fishing effort within the zone should be maintained at current levels, since the risk of even a slight increase in effort is too great for the fragile ecosystem of the Maltese waters.

Malta has set an example to the international community by integrating the Code of Conduct for Responsible Fisheries into its fisheries policy. It looks forward to continue collaborating with both neighbouring and distant nations to soundly manage fisheries resources, particularly straddling and highly migratory fish stocks which are exploited by fleets from different countries. It is also of vital importance that an international agreement is reached to safeguard artisanal and small scale coastal fisheries from dominating industrial fleets which have been responsible for the collapse of stocks in various seas.

The livelihood of most of the local fishermen depends on the sale of highly prized species which are available to the consumer as fresh fish of highest quality caught by traditional artisanal methods during very short fishing trips. The variety and quality of these fish species also give a contribution to the tourism industry since the local restaurants are renowned for high quality seafood which is a significant attraction to the tourists visiting Malta.

In conclusion, I would like to thank APS Bank for organising this seminar and for their continual support to the agriculture and fisheries industries. I would also like to thank our colleagues from FAO who have generously provided their technical support to Malta throughout the years. May I welcome all those present to this seminar taking place in a country which boasts of a fisheries conservation area which lends itself as an international living marine resources natural laboratory.

*Salvatore R. Coppola, Fishery Resources Officer,*
*FAO Fisheries Department*

# MALTASTAT – THE FISHERY STATISTICAL PROGRAMME IN MALTA

Honourable Minister, Mr. Chairman, Excellencies, Distinguished Guests, Ladies and Gentlemen.

First of all I should like to express my thanks to the Organisers for their invitation to address this forum and for the opportunity to make known the work we are currently undertaking within the Government of Malta-FAO co-operation and the results achieved so far. A special thanks also for the wonderful welcome we have all received to this beautiful and historical island in the Mediterranean.

It is everywhere believed and accepted that, to be effective, management should be based on data and auxiliary information that are both reliable and timely (that is, as up-to-date as possible), that have been processed with the maximum degree of precision, and that have been made available to all parties concerned.

In the Mediterranean, which is a semi-enclosed sea, where the fishery resources are mostly of common interest to a relatively large number of countries, fishery management should be based as much as possible on a regional vision of its implications and, therefore, on a common statistical understanding.

This problem of a common web of harmonised data and information should have been, and indeed could have been, resolved a few years ago through a regional-based Information System for the Mediterranean under the support and control of the General Fishery Commission for the Mediterranean.

As a matter of fact, several proposals were made, discussions were held and ideas were put forward. But, because of the many reservations, this idea never took off and fishery statistics in the Mediterranean remain the Cinderella of the family while conspicuous investments have being made in the other fishery research areas.

When the FAO-Copemed Project was first formulated, both the donor country and FAO gave priority to the information and networking issues.

In November 1998, the first FAO-COPEMED mission (Don R. Robles, Director of COPEMED, and I) came to Malta with the task of undertaking a preliminary assessment of the Maltese fishery infrastructure and the current data collection system. These were considered prerequisites to be able to meet the request from the General Directorate of Malta.

At the same time, the Government of Malta recognising that appropriate fishery and aquaculture management passes through an accurate and timely control of the phenomena influencing the sector stressed the need to reorganise its Fisheries Department in order to better respond to these requirements.

This first mission resulted in a project activity, supported by FAO-COPEMED, aimed at directly assisting the Government of Malta to build up adequate infrastructures for the establishment of a sound national data collection and information system for fishery and aquaculture.

The plan that was drawn up, and which was subsequently approved by the Maltese Government, included:





- Establishing a Statistical Unit in the Fisheries Department

- Designing and executing a Data Collection and Statistical Programme based on short-medium term requirements (that is, a Census of the fishing Fleet and a Catch Assessment Survey)

- Upgrading the Fisheries Department's infrastructure (staff, resources, methodologies), to ensure that the long-term implementation of the data/information component was sustainable within the Department.

- Ensuring continuity of the restructured system by introducing official methodology or other criteria related to vessel or fishing activity for updating and also propose legislation and normative changes accordingly.

From our side, we committed ourselves to the maximum since it was evident that the Government of Malta was engaged in its largest fishery statistical survey programme ever. This effort was seen by the Government and ourselves as an investment to bring Malta to the same level as the more advanced Mediterranean countries in the data collection and information systems sectors.

The overall FAO-Copemed programme regarding statistics and data collection has so far produced:

*An Inventory of the artisanal fishing communities in Malta and in the Western Mediterranean.*

This study and the associated field work was launched with the aim of helping define management strategies for artisanal fisheries to benefit the fishermen's communities and the administrations, and not just as a statistical exercise.

Its primary objectives were the identification and definition of artisanal fisheries, the location of artisanal fishery communities and their activity in space and time, the assessment and enumeration of the main non-fishery practices interacting with artisanal fisheries by type, zones typologies and other, and finally to categorise the situations found into regional typologies (to enable a regional comparison and analysis).

The result of the inventory is published on CD for distribution to all interested users. It not only describes the status of the Maltese artisanal fishing, but also enables the user to assess the situation in neighbouring countries who have participated in this activity as well (Algeria, France, Italy, Libya, Morocco, Tunisia, Spain). The Inventory shows different methods and activities by country, by season, by gear, and makes national and regional cross comparisons.

*Completed a Census of the fishing vessels in Malta, and the associated database system called "MaltaStat".*

The census of fishing vessels was carried out to obtain a detailed list of all the fishing units operating in Malta, classified by size/gear category, by fishing area, by fishing season, by type of licence and by age class.

All the information collected was put in a database called MaltaStat, which is, in effect, the *Register of the entire Maltese fishing fleet*. This product has become the institutional instrument for registering the fishing vessels and the fishing licences. This database, which is restricted for use by the Government Administration, is not only the depository of all data concerning vessels and fishing licences, but is also an instrument to monitor, evaluate, and estimate the fleet





capacity, as well as its activity and structure. An automated reporting system facilitates data transfer to EC, FAO, GFCM and other national and international institutions.

As far as the fishing licences are concerned, the system manages the archive and regulates their issuance. This also includes the actual printing of the document.

*The Catch and Effort Survey*

Another output of the Malta-FAO/Copemed programme is the catch and effort survey system (MaltaCas) which deals with fish capture and landing and with the effort exerted, by fleet typology, by species and by season. This is ongoing and will be available soon. The entire contents of the system will also be restricted to the Fisheries Department because of their confidential and personal nature.

As I already mentioned, the two systems are restricted to the Maltese Fisheries Department and by their nature are not available to the general public.

However, in order to keep both the national and international fishery communities informed, two sub-systems of MaltaStat have been developed.

These are **MaltaStat-Public DataBase and MaltaStat-Public on the Web.**

The first, MaltaStat-Public DataBase, is a copy of MaltaStat, automatically generated, without the confidential data and will be made available to all other government offices, as well as other institutions, co-operatives, universities etc., for their own analyses, evaluation, and information. Distributing databases instead of simple reports or files enable the users to make full use of the product according to their interest or mandate. For example,

I believe it would be useful for the National Office of Statistics of Malta to receive this database and include it in a wider system with other sector statistics to form the national ensemble. It is easy to use and contains the same options as the MaltaStat System, except for data entry management, and the official reporting system.

The second is MaltaStat-Public put on the Web which discloses all the non confidential information about the Maltese fishing industry, the catch composition and seasonal production via internet to any user (the catch component is not yet available).

They contain non-confidential or aggregated data showing situations, statistics, distributions, and trends in about 25 preformatted tables and it is possible to build up and formulate queries .

During the coffee break, an overview of all these systems can be seen.

Before closing I should like to express a few considerations. While we are very satisfied with the work carried out here in Malta, and I am honoured to have conducted this programme, I should like to emphasise that this has been done, yes with FAO-Copemed assistance, but by the staff of the Maltese Fisheries Department, everybody included, from the Director to the scientists, from the Fishery Officers to the field staff. This must be acknowledged.

As technical secretary of the Scientific Advisory Committee (SAC) of the GFCM for statistics and information systems (definitely a good observation point) I have no difficulty in stating that the scientific and operational level in this subject achieved in Malta is one of the highest in the whole Mediterranean region.

We are confident that this effort will contribute to a better management of the Maltese fishery as well as of the





regional fishery. Moreover, having planned all the activities in conformity with the recent resolutions of FAO, GFCM, the EC, the Code of Conduct, and we are convinced that once completed, the Malta system will definitely be classified as modern, efficient, and effective.

And, finally, I would say that Malta is one of the countries that benefited most from FAO-Copemed technical assistance, and that not from a financial or tangible resources point of view, but rather by taking advantage of the situation and grasping all the opportunities offered, by participating in practically all the activities with its limited staff.

Thank you for your attention and have a good day.

*Jorge Csirke Chief, Marine Resources Service,*
*FAO Fisheries Department*

# THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

Fishing used to be a free-for-all activity until only a few decades ago, whereby fishing fleets were more or less free to expand and move around with very little constraints to fish, and sometimes overfish, new or distant-water marine resources around the world. Global concerns and in particular, concerns by coastal States regarding the risks of overexploitation of fishery resources off their coasts, was one of the key arguments that lead to the negotiations of the UN Convention on the Law of the Sea, adopted in 1982 after several years of long deliberations. This Convention modified substantially the access regime to most of the important fishing grounds of the world and provided a new framework for improved management of marine resources.

This new legal regime of the oceans gave coastal States rights and responsibilities for the management and use of fishery resources in the Exclusive Economic Zones, which includes an area that can expand as far as 200 miles from the national coastlines. Such extended national jurisdiction that altogether embraced more than 90 percent of the world marine fisheries was a necessary move towards a more efficient and sustained development of world fisheries. But

this soon demonstrated to be insufficient to protect and preserve the living marine resources of the oceans, particularly in the high seas, and to take into account some other relevant considerations, such as the impacts on the ecosystem, trade, security on-board, etc.

By the late 1980s it became clear that the rapid and uncontrolled expansion of some fisheries, the generalized overinvestment in fishing vessels and land infrastructure, and the expansion of unregulated operations in coastal areas and the high seas were placing important fishery resources and their ecosystems at risk. Voices of concern were raised at various international fora regarding the clear signs of overexploitation of important fish stocks and the related damages to marine ecosystems, as well as the related economic losses and negative impacts on fish quality, international trade, security on-board, etc. There was an increased awareness that the long-term sustainability of fisheries was being threatened and the expected contribution of fisheries to world food security would not be, realized if further steps were not taken.

In discussing the situation, the Nineteenth Session of the FAO Committee on Fisheries (COFI) held in March 1991, recommended that FAO should develop the concept of responsible fisheries and elaborate a Code of Conduct to this end. In May 1992 the Government of Mexico, in collaboration with FAC, organized the International Conference on Responsible Fishing in Cancun, Mexico. The Conference adopted the Cancun Declaration and further developed the concept of responsible fisheries stating that: "*this concept encompasses the sustainable utilization of fisheries resources in harmony with the environment; the use of capture and aquaculture practices which are not harmful to ecosystems, resources or their quality; the incorporation of added value to such products through transformation processes meeting*





*the required sanitary standards; the conduct of commercial practices so as to provide consumers access to good quality products*". The Conference also recommended that a Code of Conduct for Responsible Fisheries be prepared taking into account this definition and other contributions emanated during the Conference.

The Cancun Declaration and the proposal to prepare a Code for Responsible Fisheries was supported by the UNCED Rio de Janeiro Summit in June 1992 and later on, the scope of the Code was expanded with the recommendation that it should also address the high seas fisheries issues raised by the FAO Technical Consultation on High Seas Fishing, held in September 1992.

The One Hundred and Second Session of the FAO Council, held in November 1992, discussed the elaboration of the Code and recommended that priority be given to high seas issues and requested that proposals for the Code be presented to the 1993 Session of the Committee on Fisheries. The 2 01h Session of COFI, held in March 1993, examined the general principles for such a Code, including the elaboration of guidelines and a' timeframe for its preparation, requesting FAO to prepare, as part of it, proposals to prevent reflagging of fishing vessels, which affects conservation and management of fisheries in the high seas.

The Code of Conduct for Responsible Fisheries was therefore drafted in a way that it would be consistent with the 1982 UN Convention on the Law of the Sea, and takes into account the 1992 Declaration of Cancun, the 1992 Rio Declaration, the provisions of Agenda 21 of UNCED, the conclusions and the recommendations of the 1992 FAO Technical Consultation on High Seas Fishing, the strategy endorsed by the 1984 FAO World Conference on Fisheries Management and Development, and other relevant legal

instruments, including the outcome of the then ongoing United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, which in August 1995 adopted an "Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 concerning Straddling Fish Stocks and Highly Migratory Fish Stocks".

After almost three years of intensive work and a series of international meetings and consultations the Twenty-eighth Session of the Conference of FAO adopted, on 21 October 1995, by consensus, the Code of Conduct for Responsible Fisheries and the respective Resolution.

As planned since its inception, the Code is voluntary, although certain parts of it are based on relevant rules of international law, including those reflected in the United Nations Convention on the Law of the Sea of 10 December 1982. Also, the Code contains provisions that might already be binding by the effect of being part of other obligatory legal instruments, such as the "Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas", adopted in 1993, which according to the FAO Conference forms an integral part of the Code.

The Code has a global scope and is directed towards members and non-member countries of FAO, fishing entities, Sub-Regional, Regional and global organizations, whether Governmental or Non-Governmental and to all persons concerned with the conservation of fishery resources and management and development of fisheries, such as fishers, those engaged in the processing and marketing of fish and fishery products and other users of the aquatic environment in relation to fisheries.

The objectives of the Code are to:





a. establish principles, in accordance with the relevant rules of international law, for responsible fishing and fisheries activities, taking into account all their relevant biological, technological, economic, social, environmental and commercial aspects;
b. establish principles and criteria for the elaboration and implementation of national policies for responsible conservation of fisheries resources and fisheries management and development;
c. serve as an instrument of reference to help States to establish or to improve the legal and institutional framework required for the exercise of responsible fisheries and in the formulation and implementation of appropriate measures;
d. provide guidance which may be used where appropriate in the formulation and implementation of international agreements and other legal instruments, both binding and voluntary;
e. facilitate and promote technical, financial and other cooperation for conservation of fisheries resources and fisheries management and development;
f. promote the contribution of fisheries to food security and food quality, giving priority to the nutritional needs of local communities,
g. promote the protection of living aquatic resources and their environments and coastal areas;
h. promote the trade of fish and fishery products in conformity with relevant international rules and avoid the use of measures that constitute hidden barriers to such trade;
i. promote research on fisheries as well as on associated ecosystems and relevant environmental factors, and
j. provide standards of conduct for all persons involved in the fisheries sector.

Throughout the main sections of the general principles, the Code of Conduct for Responsible Fisheries calls upon the States and users of living aquatic resources to conserve the aquatic ecosystems, and reaffirms that the right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources (Article 6.1 of the Code).

The Code also states that the maintenance of the quality, diversity and availability of fishery resources in sufficient quantities for present and future generations should be promoted in the context of food security, poverty alleviation and sustainable development, and calls for management measures that ensure the conservation of target species but also of species belonging to the same ecosystem or associated with, or dependent upon the target species (Article 6.2).

The Code also establishes that the States and subregional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking into account the best scientific evidence available. In this respect, it is also established that the lack of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment (Articles 6.5 and 7.5.1).

The point is also made that States should ensure that decision-making processes regarding the conservation and management of fishery resources and fisheries are transparent and achieve timely solutions to urgent matters (Article 6.13)

With respect to international trade, the Code calls on States to ensure that their policies, programmes and





practices related to trade in fish and fishery products do not result in obstacles to this trade, environmental degradation or negative social, or nutritional impacts. It also states that international trade in fish and fishery products should be conducted in accordance with the principles, rights and obligations established in the World Trade Organization (WTO) Agreement and other relevant international agreements (Article 6.14).

In addition to the principles and criteria regarding the situation of the marine environment, conservation of the living marine resources, free and fair trade, security on board, etc., the Code of Conduct for Responsible Fisheries introduces some paramount principles and criteria which have already modified, and will modify still further, the way in which fishery research and fishery management and development are focused and undertaken.

In this respect, particular reference is to be made to some new concepts, such as those regarding the precautionary approach and the precautionary principle for the conservation, management and exploitation of living marine resources, and the establishment of reference points for the planning and management of fisheries. Provisions for the use of these two elements, the precautionary approach and the setting of reference points are included in the "United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks in highly migratory fish stocks", adopted in New York in August 1985 and entered in force as from 11 December 2001.

The above Agreement has binding effects regarding transboundary and highly migratory species. The Code of Conduct for Responsible Fisheries, adopted in Rome on 31

October 1995, also contains similar, although not binding, guidelines and principles regarding the precautionary approach and the use of reference points in the conservation and management of all living marine resources. The Code and the Agreement state that the precautionary approach should be applied widely for the conservation, management and exploitation of living marine resources in order to protect them and preserve the aquatic environment, and establishes that the absence of adequate or sufficient information should not be used as a reason for postponing or failing to take conservation and management measures.

In brief, through the adoption of the precautionary approach the "burden of proof" is transferred from those who look after the conservation of the living marine resources and its environment towards those who undertake or plan to undertake other types of activities which could modify or alter the marine environment or the conservation of the living marine resources that live in it. The "burden of proof" now plays in favour of the conservation of the living marine resources and the environment, and when there are conflicts it could be assumed that any invasive human intervention that is suspected of being harmful (to the sustainability of the resources or the ecosystem) would be taken as such unless demonstrated otherwise.

The precautionary approach is supplemented by the use of precautionary reference points, which according to the New York Agreement should be of two types: conservation or limit reference points, and management or target reference points. Limit reference points set boundaries which are intended to constrain harvesting within safe biological limits, within which the stocks can produce maximum sustainable yield. Target reference points are intended to meet management objectives.





The Food and Agriculture Organization of the United Nations has the mandate to promote and monitor the application and implementation of the Code. To fulfil this mandate FAO has produced a series of FAO Technical Guidelines for Responsible Fisheries and is developing a series of technical assistance programmes to assist Member Countries with the application of the Code. There are also several International Plans of Actions (IPOA) which have been adopted in the context of the FAO Committee on Fisheries to support the implementation of the Code, or parts of it. These are:

- The International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries.
- The International Plan of Action for the Conservation and Management of Sharks.
- The International Plan of Action for the Management of Fishing Capacity, and
- The International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing.

In addition to the full text of the Code available in the five official languages of the Organization and other languages as well, including Maltese, there are so far eight FAO Technical Guidelines in support of the implementation of the Code, these are:

No.1 Fishing Operations
Suppl.1 - Vessel Monitoring System
No.2 Precautionary Approach to Capture Fisheries and Species Introductions
No.3 Integration of Fisheries into Coastal Area Management
No.4 Fisheries Management
Suppl.1 - Conservation and Management of Sharks
No.5 Aquaculture Development

Suppl.1 - Good Aquaculture Feed Manufacturing Practice
No.6 Inland Fisheries
No.7 Responsible fish utilization
No.8 Indicators for sustainable development of marine capture fisheries

The full text of these guidelines are available through the FAO website (WWW.fao.org/fi) and printed copies are also available upon request.

Further efforts are also devoted to organizing and supporting a series of meetings and international conferences to promote and expand the application of the Code of Conduct for Responsible Fisheries. A good recent example is the Reykjavik Conference on "Responsible Fisheries in the Marine Ecosystem" held in Reykjavik, Iceland, in October 2001. It was attended by more than 500 Government representatives and world recognized scientists to gather the best available knowledge on marine ecosystem issues, identify means by which ecosystem considerations can be included in capture fisheries management, and identify future challenges in relevant strategies.

FAO is also promoting and executing a series of regional and sub-regional projects to assist Member Countries in the implementation of the Code of Conduct for Responsible Fisheries. Of particular relevance to Malta and to the Mediterranean are two regional projects being executed by FAO: the COPEMED Project and the MedSudMed Project.

The regional project for the "Advice, Technical Support and Establishment of Cooperation Networks to Facilitate Coordination to Support Fisheries Management in the Western and Central Mediterranean "(COPE MED) started to operate in 1996, and has just been extended until 2003. It





is funded by the Spanish Government, and covers the Western and Central sub-regions of the Mediterranean with the active participation of Algeria, France, Italy, Libya, Malta, Morocco, Spain and Tunisia. The main objectives of the project are the provision of technical advice and support to participating countries and the establishment of cooperation networks to facilitate coordination of fisheries research and management in the Mediterranean. Through its activities, COPEMED facilitates, in particular, the work of the General Fisheries Commission for the Mediterranean (GFCM) and of its Scientific Advisory Committee (SAC), promoting the formulation of recommendations and the definition of scientific criteria for a better management of the exploited resources in the Mediterranean.

Malta, through the Department of Fisheries and Aquaculture (DFA) and its Malta Centre for Fisheries Sciences (MCFS) has been a particularly active member of COPEMED. Worth noting is the involvement of Malta in COPEMED activities regarding:

- Artisanal Fisheries in the Central and Western Mediterranean
- Blue-fin Tuna (Thunnus thynnus) Population Dynamics research programme
- The Fishery, Biology and Management of Coryphaena hippurus (lampuka)
- Fisheries Sampling Network

The FAO-COPEMED Project is also supporting the establishment of the Maltese national fisheries statistical system, Maltastat, and a national diploma on fisheries. Malta is also benefiting from another more recent FAO regional initiative in the Mediterranean. The project for the "Assessment and Monitoring of the Fishery Resources and the Ecosystems in the Straits of Sicily" (MedSudMed). This

project is funded by the Government of Italy and has the participation of Italy, Libya, Malta and Tunisia. The project was declared operational at the beginning of 2002, and will concentrate on promoting common efforts towards expanding and utilising the knowledge required for the responsible management of the living marine resources which are of major economic and social importance to the populations bordering the Straits of Sicily sector of the Mediterranean.

These and other regional, sub-regional and national initiatives are worth pursuing as many of the fish-stocks in the Mediterranean are apparently suffering from excessive or inappropriate levels of exploitation and there are indications of a growing risk that these and other activities may cause damage to the marine environment. The management of fisheries in the area is a particularly complex undertaking, particularly due to the variety of marine species involved and their frequent movements over the entire Mediterranean basin. Without considerable inter-country collaboration and harmonisation in the collection and processing of data, the fisheries scientists in each coastal country will find it very difficult to monitor and properly analyse the status of the many shared stocks, or the related marine environmental conditions in the Mediterranean. Consequently, regional cooperation is needed to enable fisheries scientists and decision makers to promptly recommend or adopt appropriate measures aimed at setting and maintaining proper levels of exploitation and other fisheries management regulations in the area. This improved regional cooperation, if supported by all concerned, will make the compliance with the principles and criteria set forth by the Code of Conduct for Responsible Fisheries and other pertinent international arrangements an easy, or at least a feasible task.



*Anthony Gruppetta*
*Department of Fisheries and Aquaculture*

# AN OVERVIEW OF THE FISHING INDUSTRY IN MALTA

Malta's fisheries like most Mediterranean fisheries are directed at a great number of species. In fact if we go through the annual catches and values of landings we will find a great number of species of different families of fish. Unlike some other areas in the Mediterranean we do not have a fishery for bivalves, or gastropods and the only molluscs we land are octopus and squid. Crustaceans involve prawns, shrimps, some Norwegian lobsters (langustine) and a sporadic landings of spiny lobsters. The value of the landings vary, but are in the region of Lm1.6 million. In the last 7 years there has been an increase of circa 44% in the value of registered landings. This is a very good trend and indicates a progressing sector.

The registered landings indicate the turnover of the professional fleet. This sector of the fleet is the only one that normally puts up its products for sale through the organised markets.

The most important species of the whole list of landings are Lampuki "*Coryphaena hippuris*", Swordfish "*Xiphas gladius*", Blue Fin Tuna "*Thunnus thynnus*" together with Prawns and Shrimps. The value of these 4 fisheries is about 80% of the value of the total landings. These 4 species

therefore form the basis of income for the producers in the sector. This high influence of these four species on the total value of landings induces the sector to attribute great concern to the sustainability of these fisheries and to the conservation of the stocks concerned.

Fishing vessels in Malta add up to 1850. These are divided in full time, market and part time fishermen. The professional sector of the fleet is 2297 Tons, the market fishermen sector is 457 Tons and recreational fishing section of the fleet is 2085 Tons. It is obvious that the recreational fishing vessels form a considerable part of the fleet.

The numbers, involved the subdivisions into 3 sections and the great differentiation between the vessels render licensing and monitoring difficult. The Department has achieved very good results with the adoption of a database and a statistical package designed especially for our condition. An extra tool of this software in Maltastat Public prepared by Dr. S. Coppola of FAO that was responsible for the development of the customised programme. This tool will enable the interested public to get closer looks at the industry.

**Distribution of Craft**

| | F | MF | PTF | SUB TOTALS |
|---|---|---|---|---|
| Under 6mt | 92 | 192 | 868 | 1152 |
| 6 – 8 mt | 90 | 48 | 291 | 429 |
| 8 – 11.99 mt | 44 | 22 | 96 | 162 |
| OVER 12 mt | 88 | 4 | 15 | 107 |
| **TOTALS** | **314** | **266** | **1270** | **1850 Vessels** |

F = Fulltime fishermen vessels

MF = Market fishermen vessels

PTF = Part time fishermen vessels





**Fish Catches By Species: 1994-2000**

| *Species* | *Species* | *1998* | | *1999* | | *2000* | |
|---|---|---|---|---|---|---|---|
| *Maltese Name* | *English Name* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* |
| Aċċola | Amberjack | 6395 | 11494 | 5745 | 10539 | 2922 | 7331 |
| Awwista | Crayfish | 39 | 282 | 104 | 761 | 75 | 523 |
| Aljotta | Mixed Fish | 4427 | 4663 | 5379 | 5362 | 5645 | 5299 |
| Alonga | Albacore | 665 | 776 | 6077 | 5157 | 3596 | 3677 |
| Arznell | Picarel | 998 | 677 | 1992 | 1004 | 1601 | 732 |
| Awrat | Gilthead Bream | 270 | 553 | 261 | 430 | 298 | 562 |
| Bażuk | Blue Spotted Bream | 2586 | 12520 | 2866 | 14095 | 1874 | 9233 |
| Boll | Common Sting Ray | 887 | 1038 | 642 | 714 | 465 | 496 |
| Ċippullazz | Large Scale Scorpion Fish | 6860 | 28877 | 9241 | 42632 | 8191 | 39187 |
| Denċi | Dentex | 473 | 2219 | 712 | 3374 | 890 | 4511 |
| Dott/Ħniezer | Stone Bass | 22554 | 64630 | 22442 | 67311 | 22997 | 70408 |
| Fanfri | Pilot Fish | 13171 | 17190 | 23246 | 26021 | 28296 | 33663 |
| Gallini | Gurnard | 2062 | 5521 | 4240 | 8693 | 2085 | 5459 |
| Gambli | Shrimps\Prawns | 18492 | 116701 | 23857 | 134046 | 23420 | 130482 |

| *Species* | *Species* | *1998* | | *1999* | | *2000* | |
|---|---|---|---|---|---|---|---|
| *Maltese Name* | *English Name* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* |
| Gattarelli | Small Spotted Dog Fish | 470 | 415 | 1510 | 1266 | 2195 | 1773 |
| Gringijiet | Gonger | 2747 | 2560 | 1772 | 1807 | 2483 | 2431 |
| Ġurdien | Rat Tail | 690 | 1325 | 162 | 419 | 1438 | 2664 |
| Ħuta Kaħla | Blue Shark | 2151 | 2606 | 1571 | 1820 | 1151 | 1541 |
| Imrejjen | Moray Eels | 193 | 154 | 169 | 125 | 11 | 9 |
| Kaħli | Saddled Bream | 1491 | 3809 | 2012 | 5262 | 1559 | 4196 |
| Kavalli | Mackerel | 39606 | 29107 | 19294 | 14595 | 34427 | 26042 |
| Klamari | Squid | 2388 | 7337 | 2045 | 6708 | 2709 | 8437 |
| Kubrit | Little Tunny | 446 | 392 | 428 | 392 | 179 | 151 |
| Lacci | Allice Shad | 0 | 0 | 209 | 262 | 1849 | 1089 |
| Lampuki | Dolphin Fish | 363113 | 418380 | 349129 | 363387 | 234282 | 369933 |
| Lipp | Ling | 2788 | 4843 | 4174 | 7151 | 4655 | 7657 |
| Lizz | Barracuda | 479 | 614 | 869 | 1204 | 1093 | 1641 |
| Makku | Pellucid Sole | 1702 | 2132 | 1011 | 1133 | 1400 | 1666 |
| Mazzola | Dog Fish | 22839 | 26538 | 18241 | 21379 | 19431 | 22088 |
| Merluzz | Hake | 5037 | 9366 | 6368 | 11561 | 6282 | 11111 |
| Mulett | Grey Mullet | 118 | 74 | 49 | 37 | 124 | 94 |





| *Species* | *Species* | *1998* | | *1999* | | *2000* | |
|---|---|---|---|---|---|---|---|
| *Maltese Name* | *English Name* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* |
| Munqara | Picarel | 5832 | 3148 | 6410 | 3432 | 6971 | 3681 |
| Muruna | Six-gilled Shark | 4862 | 6018 | 3629 | 4291 | 4867 | 5612 |
| Pagell | Pandora | 5978 | 14321 | 6166 | 16308 | 4634 | 14294 |
| Pagri | Common Sea Bream | 7757 | 39062 | 5550 | 29355 | 5629 | 29903 |
| Pastardella | Spear-fish | 2426 | 3211 | 2390 | 2744 | 1382 | 1609 |
| Petriċi | Angler Fish | 0 | 0 | 1736 | 1932 | 1215 | 1170 |
| Pixxiplamtu | Porbeagle Shark | 907 | 1844 | 319 | 528 | 502 | 979 |
| Pixxispad | Swordfish | 115647 | 294700 | 146898 | 297803 | 140155 | 319358 |
| Plamti | Atlantic Bonito | 1567 | 1887 | 1828 | 2067 | 1053 | 1356 |
| Qarnit | Octopus | 9362 | 19558 | 10457 | 22145 | 8888 | 18056 |
| Qtates | Spotted Dogfish | 1960 | 3329 | 515 | 529 | 550 | 520 |
| Raj | Skate | 4143 | 2975 | 4807 | 3227 | 5123 | 3620 |
| Raspa | Scourer | 682 | 656 | 475 | 561 | 564 | 686 |
| Rebekkini | Long Nose Skate | 79 | 55 | 705 | 582 | 1189 | 1001 |
| San Pietru | John Dory | 835 | 2776 | 1459 | 4995 | 578 | 2168 |
| Sargi | White Bream | 3554 | 13589 | 3936 | 15691 | 2043 | 8113 |
| Sawrell | Horse Mackerel | 2277 | 1922 | 4242 | 3576 | 13002 | 9255 |

| *Species* | *Species* | *1998* | | *1999* | | *2000* | |
|---|---|---|---|---|---|---|---|
| *Maltese Name* | *English Name* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* | *Weight (Kg)* | *Value (Lm)* |
| Serran | Comber | 577 | 641 | 1606 | 1659 | 1557 | 1435 |
| Siċċ | Cuttle Fish | 3335 | 5927 | 4838 | 8314 | 3635 | 5979 |
| Skorfon | Scorpion Fish | 1624 | 3776 | 2993 | 6856 | 2537 | 6055 |
| Spnott | Sea Bass | 84 | 217 | 1751 | 2614 | 1148 | 2977 |
| Tonn | Blue-fin Tuna | 246314 | 391798 | 268990 | 374800 | 324393 | 604806 |
| Totli | Squid | 2109 | 2418 | 2041 | 2395 | 1665 | 1948 |
| Traċni | Spotted Weever | 2621 | 4916 | 3034 | 5474 | 2586 | 4482 |
| Trill | Red Mullet | 8047 | 15480 | 12048 | 22504 | 7385 | 12988 |
| Tumbrelli | Frigate Mackerel | 842 | 325 | 3373 | 1041 | 1201 | 400 |
| Tunnaġġi | Small Blue-fin Tunny | 1645 | 2114 | 1912 | 2218 | 2168 | 2317 |
| Vopi | Bogue | 14818 | 10556 | 11948 | 8528 | 21210 | 14156 |
| Xilep | Salema | 547 | 359 | 348 | 226 | 154 | 115 |
| Xkatlu | Angel Fish | 234 | 255 | 261 | 400 | 171 | 256 |
| Żagħrun | Rough Shark | 2630 | 1481 | 1103 | 763 | 1516 | 1040 |
| | | 981430 | 1626107 | 1035584 | 1606205 | 989294 | 1854421 |





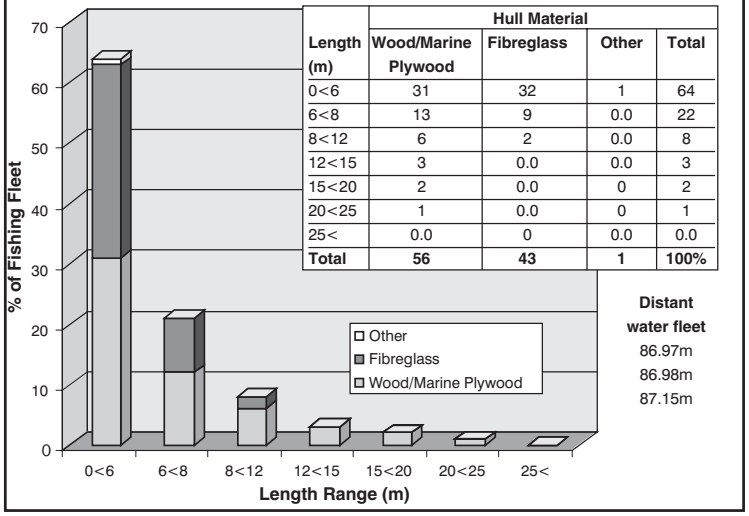
The collection of data and the preparation of a customized programme have rendered elaboration and the study of the sector more easy. In fact it is possible to note certain trends with ease. There are almost as many fishermen as vessels and this implies that the fleet is made up mainly of small craft with a single man on board. Closer examination indicates more than one fisherman on board the full time vessels and only one man on board part time vessels in general. The Market fishermen category is slightly controversial in that there are more boats than fisherman. The general situation of a big fleet combined to a limited number of fishermen is explained by the concept that our fishing communities are formed of very close families. Therefore it is families that own boats and therefore most of these nuclei of people that work in this industry would have more than one vessel. They use the large vessel as a family group indulging in certain fisheries, and when the weather does not allow fishing on the high seas most of them would have a second or third smaller vessel to fish in coastal waters utilising other gears.

The fleet in the smaller length class is made up of a one to one ratio of hulls made of wood or fiberglass. The ratio increases in favour of wood, as the boats grow bigger. This trend shows that in the smaller categories we are getting more and more modern boats built with glass reinforced polymer (fiberglass) instead of traditional materials such as wood or marine plywood. Bigger length classes are mainly made of wood and in general form the older part of the fleet. Steel is almost inexistant except for the water distant fleet. The average age of the fleet is around 20 years. The total tonnage of the Mediterranean fleet is about 4800Tons and the total tonnage in the distance water fleet which is only 3 ships working in the South Atlantic is 11,400Tons.

| | | |
|---|---|---|
| Tonnage of Professional Fishing Boats (F) | 2297 | Tons |
| Tonnage of Semi-Professional Fishing Boats (MF) | 457 | Tons |
| Tonnage of Recreational Fishing Boats (PTF) | 2085 | Tons |
| Total Tonnage Mediterranean Fleet | 4840 | Tons |
| Total Tonnage Distant Water Fleet | 11,400 | Tons |

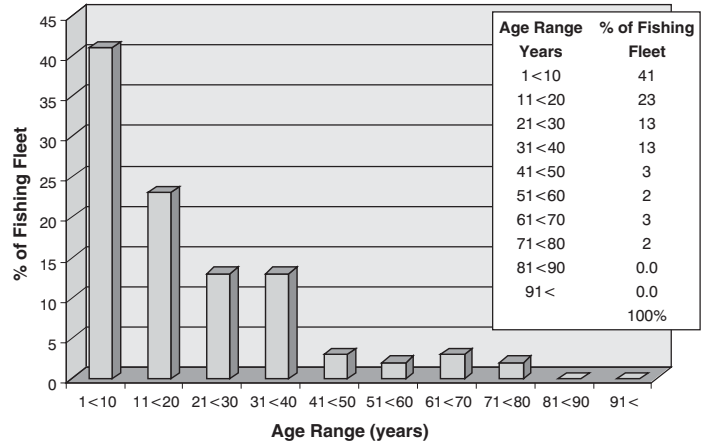
**Percentage of Fishing Fleet by Length Range and type of Hull Material**

| Length (m) | Hull Material: Wood/Marine Plywood | Fibreglass | Other | Total |
|---|---|---|---|---|
| 0<6 | 31 | 32 | 1 | 64 |
| 6<8 | 13 | 9 | 0.0 | 22 |
| 8<12 | 6 | 2 | 0.0 | 8 |
| 12<15 | 3 | 0.0 | 0.0 | 3 |
| 15<20 | 2 | 0.0 | 0 | 2 |
| 20<25 | 1 | 0.0 | 0 | 1 |
| 25< | 0.0 | 0 | 0.0 | 0.0 |
| **Total** | **56** | **43** | **1** | **100%** |




**Percentage of Craft by Age Range**

| Age Range Years | % of Fishing Fleet |
|---|---|
| 1<10 | 41 |
| 11<20 | 23 |
| 21<30 | 13 |
| 31<40 | 13 |
| 41<50 | 3 |
| 51<60 | 2 |
| 61<70 | 3 |
| 71<80 | 2 |
| 81<90 | 0.0 |
| 91< | 0.0 |
| | 100% |








To be able to take into consideration the share of activities of the smaller boats we have instituted a data collecting system through field recorders, the catch and effort data collecting system. This system, that we have started a year ago, with the help of the Copemed, FAO Project, is geared for collecting landing data by interviewing boats under 10mtr that return back to port. This is of course based on a set sampling method. It will give us a more precise view of the landings and therefore the harvest and the takings of fish from our seas and it will give us a better insight of the situation and therefore it will help us manage the situation better. This data will also provide the necessary correction to our National Statistics for fish taken by recreational craft.

Other indications of the situation of the industry are given by exports and imports of fishery products. Malta exports bluefin tuna and swordfish along with aquaculture finfish products. The total value of our exports is in the range of Lm1.8 million. Malta also imports great amounts of frozen fish. Imports are slightly higher than exports. Exports from the capture fisheries sector are in the range of Lm420,000 and this is considered as a low percentage. The value of our exports has to be improved if our fisheries sector is to continue surviving in the future.

**Exports of Fish January - December 2001**

| Fish | Weights (Kgs) | Value (Lm) |
|---|---|---|
| Sea Bream / Sea Bass | 1,234,869 | 1,387,789 |
| Blue Fin Tuna | 151,771 | 397,814 |
| Swordfish | 12,219 | 34,114 |
| ***Total*** | ***1,398,859*** | ***1,819,717*** |

## Imports of Fish January - December 2001

| Fish | Wieght (Kgs) | Value (Lm) |
|---|---|---|
| Frozen Fish | 1,526,771 | 1,896,206 |
| Fresh Fish | 12,750 | 57,898 |
| *Total* | *1,539,5241* | *1,954,104* |

Various pieces of legislation cover Fisheries activities, where the most important is the new Fisheries Conservation and Management Act that has gone into effect on the 4th of June 2001. This act encompasses the responsibilities of Malta towards responsible fisheries and covers our commitments arising from international and regional agreements. This Act has changed the whole concept of fisheries from a production model (Fish Industry Act 1957) to an environment based management activity (Fisheries Management, Conservation and Control Act 2001). In fact this new Act will introduce new concepts in monitoring such as catch logbook and vessel monitoring systems. Another important aspect instituted within the law is the involvement of the stake holders in the decision making process for the management of fisheries. The Fisheries Advisory Board that has existed for a number of years has now been established legally. It now enjoys legal powers as defined within the new Act. This new Act will be backed by subsidiary legislation that will replace existing legal notices. These regulations will reflect the current responsibilities assumed by the Fisheries Conservation and Control Division.





## Legislation Covering Fisheries & Aquaculture

| *Number* | *No.* | *TITLE* | *DATE* |
|---|---|---|---|
| **Chapter 425** | **Act II of 2001** | **FISHERIES CONSERVATION & MANAGEMENT ACT** | **4/6/01** |
| SUBSIDIARY LEGISLATION 10.12 | "GOVERNMENT NOTICE 206 of 1934, as amended by Legal Notices 48 of 1962, 19 of 1964, 80 of 1978, 58 of 1979 and 154 of 1993; and GOVERNMENT NOTICE 148 of 1935, as amended by Government Notice 481 of 1936 and Notice dated 23.02.1937, consolidated." | FISHERY REGULATIONS | 25/05/34<br>23/04/35 |
| SUBSIDIARY LEGISLATION 10.30 | LEGAL NOTICE 117 of 1975 as amended by: Legal Notices 33 and 51 of 1986; and Act XVII of 1991. | BERTHING REGULATIONS | 01/10/75 |
| SUBSIDIARY LEGISLATION 138.01 | "GOVERNMENT NOTICE 395 of 1957, as amended by Legal Notices 103 of 1969, 72 of 1978, 124 of 1979, 84 of 1980, 38 of 1986, 126 of 1989 and 5 of 1992." | FISH MARKETING REGULATIONS | 15/07/57 |
| SUBSIDIARY LEGISLATION 138.02 | "LEGAL NOTICE 25 of 1965, as amended by Legal Notice 32 of 1965." | TUNNY FISH (IMPORTATION) RESTRICTION ORDER | 25/05/65 |
| SUBSIDIARY LEGISLATION 138.03 | "LEGAL NOTICE 28 of 1970, as amended by Legal Notice 31 of 1974." | SLIPWAY (USE) REGULATIONS | 10/03/70 |
| SUBSIDIARY LEGISLATION 138.04 | "LEGAL NOTICE 90 of 1988, as amended by Legal Notice 33 of 1990." | REGISTRATION OF FISHING BOATS REGULATIONS | 01/01/89 |
| SUBSIDIARY LEGISLATION 138.05 | LEGAL NOTICE 83 of 1991. | FISHERIES OFFICERS (REMUNERATION) REGULATIONS | 04/06/91 |
| SUBSIDIARY LEGISLATION 138.06 | LEGAL NOTICE 66 of 1997. | MARINE VEGETATION LICENCE REGULATIONS | 23/05/97 |

| | | | |
|---|---|---|---|
| SUBSIDIARY LEGISLATION 36.26 | "LEGAL NOTICE 90 of 1973, as amended by Legal Notice 91 of 1973." | PROHIBITION OF SALE OF SEA-FOOD REGULATIONS | 06/09/73 |
| SUBSIDIARY LEGISLATION 36.34 | LEGAL NOTICE 73 of 1990. | AQUACULTURE REGULATIONS | 29/05/90 |
| SUBSIDIARY LEGISLATION 231.12 | LEGAL NOTICE 19 of 1977. | SALE OF FISH REGULATIONS | 01/05/78 |
| SUBSIDIARY LEGISLATION 231.43 | LEGAL NOTICE 255 of 2000. | FISH PACKING AND PROCESSING ESTABLISHMENTS REGULATIONS | 01/01/02 |
| SUBSIDIARY LEGISLATION 117.12 | "GOVERNMENT NOTICE 394 of 1957, as amended by Government Notice 298 of 1958 and Legal Notice 116 of 1974." | PRICE CONTROL OF FISH REGULATIONS | 15/07/57 |



*Matthew Camilleri*
*Department of Fisheries and Aquaculture*

# AN OVERVIEW OF THE CONSERVATIVE MANAGEMENT OF MALTESE FISHERIES

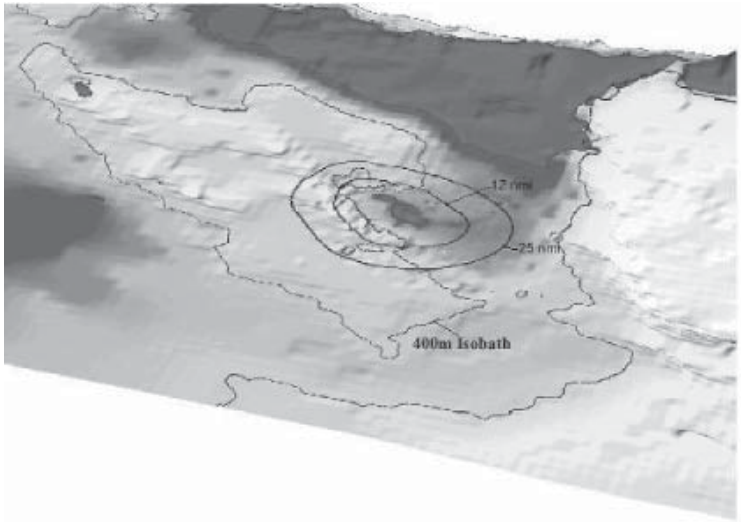
## *1. The characteristics of the Maltese Exclusive Fishing zone and its surrounding waters*[1]

### *1.1 The management unit concept*

In general, one of the criteria for choosing a fisheries management area is that it should enclose a significant number of isolated unit resources, or breeding populations. A publication by the General Fisheries Commission for the Mediterranean (GFCM; Studies and Reviews, no 70), gives some of the criteria for establishing the existence of a unit stock, noting that where genetic identity cannot be established (which is the case for almost all Mediterranean resources), there are still good reasons based on geographical information, for establishing unit stocks which should be managed as a unit.

Acceptable forms of indirect evidence of a unique stock are that the resource is associated with certain physical and oceanographic features which make it unlikely that larval contribution from other areas is a major source of recruitment, and that for shallow shelf resources (<200m), adult

populations are believed to be isolated or almost isolated and not to migrate extensively as adults to adjacent populations.



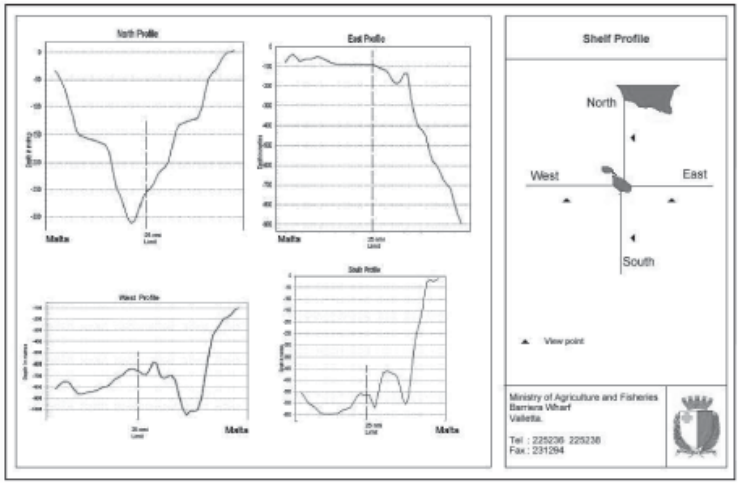

In this respect, apart from a narrow isthmus north of Hurd Bank, linking it with the Southeast Sicilian shelf at 100-200m depth where some limited mixing of groundfish species probably occurs, the continental shelf of Malta can be regarded as an independent management unit for shelf demersal resources. There are sufficient reasons for managing its fish populations as unit stocks and for treating the resources of the Maltese shelf, which are largely specific to the 25 mile Maltese Exclusive Fishing Zone (EFZ), as independent populations.

*1.2 Bathymetry and resources*

The Maltese Islands and their shelf lie within a distinct geological (tectonic) province and, with other isolated and distant islands of the Sicily Channel, (Pantelleria and Linosa)





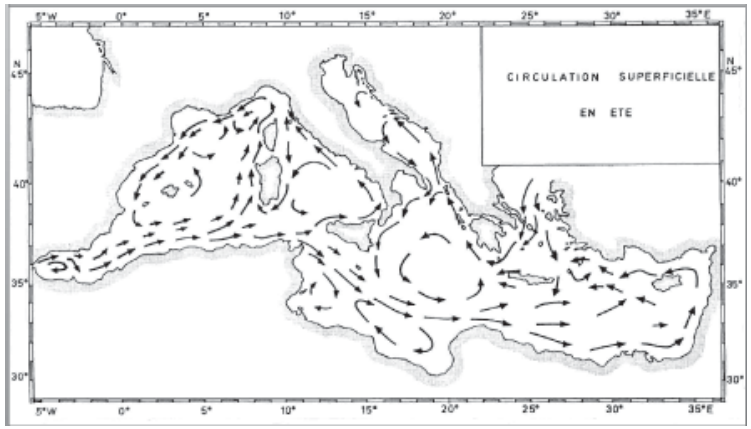



are characterised by Morelli (1973) as horsts (raised blocks of land bordered by geological faults) – in this case bordered by the deep water of the Pantelleria trough. To the north of Malta this drops to 200-400m, and this deep water plain extends some nautical miles distant from the nearest land mass, the south eastern tip of Sicily. To the east and south, the shelf eventually drops off to 600m and more, while to the north west it continues as a ridge running parallel with the Sicilian coast.

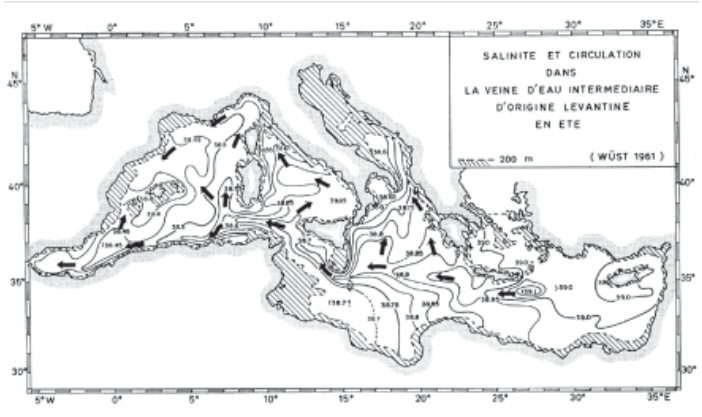
The bathymetric configuration would suggest that for shelf resources, or those that spawn in shelf and slope waters, the Maltese shelf constitutes the main offshore area where spawning could be carried out for a significant proportion of the Maltese EFZ demersal resources. Even for deep water species such as hake which occurs down to 1000m, their preferred spawning range is from 100 to 300m, which is only available locally on the Maltese shelf. As for other deep water demersal resources however, their migration throughout the Sicily Channel area at or below 500m is not discounted, making them, straddling stocks

that should be managed jointly with other users within the GFCM context.

*1.3 Oceanography and larval dispersal*




The current system flowing past the Maltese Islands is characterised (Lacombe 1973) by water masses from the Western Mediterranean flowing Southeast, parallel to the south coast of Sicily. There is no obvious movement of water masses between the two islands either on the surface, or at depth. This could lead one to conclude that larval dispersal between fish stocks spawning on the shelf

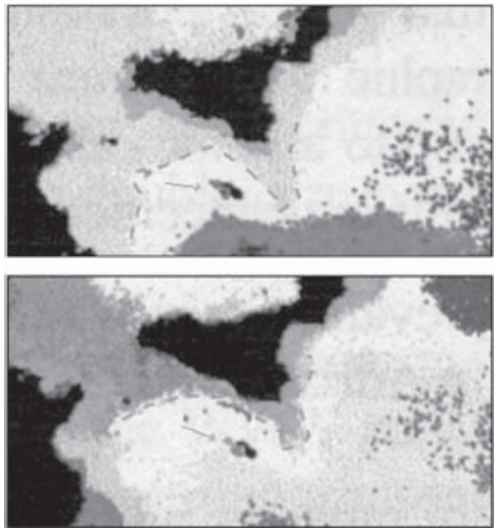







of Sicily and on that of Malta, is limited. The deeper intermediate layer of water (at around 200m depth) flows in the opposite direction, that is a north-westerly direction, again, with little evidence of water movement between the shelves of Sicily and the Maltese Islands. This does not support the idea of easy transport of fish larvae between the Sicily shelf and Maltese waters, and it is more reasonable to assume recruitment to the shelf is local in origin and that local fish populations constitute local separate stocks. From a precautionary point of view, these should therefore be managed as unit populations, separately from those of the shelf areas of adjacent mainlands or islands.

*1.4 Productivity*

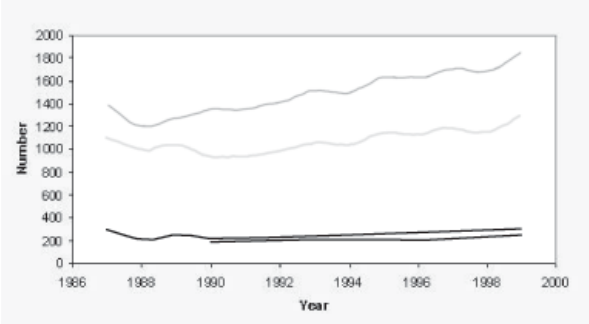


Remote sensing imagery (Barale and Filippi 1997) shows that Malta is surrounded by water masses which are 'oceanic' in character, with levels of chlorophyll lower than for Italian / Sicilian shelf waters, where nutrient availability is

higher. For this reason, the island shelf can be characterised as low in primary productivity compared with mainland shelves, probably in part due to the strong currents and limited rainfall and runoff from the Maltese Islands. As such, the fishery productivity is limited not because the resources are underfished, but because of inherent limitations in nutrient availability. In other words, Malta's fishery productivity is limited and the ecosystem is of the fragile oligotrophic or oceanic type and will be adversely affected by high exploitation rates.

## *2. The Maltese fishing fleet and its activities*[2]

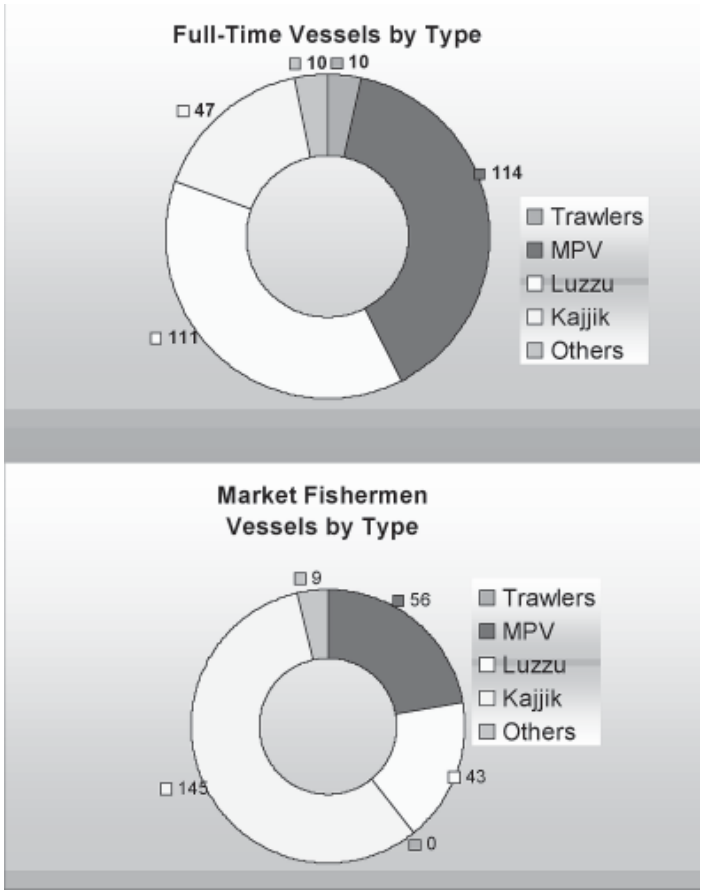
### *2.1 The Fishing fleet*



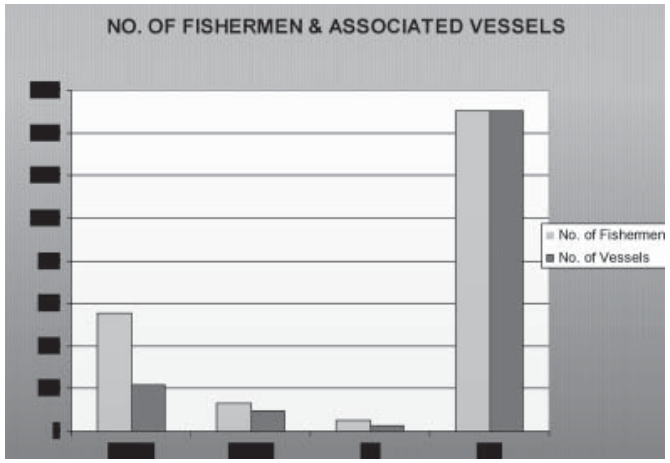

Whilst the number of full-time registered fishing vessels has remained relatively constant over the last couple of decades, there has been an increase in the number of part-time registered fishing vessels. In addition, in response to the need for local fish during the late 1980s a small trawler fleet was permitted. Nevertheless, the number of larger boats has been kept in check, and, in fact, the total tonnage has fallen slightly in recent years under a restrictive licensing regime.








The Maltese fishing fleet today consists of 1747 vessels and is mainly artisanal. The vast majority of the vessels are under 10 metres in length, and more than half of them are of traditional design i.e. *luzzu*, *Kajjik*. The *Kajjik* is the most prevalent vessel, there being two and a half times as many *Kajjik* as there are *luzzus*. Following the *Kajjik*, the multi-purpose vessel is most common. There are only a limited number of trawlers, most of which are under 24 metres in length and use a "Mazzara" type of trawl net.




Out of the 294 registered Full-time (F) vessels, the vast majority have sole ownership. 10% have 2 co-owners, and 7% have 3 co-owners, while 3.5% are co-owned by 4 fishermen. These are usually brothers, and it is not uncommon for more than one vessel to be co-owned by the same fishermen.

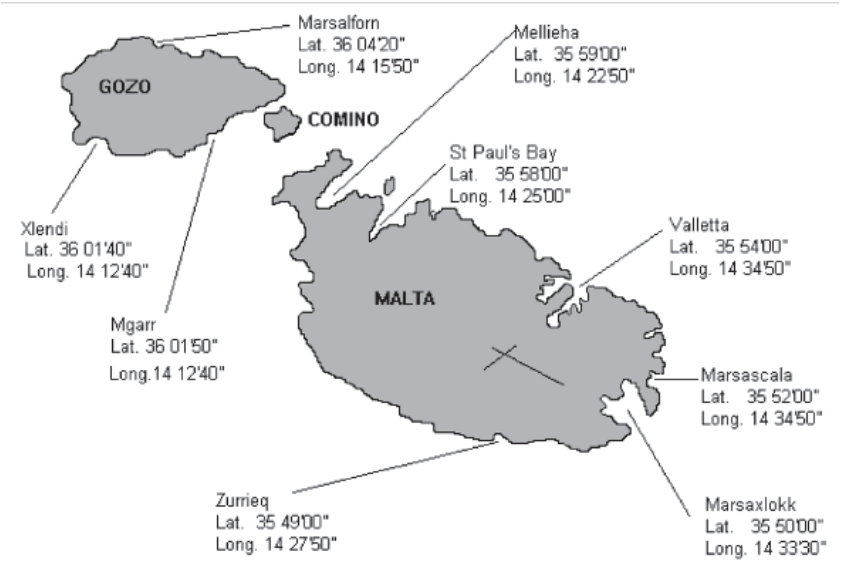
The part-time fishing vessels from the island of Gozo are registered as Market Fishermen Vessels (MF), while those from Malta are sub-divided into MF and Part- time Vessels (PTF).

The Malta MF vessels are those vessels owned by part-timers who bring a stipulated quantity of fish to the wholesale fishmarket. The PTFs are vessels owned by part time fishermen who do not fill this obligation. There are only 27 vessels in this category, and the average number of crew ranges from 2 to 4. On the other hand, there are 226 vessels MF Gozo vessels, and the average number of crew within this category ranges from 1 to 2.

Most fishermen fall into the PTF group (1201) and their boats have one owner with the average number of crew ranging from 1 to 3.





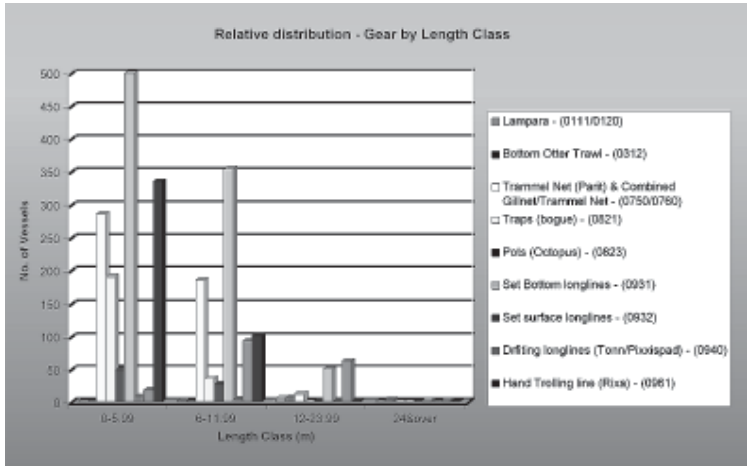



*2.2 Ports*

The main fishing port for the island of Malta is Marsaxlokk Harbour in the south-east of the island. 36% of the vessels registered in Malta operate from the fishing village of Marsaxlokk and the neighbouring village of Birzebbugia.

The most important port for the island of Gozo is Mgarr harbour, where 71% of the Island's fleet berth. This port is also the second largest in terms of number for the whole of the Maltese Islands.

The other main ports are well distributed geographically around Malta. In order of importance they are: St.Paul's Bay in the north, Marsascala and Msida on the east coast, while the landing place of Gnejna caters for the fisherman from Mgarr (Malta) and Rabat.




*2.3 Gears*

The main gear used are various forms of "hooks and lines" (over 60%). Different types of "gillnets and entangling nets" are also popular (20%). Traps take up over 10% of the effort.

The most prevalent specific method of fishing is the set bottom longlining. This activity is practised at one period of the year by over half the operational fishermen, especially by vessels in the 0-5.99m class and slightly larger class (6-11.99m).

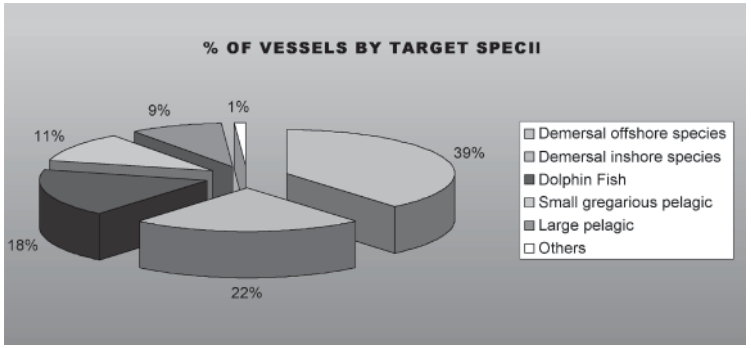
The next most frequent method of fishing is trammel netting which is used by 27% of the fishermen, who also own the smaller sized craft. Almost as popular is the hand trolling line (*rixa*) which is used by 25% of the fishermen, the majority of which being part-timers with craft under 6 metres in length, who also frequently use bogue traps. Octopus pots are used by only 4.5 % of fishermen, who own vessels up to 12 metres in length.

Drifting longlines are used by 10 % of the fishermen. In this case, the vessels are larger with the length ranging





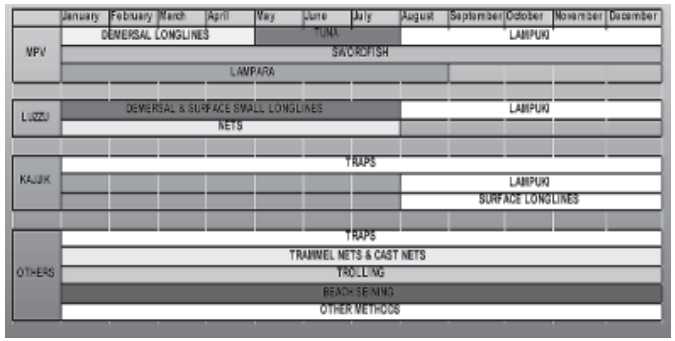
between 6 to 23.99 metres. This is because the target species are tuna/ swordfish which are fished around 20 miles offshore and beyond.

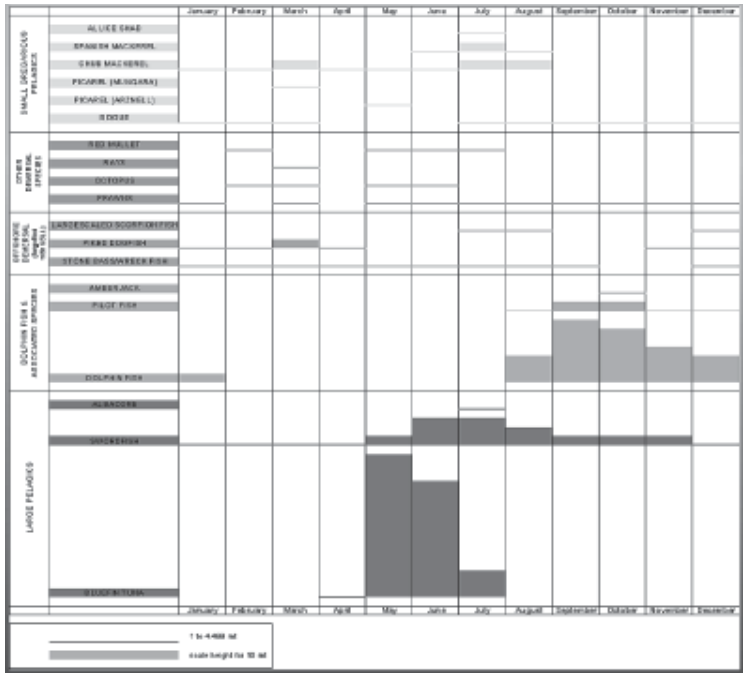



*2.4 Target species*

The main target species are demersal offshore species (39%), caught specifically with set bottom longlines. Demersal inshore species are also highly targeted (22%), with trammel nets. 18% of the annual fishing activity focuses on *Coryphaena hippurus* (*lampuki*) as the main target species, with the majority of fishermen in this case being part-timers using hand trolling lines. This activity takes place from August to December.

11% of the fishing activity targets small gregarious pelagics and the preferred gear being bogue (*Boops boops*) traps, fishing in inshore waters. On the other hand, large pelagics are targeted at sea by 9% of fishermen, mainly with drifting longlines. This longlining activity mostly focuses on bluefin tuna between the months of May and July included.



*2.5 Fishing seasonality*

Between May and July, the market is dominated by landings of bluefin tuna with the second most available fish being swordfish which is also targeted with surface





longlines. The landings between August and December reflect the status of dolphin fish, locally known as *lampuki*, as the most targeted individual species. In fact *lampuki* are the most landed fish throughout this period and, when the weather is favourable, landings are recorded even in January. Swordfish is the second most available fish for most of this period, with the exception of September when pilot fish which are caught along with *lampuki*, and December when stone bass/wreckfish take second place.

Swordfish is the most abundant fish in the month of February and is the only species with landings of more than 1000kgs per month throughout the year. The piked dogfish (*Squalus acanthias*) is caught in significant amounts in the winter months and is taken mostly with set bottom longlines. Chub mackerel targetted with the "lampara" method are landed from January to August.

**Relative importance of demersal fishing gear**

| | No. of species | Av. catch / day (kg) | Total landings (kg) |
|---|---|---|---|
| Trawling | 27 | 620 | 86,863 |
| Bottom longlines | 23 | 960 | 86,229 |
| Trammel nets | 10 | 40 | 8,544 |
| Others | 6 | | 16,045 |

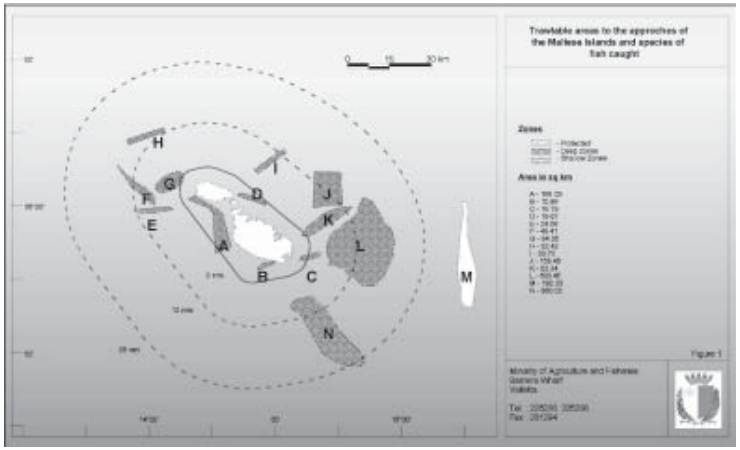
*2.6 Relative importance of demersal fishing gear*

Demersal longlining and trawling are equally important in terms of annual landings, however, the former is more efficient when considering the daily production. Both these methods of fishing are highly unspecific and land 27 and 24

different types of species respectively. Trammel nets and other artisanal gears, such as pots, catch less of a variety of species and account for a small percentage of the total annual production of demersal resources.

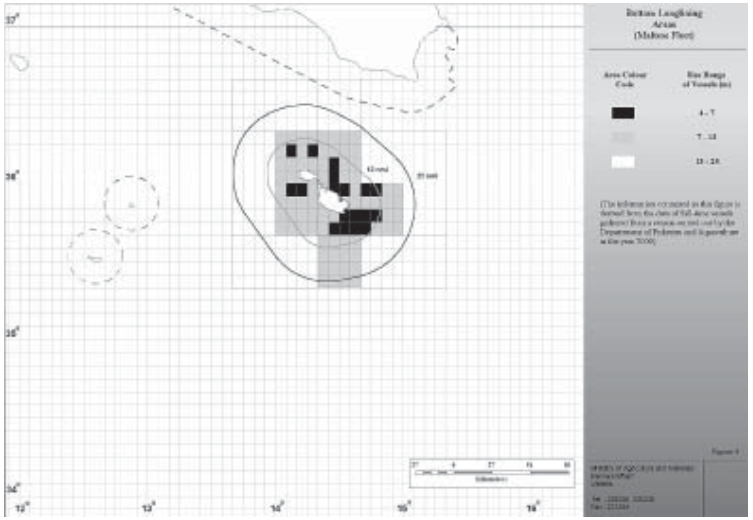
*3. Fishing areas*

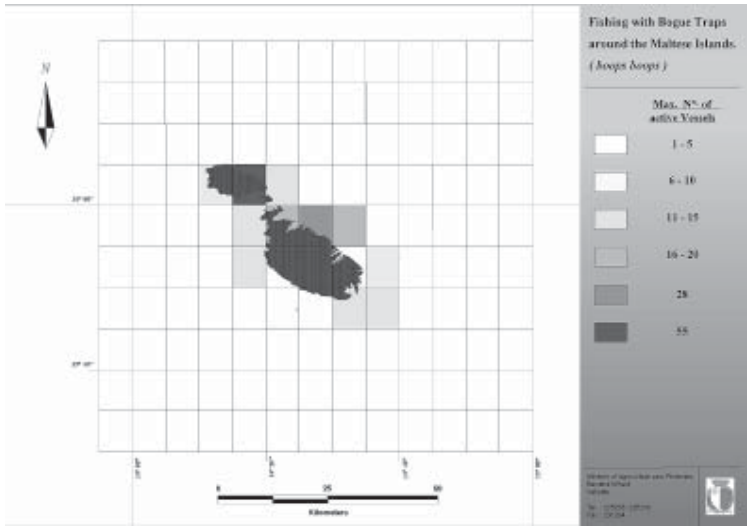
Effort control measures have been routinely taken by Malta in recognition of the fact that the Maltese fishing grounds have represented the only available source of fresh fish supply to Maltese consumers. The areas of application of fishing effort by artisanal boats within the 25 mile Exclusive Fishing Zone (EFZ) have been controlled and allocated to different port fleets and / or gear sector for several years.

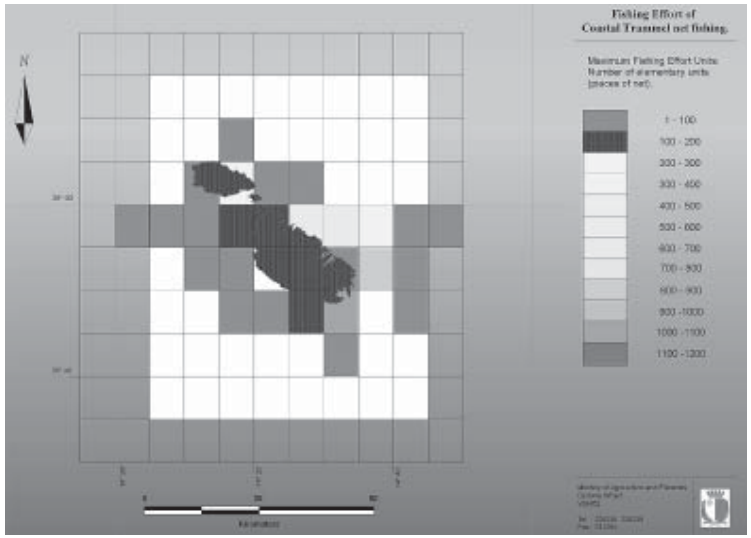



*3.1 Demersal fishing areas*

Trawling has been restricted by Malta to specific grounds, and those lying within three nautical miles from the islands' baselines have been closed following representations made by fishermen using other inshore traditional gears. In general, the Maltese shallow water trawl fishery plus fisheries by other bottom gears have a moderate impact, and are estimated to sweep about 62% of the inshore trawl zones each year. Offshore, on the much more restricted deep water shrimp grounds, the impact of the Maltese trawl fleet is much higher, i.e. the deep water shrimp grounds are swept roughly 4.1 times a year, which is probably excessive, and the fleet should ideally be encouraged to expand its operation into international waters outside. (Camilleri, 2001).





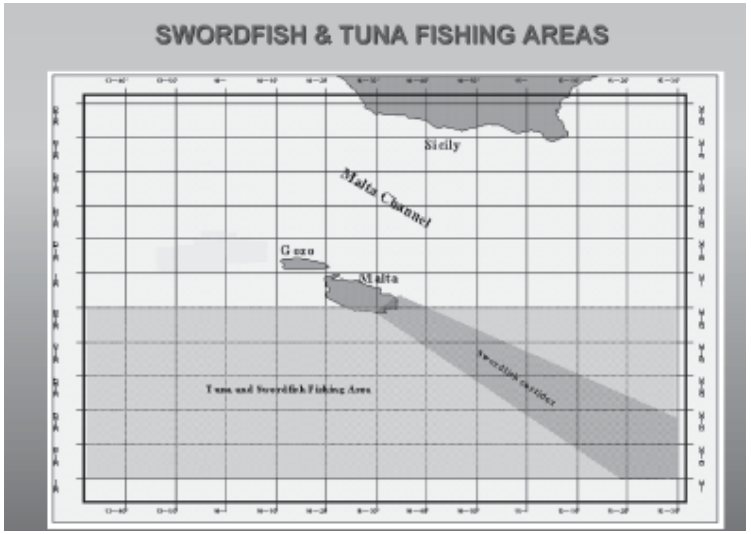




The areas where Maltese fishermen practice bottom longlining, trammel netting and fishing with other artisanal demersal gears have been mapped in grid format. From these illustrations, it is clear that the current regime allows





escapement of demersal species into slightly or non-exploited areas. As such, it is reasonable to consider the Maltese approach as favourable for setting up a 'refugium' or area where species are protected from depletion (Caddy, 1998).




| Percentage distribution of full-time vessel category | | | |
|---|---|---|---|
| | Up to 12 miles | Up to 25 miles | Outside 25 miles |
| Tuna Fleet % distribution | 19 | 10 | 71 |
| Tuna Fleet Average Length (metres) | 10.36 | 13.48 | 14.56 |
| | | | |
| Swordfish Fleet % distribution | 16 | 44 | 40 |
| Swordfish Fleet Average Length (metres) | 10.95 | 9.61 | 13.59 |

| Percentage distribution of all vessel categories | | | |
|---|---|---|---|
| | Up to 12 miles | Up to 25 miles | Outside 25 miles |
| Tuna Fleet % distribution | 27 | 16 | 57 |
| Tuna Fleet Average Length (metres) | 8.47 | 10.18 | 14.10 |
| | | | |
| Swordfish Fleet % distribution | 20 | 61 | 19 |
| Swordfish Fleet Average Length (metres) | 7.70 | 8.77 | 12.77 |

*3.2 Tuna and swordfish fishing areas*[3]

Fishing for tuna with surface longlines is undertaken to the West, South and South East of the Island between the 35th and the 36th parallels within the following coordinates; on the Western Limit Lat. 35º52'00" Long. 13º30'00"(50 miles from Marsaxlokk to the South Extremity Lat.. 35º21'58" Long. 14º25'24", (30 miles from Marsaxlokk, to the South East . Lat. 35º22'74" Long. 15º03'14"(37 miles from Marsaxlokk) which covers approximately 2,000 sq. miles. At the beginning of the season the effort is undertaken mainly in the Southwest area of the region and progressively further to the East according to the normal movement of the Bluefin tuna. The season extends from May to July.

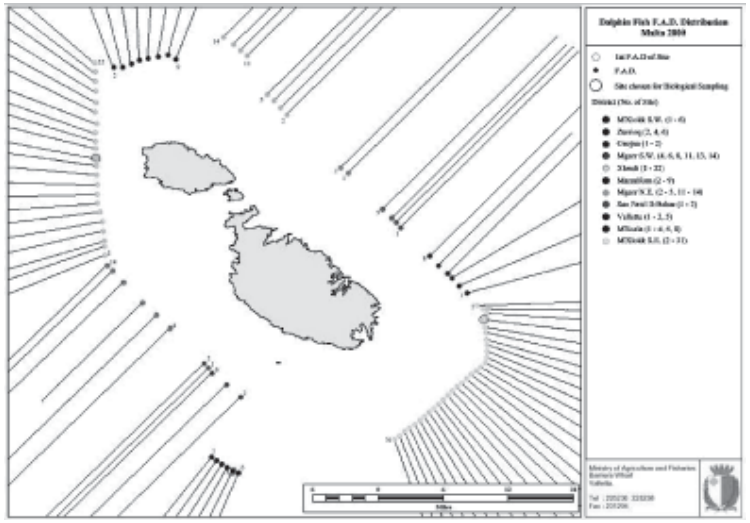
Although swordfish can be found all around the Maltese Islands, the main effort is always exerted to the South for the following reasons (some of these apply also to bluefin tuna fisheries):

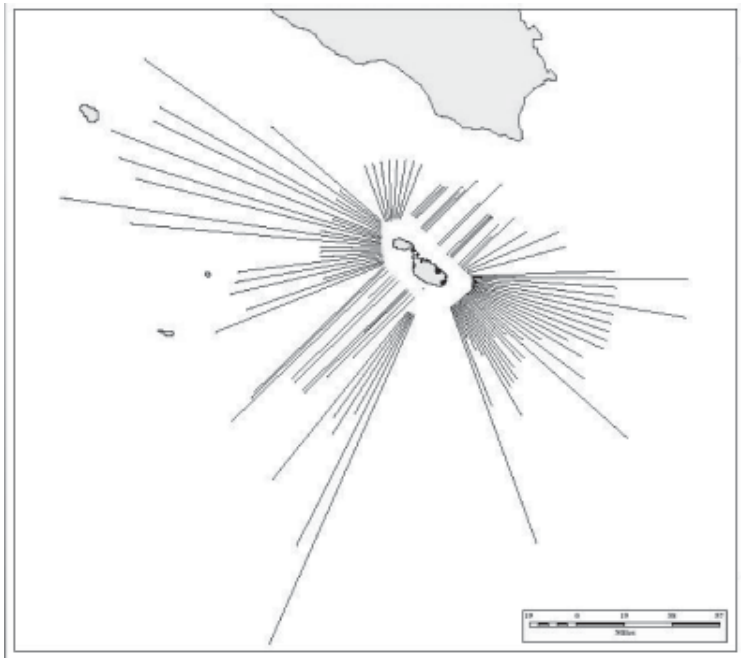
a) the zone to the North is shared with Sicilian fishermen and consequently the area is limited to a maximum of 20/25 miles offshore;
b) the Northern zone known as the Malta Channel is nearly always full of other traffic which constitutes a constant hazard;
c) since the main fishing port, Marsaxlokk is situated in the South East of the island it is more economically viable to operate in the southern zone. Also the area has almost unlimited boundaries towards West, South and East, and is less congested;
d) during the dolphin season when "kannizzati floats" - FAD's-are set all around the Island, an exception is made in part of the Marsaxlokk District where a 20 mile wide corridor is left free of FAD's so that swordfish fishing can be undertaken, thus making this particular stretch of sea an extra zone during the autumn and early Winter months. The two sides of this corridor have the following co-ordinates: SSE Lat. 35º41'30" Long 14º37'00" and SE 35º47'24" /14º45'12". Further to the South and West the area exploited by these fishermen is roughly bounded by the following co-ordinates on the West and East and along the 35th parallel to the Southwest: West Lat. 35º50'00" /Long. 13º30'00"; East Lat. 35º50'00" /Long. 15º30'00", and along the 35th Parallel to the South.





From the census of fishing vessels carried out by the Department of Fisheries and Aquaculture in 1999, it is evident that whilst most of the tuna fishing takes place outside the 25 mile EFZ, swordfish is generally targetted within the zone.





*3.3 Dolphin-fish (lampuki) FAD management system*[3]

During the month of May, all boat owners whose craft is longer than 6 metres are invited to submit applications for the allocation of a fishing site. When all applications have been received, these are apportioned into different ports/districts. Subsequently all applicants from each district will draw lots for the allocation of a fishing site, with preference being given to full-time fishermen. A license for using a particular fishing site is then issued by the Department of Fisheries. This license carries the following conditions: (i) it is non-transferable; (ii) the applicant will use only one licensed boat, (iii) all fish caught to be sold through the Wholesale Fish Market, (iv) each licensee shall lay at least 35 fish aggregating devices (FADs – locally



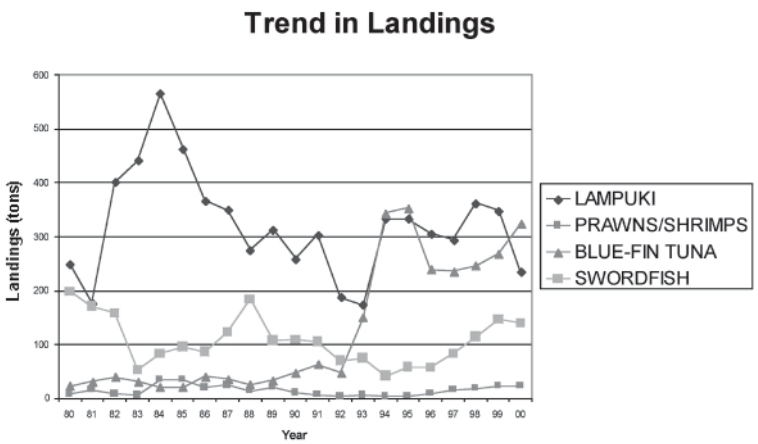


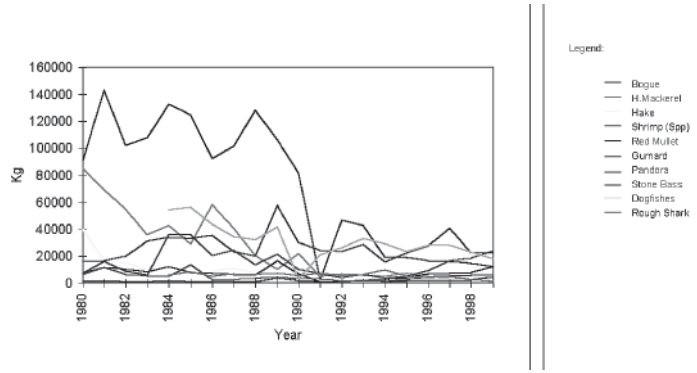
known as *kannizzati*) in a straight line along the way points indicated by the Department. Those fishermen who do not adhere to these conditions will automatically forfeit the right to apply the following year.

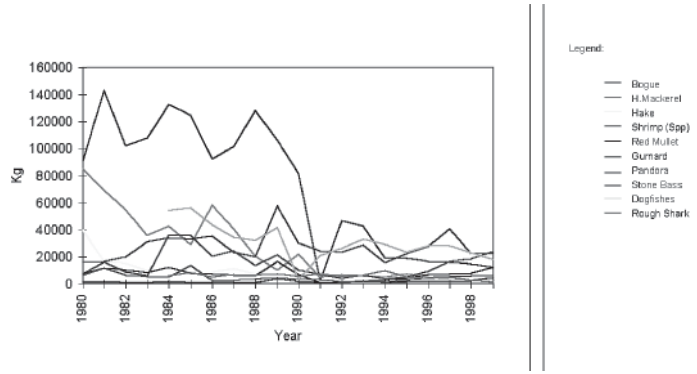
In 2001, 91 sites were allotted all around the island except for the "swordfish corridor" which was kept free from lampuki FADs so that, as mentioned earlier, swordfish fishing can be undertaken. The sites start from 7 miles offshore at intervals of one half or three quarters of a mile depending on the district.

Dolphin-fish (*Coryphaena hippurus*) are lured by the use of *kannizzati* which are are small rafts made of floating material which are anchored to the bottom. They were introduced after it was noticed that dolphinfish along with other species such as the pilot fish (*Naucrates ductor*) and the amberjack (*Seriola dumerili*) tend to aggregate within the canopy of shadow that these floats make. To further augment the number of fish palm fronds are attached underneath each float. Once the fish are aggregated, they are caught by surrounding nets similar to a purse-seine. When the boat is near an FAD various lures made out of feathers or artificial bait are set and when one fish is caught, a decoy dolphin-fish is thrown into the sea to attract any others that may be present under the FAD. When the number of fish present is considerable, the surrounding operation is undertaken.

Malta has participated in an FAO-COPEMED research project on dolphin-fish since August 2000. The project focuses on the study of population dynamics of this highly migratory species together with its biology. Catch and fishing effort data is also being collected. The project is expected to provide a basis for the formulation of a Mediterranean management regime for this species.








*4. Trend in landings*

The upsurge in Bluefin tuna landings came about as a result of the tapping of the Japanese market in 1989 and in fact one will find that from a mere 48,669 kg in 1990 landings shot up to 353,014kg in 1995. After an initial fall in landings of tuna from 1995 to 1996, the landings have slowly but steadily increased to almost the peak years of 1994 and 1995. Landings of swordfish have been erratic over the years but have risen to about 150 tons recently.

The landings of dolphin-fish have been more or less stable with poor seasons recorded in the early 1980s, early 1990s and 2000. In this respect, there appears to be a ten year cycle in which landings fall drastically.

Bogue and horse mackerel, which are pelagic and low value species, have been landed in small quantities since the early 1990s. It is highly probable that this is not due to a decline in abundance, but due to the low prices and negligible market interest in these species which have led Maltese vessels either to discard them or to avoid areas and gears that take them in large numbers.

In general, the trends in landings for demersal species are fairly stable, with a significant rise in the last few years for trawl-caught fish. It remains to be investigated whether this corresponds to an increase in exploitation rate. As far as shallow shelf resources such as red mullet, gurnard, and pandora are concerned, there was an unexplained drop in landings in the early 1990s followed by a recent rise. This latter rise could be due to an increase in effort for these more valuable species probably resulting from fishermen preferring to catch species whose price has risen. (Anonymous, 2001).

The deep water shrimp landings also show this decline and subsequent rise, and since shrimps are only taken by

trawling, it seems likely that a recent increase in Maltese trawl effort is mainly responsible for this increase in landings of all trawlable species. One may therefore be concerned that Maltese trawl effort, even with a small fleet and despite a slow decline in tonnage, is already approaching the limit of production for a small trawlable shelf area. (Anonymous, 2001).

While the number of boats and full time fishermen has remained steady, the number of part time fishermen, whose catches are more difficult to survey, has increased. It is highly probable that this increase has led the demersal fishery to approach Maximum Sustainable Yield (MSY) conditions as indicated by the slight decline in catches in recent years. (Anonymous, 2001).

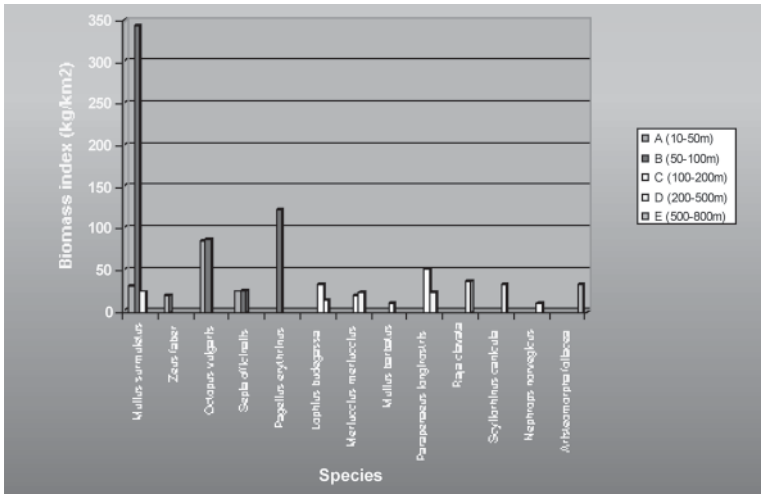
*5. Abundance of demersal resources*

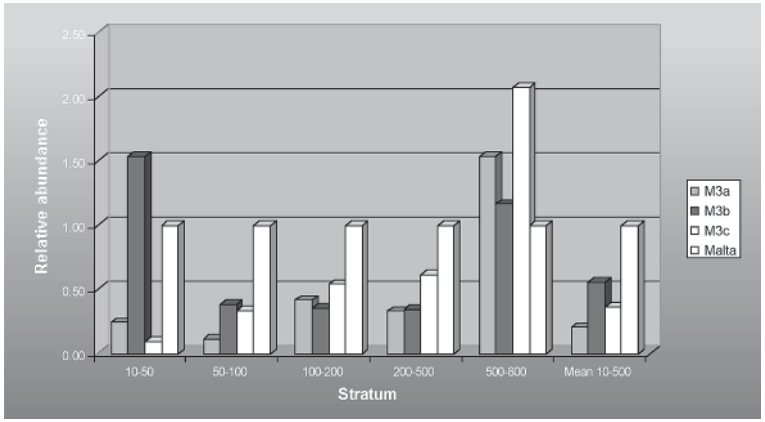
Although limited, the data obtained during the MEDITS 2001 trawl survey programme carried out in the Maltese EFZ (sub-region M3d), suggest that, in fact, the abundance of several demersal species has been kept at a sustainable level. 13 out of the 37 priority species assessed by Medits had an abundance greater than 10kg/km$^2$ with *Mullus surmuletus* (red mullet), *Pagellus erythrinus* (pandora) and *Octopus vulgaris* (octopus) having impresive values in particular strata which exceeded 340 kg/km$^2$, 120 kg/km$^2$ and 80 kg/km$^2$ respectively.

From a comparison of biomass indices of the most important commercial species within the four M3 sub regions (M3a: South Tyrrhenian Sea (Volturno River – Capo Suvero), M3b: South Tyrrhenian Sea (Capo Suvero – Capo San Vito); M3c: Sicily Channel; M3d: Maltese Waters), it resulted that the overall average abundance of the








first four strata (10-500m) taken together is very much higher within the Maltese EFZ. In fact, the catch rates in shelf and shallow slope areas within Maltese waters are more than double those obtained for the rest of the Sicily Channel in these same depth strata.

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1 Extracts from: *Maintaining the Maltese fisheries mangement zone* (Anonymous, 2000)

2 Adapted from: Darmanin, M., M. Camilleri and R. Spiteri, 2002.

3 Adapted from: De Leiva, J.I., C. Busuttil, M. Camilleri, M. Darmanin (1998).



*Rafael Robles - COPEMED*

# COPEMED'S ROLE IN THE MEDITERRANEAN

*Context*

The main characteristics of Mediterranean fisheries activities are:

- *High level of consumption*. About 1.2 to 1.3 million tons of fish are caught in the Mediterranean and some 3 million tons are consumed annually.
- *Very high average prices*, which are several times higher than the world average (seafood is almost exclusively consumed fresh, massive influx of tourists).
- *Important social impact*, particularly as compared to the North Atlantic coast, since the artisanal sector is highly developed and plays an important role in fishing production.
- *A serious problem of overfishing*, particularly as regards demersal resources.

There are also ecological aspects, which, in addition to those of every semi-enclosed sea, make the Mediterranean a fragile and particularly vulnerable ecosystem. The following aspects are stressed:

- The *high biodiversity* of the Mediterranean (the great

variety of species). The impact of certain fishing activities, manculture, and the invasion of tropical species could also affect this biodiversity.
- Its *high rate of endemism* (an important number of species that are found only in its waters)
- *Increasing levels of contamination* along the coast:
  - wastes (500 million MT per year),
  - heavy metals (7,500 NIT per year)
  - and agro-chemical and industrial pollutants (200,000 MT of chemicals per year
  and up to 1 million MT per year of crude oil from accidental spills and supertankers.).

All these economic, social, biological and environmental considerations clearly indicate *the need to develop joint, co-ordinated and rational management of the Mediterranean Sea*, involving fisheries administrations as well as environmental administrations, through adequate coordination.

In the meantime, there has been a series of international fisheries agreements in the 1990s which seem to clearly indicate a greater degree of political awareness among the fisheries administrations to face the ever-increasing problems of overfishing.

*Such agreements are mainly:*
- the FAO Code of Conduct for Responsible Fisheries;
- the agreement to apply technical measures to vessels that operate on high seas;
- the United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks.

In addition, for the Mediterranean only, two Diplomatic Conferences on Fisheries Management in the Mediterranean were held (Crete, December 1994 and Venice, November 1996), supported, in the interim, by the





EuroMediterranean Conference of Barcelona (November 1995), 'in whose solemn declaration it notes that:

- *an effective regional co-operation* among the parties must be promoted at the highest level.
- the objective of this co-operation, concerning either the resources, the environment and law principles application, will be the *effective' starting of a harmonised system for the preservation and management of fisheries resources in the Mediterranean*. This co-operation will have to be based on the best scientific information available and on the most profitable usage, so that rational exploitation and high-level preservation of fisheries resources in the Mediterranean are assured under the most advantageous conditions, favouring particularly the coastal countries.

Implicitly, all these agreements try, in one way or another:
- To avoid fisheries over-exploitation and over-capitalisation;
- To develop, inasmuch as possible, homogenisation among the coastal countries for the management of shared stocks.

SPAIN through the Agencia Española para la Cooperación Internacional [AECI, Spanish Bureau for International Co-operation] has committed itself to enhance international co-operation, with special emphasis on developing countries, and has decided to create a trust fund in FAO to put this project into effect, in principle over a five-year period, to facilitate inasmuch as possible the attainment of these objectives, which are undoubtedly shared by all countries.

*Presentation of the project*

The COPEMED Project was born in 1996 for the Advice, Technical Support and Establishment of Co-operation Networks to facilitate Co-ordination to Support Fisheries Management in the Mediterranean (western and central Mediterranean in its initial stage). ***Morocco, Algeria, Tunisia, Libya, Malta, Italy, France and Spain*** have accepted to take part in the Project.

The basic objective of the COPEMED project is to ***widen scientific knowledge*** through a better international co-operation and to ***enhance co-ordination,*** especially with and between the countries of the Southern area. To this effect, the maximum support from all the existing international organisations involved in Mediterranean matters is required. This will *contribute to a more efficient performance of the GFCM* and to the completion of its objectives.

The project was restructured since 1999, following the Logical Framework Approach, in 6 components plus one related to its management and organisation. In the next table you can see an overview of it.



| Components | Imm. Objectives | Major Expected Outputs | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (1) Support to multilateral organisms: GFCM/SAC, ICCAT/SCRS, | (2) Developing National Fishery Research Strategies | (3) Organization of Regional Research Programmes and Activities | (4) Development of the Regional Information Systems | (5) Training in priority areas | (6) Fishery Regulations Analysis and Organization of Fishery Discussion For a | (7) COPEMED's Management and Administration | | |
| New Code (S) | New Code (N) | New Code (P) | New Code (1) | New Code (T) | New Code (R) | New Code (M) | | |
| **S.** SAC and SCRS to show increased competence in making decisions and providing advice | **N.** National performance in surveying and monitoring fisheries improved | **P.** The use of COPEMED regional programmes data in the region for: regional stock assessments; scientific research cooperation; standardizing of assessment & management tools | **I** Information flow in the region on Mediterranean fisheries and related topics improved | **T.** New capacities are being used, i.e. people apply those ideas and practices which they got through COPEMED in their usual work | **R.** Indications that practical conclusions are going to be reflected in fishery legislation covering transboundary stocks | **M.** Good management and administration of COPEMED contributes substantially to the project's success | | |
| S.1. Information requested by GFCM/SAC and ICCAT/SCRS produced<br>S.2. Active participation of southern Mediterranean experts in GFCM ICCAT or CIESM meetings improved<br>S.3. Participation of GFCM to FAO FIGIS (Fisheries Global Information System) facilitated | N.1. Research Institutions capacity strengthened<br>N.2. National strategic research plans revised<br>N.3. National port and on board sampling networks in progress<br>N.4. National fishery statistic systems established | P. 1. Regional co-operative research programs developed<br>-Artisanal Fisheries<br>-Large pelagics (tuna and swordfish)<br>-GIS<br>-Socio-economic indicators<br>-Gear Selectivity<br>- Marine Protected Areas<br>-Others | 1. 1. Regional databases on several domains available<br>1.2. Regularly updated WEB home page accessible<br>1.3. Electronic regional network established<br>1.4. Information system operative<br>1.5. Compilation, synthesis and publication of information of interest from national or regional source on fisheries research | T. 1. Training needs assessment (TNA) produced<br>T.2. COPEMED training programme prepared<br>T.3. People trained in priority areas<br>T.4. Didactical or methodological handbooks or software elaborated | R.1. Information on fishery regulations in the Mediterranean compiled and analysed<br>R.2. Possibilities of harmonizing fisheries regulations explored, including organisation of discussion For a among the Fisheries Administration, the Fishing Sector and the Research Institutions | M.1. Efficient project management including the implementation of tools to facilitate participatory Monitoring & Evaluation and Management Information System<br>M.2. Proper execution of administrative tasks<br>M.3. Internal communication among all concerned parties operative<br>M4. External communication developed | | |

*Most Relevant Achievements Of Copemed I*

1. Great effort on the part of participating countries (in particular of those from Maghreb and Malta)
2. Noticeable spirit of cooperation (with co-financing), of partnership and of fraternity (the so-called TOPEMED spirit') 'in the carrying out of such an ambitious and difficult project
3. Very clear ideas formulated by the Steering Committee as far as goals to be achieved (diagram showing how to achieve long-range objectives)
4. A great number of achievements (with more than 600 activities being carried out during the-period), among which we commend:

sl) Collection and analysis of the existing scientific data on some of the most important species
s2) Preliminary study of the operating units
s3) Analysis of the effects of environmental fluctuations on small pelagic fisheries
s4) Case studies applied to a bio-economical model (MEFISTO) in relation to:
- competition for the resource among the different fishing gears
- close areas and minimum landing sizes
- influence on resources of markets liberalization
s5) Regular participation of experts from southern countries in international scientific meetings
n1) the setting up of networks for sampling either at ports and on board for interesting species
n2) adaptation and updating of national fishing statistic systems of Southern countries, in accordance with the specific characteristics of each country
p1) regional program on artisanal fisheries





p2) regional program on large pelagics
p3) regional program on the practical use of GIS on fisheries
p4) regional program on socio-economic indicators
p5) regional program on fishing gears selectivity
p6) regional program on marine protected areas
p7) regional program on related to MEDITs cruises
p8) others
11) operative regional information system with:
- accessible databases
- functional Web site with open virtual library
12) a series of publications and posters (in paper and CD Rom), including for the first time an Arabic version (CD Rom on "Living Marine Resources in the Mediterranean")
t1) previous study of the training needs in the different Southern countries
t2) implementation of a training system with almost 60 activities done, the majority of them a result of on- the job training
t3) design of a monitoring system on the real use of the training received (post-training analysis)

rl) compilation and analysis of fishing regulations in the region, in particular those related to shared stocks and protected maritime areas
r2) exploration of the possibilities for an eventual harmonization of regulations of interest at regional level
r3) organization of discussion forums among the different actors of the fishing system (Administration, Fishing Sector and Scientific Research)
ml) to design and make operative a system to organize, control and manage the different programs

m2) the assurance of good internal and external communication regarding COPEMED

*Feed-back from COPEMED I*

It is possible to speak of a before COPEMED' and an 'after COPEMED' because:

- it has facilitated the institutional potential and training of scientists in southern countries to enhance knowledge of their fisheries to a significant extent
- evaluations of shared stocks by international commissions will be easy to facilitate
- international presence and collaboration by different countries has increased exponentially
- a regional information system exists that will greatly contribute to the flow of information of all types, with common databases on various
- subjects among them the monitoring and management of projects
- collaboration between countries from the very beginning is going to allow countries to continue the work implemented by COPEMED on their own. The recently established meetings of Maghreb countries are a good example
- the first steps towards coming to collective conclusions that would allow the possible harmonization of certain fishing regulations in the area will have been taken





*The participation of Malta in COPEMED and its importance on an international scale*

***Development** of New **Statistical System (Maltastat)***

- Satisfied statistical requirements of Eurostat and DG Fish (EC)
- Satisfied statistical requirements of international fisheries bodies
- Computerised Malta's fishing vessel register
- Computerised Malta's licensing system
- Reporting on various aspects of the fishing fleet for scientific management purposes
- Regional compatibility of statistics

***Research on** lampuka **or dolphin-fish** (Coryphaena hopurus)*

- This research is expected to form the basis of a future regional management regime for this species which is highly important for Malta

***Research on blue-fin tuna** (*Thunnus* thynnus)*

- Through this project Malta has been involved in regional scientific work (particularly within ICCAT) contributing to the management of the blue-fin tuna stock in the Mediterranean

*Artisanal fisheries programme*

- Malta has been a very active participant in this regional COPEMED programme which has defined and categorised for first time artisanal fisheries in the Mediterranea
- The programme has provided the foundation for a possible future management of artisanal fleets in the Mediterranean. Malta's fleet is almost entirely artisanal.

- Outputs obtained from this study has been utilised to answer quite a lot of requests during the ongoing negotiations with the EU

*Participation in MEDITS Trawl Survey (EU project based on intercalibrated research cruises to obtain regular biomass estimations of demersal resources)*

- Through the support of COPEMED, Malta has participated 'in MEDITS in 2000 and 2001
- It is the first time that Malta has obtained abundance indices for the demersal resources in its water
- All biological data obtained from MEDITS has allowed for a direct evaluation of the state of resources in Maltese waters
- Results from MEDITS have been used during the course of negotiations with the European Commission, on the Maltese 25 mile conservation zone

*Participation in meetings and activities of GFCM (General Fisheries Commission for the Mediterranean) and other international organisations*

- COPEMED has supported the participation of Malta in an important number of meetings and activities of the GFCM
- Through Malta's experience in COPEMED activities, it has been able to be an active participant within GFCM, its Scientific Advisory Committee (SAC) and the SAC sub-committees

Other meetings activities of international organisations in which Malta has participated with COPEMED support include the recent FAO conference of Reykjavik on the marine ecosystem and the 360' CIESM congress.

*Capacity building*





- COPEMED was a co-financing body in the development and running of the HND course in Fisheries Science
- A good number of personnel from the Department of Fisheries and Aquaculture have attended training courses in various fields related to fisheries, organised by COPEMED

Summing up, we modestly hope that COPEMED's fisheries research organisation and planning has played an important role in supporting and animating the development of the new Maltese Directorate General for Fisheries and in its international implications.

# PROFILE OF AUTHORS

**Salvatore Coppola**
Fishery Resources Officer. For many years involved in the design and implementation of Fishery Statistical Surveys firstly in Central Africa, then in Central America and Asia. He lectured at national/regional centres on fishery statistics and data processing systems.
Author and co-author of many technical documents published on journals, FAO series, for Projects and national institutions. Has also produced a considerable number of databases and software packages for fishery. At present he is co-ordinating the statistical and information programmes of the FAO fishery resource projects in the Mediterranean and acts as Technical Secretary of the GFCM (SAC) for the Statistics and Information Systems.

**Jorge Csirke**
Chief, Marine Resources Service, Fishery Resources Division - FAO
Peruvian, fisheries biologist with more than 50 specialized publications and 30 years experience in fish population dynamics, fish stock assessment and management of fisheries. Until 1979 he worked in the Peruvian Institute of Marine Research (IMARPE) where he was Chief of the Pelagic Stock Assessment Group

responsible for the assessment and provision of fisheries management advice on the main Peruvian pelagic fish stocks. In 1980 joined the Food and Agriculture Organization of the United Nations (FAO), with headquarters in Rome, Italy, where he now holds the position of Chief of the Marine Resources Service, Fishery Resources Division in the Fisheries Department. As leader of this unit he has a worldwide responsibility for reviewing and monitoring the state of exploitation of marine fishery resources and related environment factors and for promoting improved methods of marine living resource assessment and management.

**Anthony Gruppetta**

Dr Gruppetta is a graduate in Veterinary medicine from Perugia Italy since 1987. He has been employed with the Ministry of Agriculture and Fisheries since February 1988. Throughout these years he has occupied the post of Veterinarian Officer and later on as Abattoir Manager and Senior Veterinary Officer prior to becoming Director of Fisheries and Aquaculture in 1999.

During the last 3 years Dr Gruppetta has been involved in the preparation of the appropriate administrative capacity of the Department of Fisheries and Aquaculture to meet its new responsibilities along with development of human resources and the preparation of the necessary legislation and regulations.

Dr Gruppetta is also Chairman of the Fisheries Advisory Board.

**Matthew Camilleri**

Mr Camilleri graduated with honours in fisheries science and ocean science from the University of Plymouth (UK) and is also a graduate of the Institute of Biology (UK). He has





held the post of Fisheries Consultant with the Department of Fisheries and Aquaculture since 1998 and represents Malta in scientific committees of international fisheries bodies. He has also been contracted by the Food and Agriculture Organisation of the United Nations (FAO) to carry out a study on "Operational Units" for the General Fisheries Commission for the Mediterranean. He is currently serving as the National Coordinator of the FAO sub-regional projects, COPEMED and MedSudMed, as well as of the EU funded Mediterranean Trawl Survey Project (MEDITS). In addition, he has been responsible for the development of the new fisheries statistics scheme within the Department of Fisheries and Aquaculture. His research over the last couple of years has focussed inter alia on the characteristics and state of the fisheries resources in the Maltese Exclusive Fishing Zone. He is also responsible for scientific documents used during negotiations with the EU.

**Rafael Robles**

Since 1996, Director of FAO (Organization of the United Nations for Agriculture and Food) COPEMED (Co-ordination for Western and Central Mediterranean Fisheries) project, based at Alicante (Spain). He was also Director of the Spanish Institute of Oceanography (IEO) (1986-96); Director of the Vigo Laboratory of the Spanish Institute of Oceanography (IEO) (1976-86); Biologist researcher of the IEO Vigo Laboratory. He has presented more than thirty scientific papers (publications and communications) at national and international level, particularly devoted to fisheries in Spanish and community waters (1964-76); Scientific Adviser of Spanish Fishery Administration. Particularly, between 1976 and 1985 created and lead the research staff who gave scientific

advice in the negotiations for the accession of Spain to the EC (1975-96); Vicepresident of the International Council for the Exploration of the Sea (ICES) based at Copenhagen (1994-96); Spanish Commissioner at the International Oceanographic Commission (IOC) from UNESCO, based in Paris (1986-96); Vice President of the Conseil International pour l'Exploration Scientifique de la Mer Mediterranée (CIESM) based at Monaco (1986-96); Vice President of the European Board on Marine Sciences based at Strasbourg, under the sponsorship of the European Science Foundation and the UE DG XII (Research) (1995-96); and in 1995, Organiser, co-ordinator and director of the First Iberoamerican Conference in Marine Science and Technology.