

Monk Seal & Fisheries

MOFI



"Mitigating the Conflict in Greek Seas"

LIFE05NAT/GR/000083

**«*Monk seal and fisheries:
Mitigating the conflict in Greek seas*»**



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TO THE EUROPEAN COMMISSION

July 2005 - June 2009





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Data Beneficiary

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2. LIST OF KEY-WORDS AND ABBREVIATIONS

(I) KEY-WORDS

MOFI, Mediterranean monk seal, fishery, interaction, hot spot areas, Greece, coastal fisheries, conservation, mortality

(II) ABBREVIATIONS

CPUE: Catch per unit effort

FFR: Fishing Fleet Register

FRI: Fisheries Research Institute

GIS: Geographical Information Systems

MMF Network: Networking marine mammals-fishery interaction projects

NGO: Non Governmental Organisation

NMPANS: National Marine Park of Alonnissos Northern Sporades

RINT: Rescue and Information Network

SOL: Associated Certified Public Accountants S.A.

UTM: Universal Transverse Mercatore

3. EXECUTIVE SUMMARY

The MOFI project’s objective was to improve the conservation status of the European Union’s largest population of the critically endangered Mediterranean monk seal found in Greece, by mitigating the negative consequences of the interaction between the species and the fishery sector. To achieve this, during the project period (July 2005-June 2009), the following actions were implemented:

- The National Data Centre for the Mediterranean Monk Seal was established and effectively used combining existing monk seal and fisheries data. At the early stages of the project, the analysis of the available data, using appropriate GIS software, led to the selection of 7 “hot spot” areas that formed the representative sample, where the intensity of the seal-fishery interaction was measured.
- The project team, for the first time in Greece, elaborated an Action Plan with specific measures to mitigate the seal-fishery interaction, utilising the results from the project’s field work, bibliographic references on available legislative, structural and technical measures, and experiences from case studies that attempted to mitigate similar wildlife-human interactions globally. The Action Plan, elaborated in extensive consultation with key stakeholders (fishermen) and national competent authorities, resulted in a set of interrelated specific, realistic and feasible proposals for measures, including the necessary structures and resources for its implementation. In particular the proposed measures aim at the protection and restoration of key fish stocks, thus addressing the root source of the conflict, at the decrease of fishery related mortality of the monk seal and at the financial support of coastal fishermen for the damages suffered by the marine mammals. The Action Plan, which was presented publically to all stakeholders and interested bodies and was received favourably for its coherence and feasibility, was officially submitted to the relevant competent Ministers (Rural Development and Food, Environment, Mercantile Marine) requesting for its adoption and immediate implementation.
- Based on the critical evaluation of the work conducted during the 1996-2008 for the conservation of the species in Greece, a new National Conservation Strategy for the Mediterranean monk seal, for the period 2009-2015 was elaborated. Dr. G. Notarbartolo di Sciara, a conservation expert, in close collaboration with the project team, elaborated the new Strategy, including a plan of actions that aim at achieving the conservation objectives set for the period 2009-2015. The new Strategy was presented and disseminated widely at the national and international level. It was further submitted to the national competent authorities and to the European Commission to be adopted and serve as the key policy tool to guide and further advance the efforts to establish monk seal conservation as a best practice example and a model for the conservation of the marine environment in the Mediterranean Sea.
- All necessary sampling methodologies and questionnaires were developed for measuring the seal-fishery interaction and its effects in Alonissos and Kimolos, and for estimating its intensity in the 7 “hot spot” areas. Sampling aboard local fishing boats and collecting landing data from local fishermen, were completed as planned in Alonissos and Kimolos “hot spot” areas. The data collected revealed that both areas are actively and intensively fished, while local fishermen encounter with considerable frequency monk seals resulting in significant gear damage. In parallel, interviews through questionnaires have been conducted in all 7 “hot spots”, with considerable participation from the local coastal fishermen (196 questionnaires). Responses to relevant questionnaires were also received by Fishery Services (7 questionnaires), Port-Police Authorities (64 questionnaires) and Aquaculture units (19 questionnaires) from across the country. The analysis revealed that all “hot spots” are actively and intensively fished, while local fishermen encounter with considerable frequency monk seals, and suffer significant gear damage from both seals and dolphins. Proposals from the key stakeholders on resolving seal-fishery interactions were collected and were evaluated within the Action Plan.
- The membership of the existing Rescue and Information Network was expanded reaching 1821 members, increased by 51% since the project’s initiation. Through this Network, seal sighting were collected at an increased rate, allowing the project team to monitor the species mortality throughout Greece. The project team was informed of 69 cases of dead seal strandings and conducted on site full necropsies to 29 carcasses found fresh. The necropsy results provided for the first time evidence, that even though human related mortality still remains at high levels, there is a noticeable decrease in the

relative frequency of deliberate killings during the project period. In addition, using samples collected prior to and during the MOFI project, the feeding preferences of the monk seal were determined through two complementary techniques (stomach content and stable isotope analyses), providing, for the first time, clear evidence that monk seals and fisheries use common target resources.

- Based on timely information received through the RINT Network, the Rescue Team was able to respond immediately in 15 cases of live seals needing care. In the majority of these cases, the Rescue Team, with the assistance of local authorities and RINT members, managed to treat the animals on site and release them back at sea. In two exceptional cases, it necessary to transport the orphan pups "Victoria" and "Artemis" to MOm's Seal Treatment and Rehabilitation Centre, and following extended treatment they were released healthy back to the natural environment.
- In order to raise awareness and stimulate the participation of key stakeholders of the "hot spot" areas, an awareness campaign was conducted utilising numerous communication tools, including open events at the "hot spots" areas. The MOFI awareness tools, both electronic and printed, were designed specifically, with the assistance of communication expert consultants and the contribution of a coastal fisherman, to address the seal-fishery interaction issue and target key stakeholders (i.e. local fishermen, aquaculture owners, fishing communities, school children, local authorities etc). In addition, specialised training seminars on rescuing monk seals for local fishermen and relevant stakeholders were held in all "hot spot" areas with considerable success and more than expected participation. In an effort to sensitise local fishermen, an informative booklet with illustrative and easy to follow instructions on how to assist in the rescue of seals, was produced and distributed to approximately 900 recipients.
- Seminal in the *in situ* awareness campaign in the "hot spot" areas, was the implementation of the MOFI environmental education program for the local pupils. Numerous interactive educational activities and tools were produced and approved by the Ministry of Education. The educational program was implemented, in collaboration with local educators, in 21 selected schools from all the "hot spot" areas with active participation of 446 local pupils. In addition, the MOFI's rationale, plan of activities, methodology and results, was widely disseminated to the scientific and conservation community by the project staff attending 18 relevant national and international conferences and events. Furthermore, based on MOFI's work 2 scientific article were published.
- The MOFI management team monitored the project's progress in terms of activities and outputs, as well as, financially, while external financial auditors closely monitored the project's financial management. Throughout the project period the project's Steering Committee members (representatives of key national authorities and stakeholders) were informed on the project's progress through the regular provision of information and through 4 working meetings organised by the beneficiary.
- Lastly, the electronic Marine Mammal and Fisheries Network (MMF), a forum for direct communication and exchange of information and experiences, was established. It was further enhanced by a technical workshop held in Athens and an electronic discussion group, where 26 experts, working on marine mammals and fisheries, from 9 countries discussed key issues of the seal-fishery interaction.

In the context of MOFI, the following key deliverables and outputs were produced: organisational plan/organigram, Monk Seal Data Centre, periodical publication "Stories about Seals", project's website, MOFI e-newsletter, "Save a Stranded Seal" booklet, MOFI leaflets, banners and poster, 2 sets of MOFI TV & Radio spot, MOFI short documentary, RINT's new Information Package, MOFI educational material and numerous mass media articles. At the end of the project, during a public meeting, the project's outputs, material and results were presented to all relevant stakeholders and to the mass media.

In evaluating the overall project implementation, it is important to note that the beneficiary, the partners and subcontractors worked in a coordinated, effective and collaborative way. Significant problems were not encountered and anticipated occasional distrust from some fishermen and changes in relevant government officials and stakeholders representatives were dealt with additional communication effort. Furthermore, all the expected results were achieved and in several cases at a higher degree than originally foreseen. However, the most important achievement is the fact that the key relevant stakeholders were actively involved in the project and a collaborative network to resolve this conflict was established.

4. INTRODUCTION

The Mediterranean monk seal, *Monachus monachus*, is the most rare seal species in the world. The species is protected through different international conventions and, as the number 1 endangered marine mammal in Europe, it is a species of Community interest. At present, the last remaining populations survive scattered throughout Greece and one of the key threats for the species survival is its interaction with the fishing industry. Since the development over several decades of systematic and intensive fishery, marine mammal and fishery interactions have increased significantly. As a result, populations of marine mammals and especially of Mediterranean monk seals and the livelihood of coastal fishermen have been affected negatively. The fact that Greece hosts the largest surviving population of the monk seal, in conjunction with the fact that the fisheries sector (especially coastal and aquaculture) holds an important role in the country’s economy and social structure, dictate the concentration of conservation efforts for mitigating the seal–fishery interaction in the country’s marine and coastal area.



Photo 1. Mitigating the seal-fisheries conflict © MOM/P.Dendrinis

Within the framework of the European Commission LIFE-Nature Initiative, the MOFI project, entitled: “*Monk Seal and Fisheries: Mitigating the conflict in Greek Seas*”, was implemented throughout Greece for the period 2005-2009. MOFI’s objective was to improve the conservation status of the Mediterranean monk seal in Greece, by mitigating the negative consequences of the interaction between *Monachus monachus* and the fishery sector. This was planned to be achieved by describing the nature and assessing the magnitude of monk seal and coastal fishery interactions in Greece and by mitigating the negative consequences to both the seals (decrease the overall mortality rate of the species) and the fishery sector (decrease the loss of income through the proposed provision of socio-economic incentives).

In order to achieve these objectives, and considering the status of the species, the extensive coastline of Greece, and the difficulty to assess the intensity and consequences of the seal-fishery interactions, the MOFI project operated simultaneously at three interrelated levels:

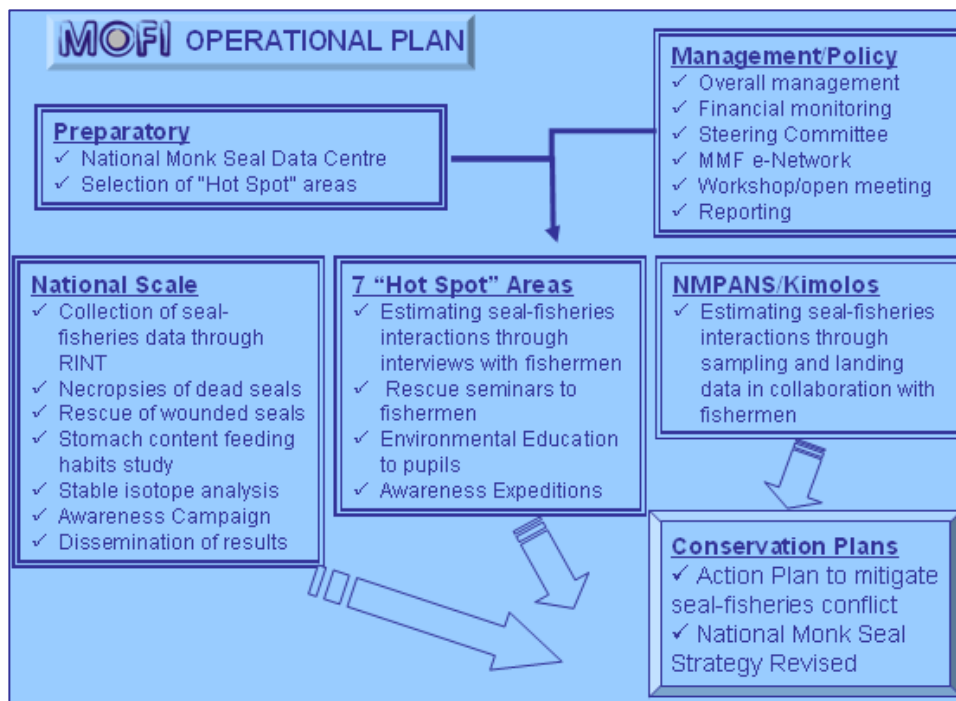
- At the two most important monk seal breeding sites in Greece (the National Marine Park of Alonnisos and the island complex of Kimolos). Actions were concentrated on measuring the actual intensity of the seal-fishery interaction relative to fishing effort, in collaboration with local fishermen.
- At 7 “hot spots”, (the National Marine Park of Alonnisos; the island complex of Kimolos; the island complex of Chios; the island of Kalymnos; the island of Karpathos; the islands of Kythira and Elafonissos and the island of Zakynthos) areas that were selected to form a representative and functional sample for the estimation of the extent of the seal-fishery interaction at a national level. Actions in these areas were concentrated on obtaining through open interviews, a measure of the extent and effects of the seal-fishery interactions, as well as, on raising public awareness and recording possible solutions proposed by key stakeholders to resolve the existing conflict.
- At the national level. Actions that aimed at recording the overall distribution of the seal-fishery interaction and monitoring the mortality causes and the status of the monk seal. In addition, by responding to reports of seal strandings, animals needing emergency care were to be rescued and treated leading to a reduction in the species mortality. Lastly, through the analysis of samples, the species feeding preferences were to be determined for the first time.

Based on the results of the project’s activities and on the existing international experience, and in consultation with key stakeholders, an Action Plan with specific proposals to mitigate the seal-fishery conflict and an updated National Strategy for the Conservation of the Species were to be elaborated. In parallel to these activities, an awareness campaign, using various communication tools, was implemented towards cultivating a positive attitude of the key stakeholders and policy makers for the coexistence of monk seals and fisheries. This Final Report, referring to the total project period, July 2005 to June 2009, provides a detail description of all project activities conducted, as well as, of the results achieved.

5. LIFE-PROJECT FRAMEWORK

The MOFI project, as it was originally designed and proposed, was conducted based on a number of interrelated activities that were implemented in parallel at three complementary geographical levels. Figure 1 presents in a schematic view the way that these activities were organised.

Figure 1. MOFI’s operational plan of activities



The MOFI project, as planned, was conducted by the beneficiary, MOm/The Hellenic Society for the Study and Protection of the Monk Seal, in close collaboration with the project partners, namely WWF-Greece and the Erasmus University of Rotterdam. Furthermore, key role in the project’s implementation, as planned, had the project’s main sub-contractors, namely the Fisheries Research Institute of Kavala, Greece, the University of Aberdeen, Scotland and the University of British Columbia, Canada as a replacement to the Sea Mammal Research Unit, U.K. The project’s beneficiary, partners and main sub-contractors, their role and involvement in the project’s activities, and their personnel involved directly with the project are in accordance to the Project’s Contract and are described in detail in Section 6 of this report (Progress and Results).

During the project period, no significant changes occurred at the organisational part of the project and only minor changes were required in the technical and financial plan of the project. These referred to:

- a change in the Financial Plan of the project and specifically to the co-financers and their relative contribution that increased during the course of the project.
- a deletion of the pilot testing in the field of acoustic seal deterrence devices, due to negative potential conservation impact of the use of such devices and potential legal ramifications, since the project could be accused for harassing and disturbing the targeted species and for intentionally degrading its habitat by introducing “noise pollution” in the marine environment.
- an addition of a new complementary monk seal feeding preferences study, through the stable isotope analysis of existing samples to fully determine the feeding preferences of the Mediterranean monk seal.

In relevance to these changes, a request for modification of the project was forwarded on the 22nd of July 2008 to the European Commission and was accepted on the 22nd of October 2008, through the Supplementary Agreement No 1 to Grant Agreement for Project LIFE05/NAT/GR/00083.

6. PROGRESS, RESULTS

A. PREPARATORY ACTIONS/MANAGEMENT PLAN PREPARATION

A.1. Identification and selection of “hot-spot” areas relative to seal-fisheries interaction through a National Data Centre for the Mediterranean monk seal

Foreseen start - end: 07/05 - 03/06, Actual start - end: 07/05 - 03/06

This action, forming the basis for the implementation of a number of other project’s actions, was initiated immediately following the start of the project and it was completed in March 2006, as originally planned.

At the beginning of the project all equipment (computer, plotter, etc.) and computer GIS software necessary for the establishment and operation of the database were purchased. Aiming at the identification and selection of “hot-spot” areas, namely areas with extensive seal-fishery interactions, the “**National Data Centre for the Mediterranean Monk Seal in Greece**” was established. It was designed by the Scientific Coordinator and the Head of Field Research in consultation with external GIS technology specialists and assisted by the project researchers of the Fisheries Research Institute (FRI).

The Data Centre was designed as a prototype database, which can be easily extended and used as a template for other marine mammals beside Mediterranean monk seals. The key technical concept of the Data Centre is multi-layered geo-referenced information. The National Data Centre comprises two independent features:

- the back-end feature is based on inter-related parent-tables, which contain child-objects referenced on a spatial and temporal level according to their informative hierarchy, while spatial information is also automatically integrated in the GIS part of the product.
- the multi-user front-end feature, on which analysis, entry and review of the data is taking place. This structure is resulting in scalable (either spatial or/and temporal) analysis of the included data.

The software purchased and used for designing and constructing the National Data Centre was Microsoft Access 2000, ESRI Arc Map 9.0 and custom Microsoft Visual Basic applications.



Photo 2. Front screen of the National Data Centre

The National Data Centre was elaborated using all previously available spatial and temporal data on the Mediterranean monk seal, the coastal fisheries and the marine aquacultures in Greece. All data collected during the MOFI project was uploaded into the Data Centre at a monthly basis, by the project’s researchers. The data used to formulate the Data Centre is a combination of:

- all available biological and ecological data on the Mediterranean Monk Seal in Greece, and
- detailed technical and geographical data on the Greek coastal professional fisheries and aquaculture fisheries.

In more detail, the biological-ecological component of the National Data Centre was formulated based on existing spatial data on monk seal shelters, on existing spatial and temporal data on monk seal sightings from throughout coastal Greece, on MOM’s research data acquired through various monk seal population and shelter monitoring activities and on MOM’s monk seal necropsy and samples databases (see Annex A.1. for a printout of the database’s input appearance and data structure):

1. **Monk seal Shelters:** this component of the database contains specific and validated information relative to the location and use of the shelters by the animals. The data refer to all known monk seal shelters from throughout the country, acquired during past and present research activities of MOM. After an exhaustive search and validation of the scientific literature, data collected by other researchers were also included in the database. Based on information on each shelter’s location, all monk seal shelters

are represented in space as specific spots with exact coordinates. At the completion of the project, a total of 594 monk seal shelters, distributed throughout the country, is included in the National Data Centre (see Annex A.1. for a representative map of the distribution of the monk seal shelters).

2. **Monk seal Sightings:** this component of the database contains all existing spatial and temporal data relative to monk seal sightings from throughout the country, collected during the project period and previous years through the Rescue and Information Network for the Mediterranean Monk Seal (RINT), which is in operation by MOM since 1991. The data for each sighting concerns the exact location of the sighting, the detailed description of the seal observed, its behaviour, as well as, any interaction with fisheries if present. For the geographical representation of monk seal presence in an area, we used a distribution/density approach, taking into account the densities of individual monk seal observations (adults and pups) at a specific scale on a national level. To calculate the monk seal densities, the area-scale used was a 10kmX10Km UTM (Universal Transverse Mercator), a grid commonly used internationally as a standard geographical unit. At the completion of the project, a total of 3,727 monk seal sightings distributed throughout the country is included in the National Data Centre, out of which 1,091 were collected during the project period. (see Annex A.1. for a representative map of the distribution of monk seal sightings).
3. **Monk seal local population and shelter monitoring data:** this component of the database contains spatial and temporal data relative to monk seal encounters or sightings and shelter evaluation and monitoring that have been conducted by MOM’s research field teams during the last 21 years in various areas throughout coastal Greece. This data set includes records of maximum spatial and temporal accuracy. Information and photographs regarding the exact number, age, stage, condition and gender of monk seals, combined with detailed data on the condition, temporal changes and suitability of monk seal shelters, are recorded. The methodology used to collect and record these data provided a complete dataset for monk seal population and habitat analysis. At the completion of the project, a total number of 2,878 visits to monk seal shelters and 831 monk seal encounters have been included in the Data Centre.
4. **Monk seal samples, necropsy dataset:** this component of the database contains all the information on the samples that have been collected by MOM’s Rescue Team, as a result of necropsy, rescue and rehabilitation activities, including data and records on all the animals from which the samples were collected. This part of the Data Centre contains all the relevant information on monk seal mortality causes, and the locations where tissue, or bone samples are stored or sent for further analysis and examination. At the completion of the project, a total a number of 2,157 samples from 150 different animals, which have been examined dead or alive, have been stored and recorded in the Data Centre.

The fisheries component of the Data Centre was derived from the Fishing Fleet Register and the aquaculture locations on a national level. The relevant data were collected from the national competent authorities, following all necessary administrative procedures, in order to get permission to access the official national databases:

1. The **Fishing Fleet Register** (FFR) component of the database contains detailed officially validated information on lengths, gross tonnage, fishing gear, motor power and port registration number for every professional coastal fisheries vessel of the Greek fishing fleet. The data were provided by the Fisheries Research Institute (FRI) of the Greek National Agricultural Research Foundation (N.Ag.Re.F). For the geographical representation of coastal fisheries the goal was to define the key areas around the coastline where coastal fishing vessels are abundant and actively fishing. Based on the expert consultation of FRI and of experienced local fishermen, the boundary for these areas was chosen to be the contour of 200m isobaths. This coastal zone is the main area where coastal fishermen operate, and in parallel, based on the up to date scientific information, represents a limit to the depth range of Mediterranean monk seals. This zone, extending throughout large parts of the marine area of the country, was divided in functional units resulting in large regional Fishing Ground Areas. For each Fishing Ground Area fishing capacities, vessel densities, total motor power, and cumulative fishing gear composition, per area unit were calculated. At the time of evaluating and selecting the “hot spot”

areas of the project, a total of 17,680 coastal fisheries vessels operating throughout the country are included in the National Data Centre (see Annex A.1. for a representative map of the distribution of the fishing ground areas).

2. The marine **Aquacultures** component of the database contains detailed information on the operational status and exact location of each marine functional aquaculture in the country. The data were provided by the Federation of Greek Mariculture. It should be noted that aquaculture units present higher densities in some coastal areas (such as at large bays), though in other parts of the Greek coastline are nearly absent. All operational aquacultures based on their location data were mapped on a national level. At the time of evaluating and selecting the “hot spot” areas of the project, a total of 368 operational marine aquacultures distributed throughout the country are included in the National Data Centre (see Annex A.1. for a representative map of the distribution of the aquacultures).

All the above mentioned data were integrated into the National Data Centre. During the MOFI project, new data, which were collected in the context of its activities, were regularly entered into the dataset. It is considered that the goal of the Data Centre to integrate data from different spatial and temporal scales, from all related sources and to quantify the monk seal – fishery interaction was achieved.

In order to select the “**Hot Spot**” areas, that need to form a representative and functional sample for the estimation of the extent of the seal-fisheries interaction at a national level, we focused our analysis on the combination of specific criteria:

- Criteria concerning the Mediterranean monk seal:
 - ✓ Observed density of reproductive shelters (see Annex A.1. for the relevant map)
 - ✓ Measured density of monk seal sightings/distribution (see Annex A.1. for the relevant map)
 - ✓ Newborn monk seal pup densities (see Annex A.1. for the relevant map)
 - ✓ Recorded interactions of monk seals with fisheries (see Annex A.1. for the relevant map)
- Criteria concerning fisheries activities in Coastal Greece.
 - ✓ Potential amount (according to the data of Fishing Fleet Register) of maximum fish catch per vessel per unit area in coastal fishing grounds
 - ✓ Actual densities of coastal fisheries vessels per unit area in coastal fishing grounds (see Annex A.1. for the relevant map)
 - ✓ Proportion of different fishing gear per coastal fishing ground (see Annex A.1. for the relevant map)
 - ✓ Actual densities of marine aquacultures in coastal areas
 - ✓ Active fisheries communities with strong social impact in local coastal areas.

Based on each of these criteria several coastal areas can be identified as areas of potential interest. However, upon combining all key criteria and evaluating the relative importance of the various areas in terms of their importance in measuring the seal-fisheries interaction, their strategic geographical distribution, their functional and representative quality as a sample of the whole country, the following 5 “Hot Spot” areas were selected:

- The island complex of Chios-Psara-Oinouises at the Eastern Aegean Sea,
- Kalymnos at the Dodecanese,
- Karpathos at the Dodecanese
- Kythira and Elafonissos at the south-west Aegean Sea
- Zakynthos at the Ionian Sea.

Furthermore, as originally planned, the National Marine Park of Alonnissos Northern Sporades (NMPANS) and the Kimolos-Polyaigos island complex were included as “hot spot” areas. These two areas are already known, from previous work, to host the most important monk seal populations in the Eastern Mediterranean, to have important fishing communities and to

Figure 2. The “hot spot” areas



fulfil the key selection criteria. Upon the final selection of the “hot spot” areas, this action was completed since it had achieved its objective as planned.

In evaluating the effectiveness of this action, it is evident that it achieved its main objective that was to select, based on all available information for the Mediterranean monk seal and the fishery sector, the 7 “hot spot” areas. The selection of the “hot spot” areas, a necessary prerequisite for a number of project actions, was completed on time and the areas selected form a representative and functional sample. Furthermore, the National Data Centre’s software platform was designed and implemented in such a way so as to allow the possibility of its future customisation and extension in order to be used for other species. Interested parties will be welcomed to use the general platform of the National Data Centre, following an agreement with the beneficiary and having purchased the licenses of the appropriate software. The National Data Centre was throughout the project period and will continue to serve as a key tool to record data and parameters for the long term scientific monitoring of the monk seal population, as well as of other fisheries and geographical related data.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 73.619€. The actual cost of this action was in accordance (only 8,46% less) with the original budget estimate (79.847€) in the project proposal.

A.2. Elaboration of an Action Plan to mitigate seal-fishery interactions

Foreseen start - end: 01/08 –12/08, Actual start - end: 01/06 - 06/09

In the context of this action, MOm in close collaboration with WWF Greece and FRI elaborated, for the first time in Greece, an Action Plan to mitigate the seal-fishery interaction. The Action Plan includes specific proposals on legislative, structural, and technical measures to decrease the magnitude and the impact of this interaction to both seals and fisheries. Even though the drafting of the Action Plan was originally planned to be initiated during the 3rd year of the project, the MOFI project’s management team decided to start this action earlier, so as to have ample time for the collection of the necessary information and for conducting extensive consultation with the key stakeholders during the elaboration of the Action Plan.

In preparation of drafting the Action Plan, the project staff conducted an extensive search of the legal, scientific and technical means available to mitigate this interaction at the national, European and international level. As part of this process the project staff visited, as planned, and had working meetings with the following expert scientists and conservationists at institutes that have had long experience in seal-fishery interactions in the USA and the UK:

- Dr. G. Antonelis, Chief of Protected Species Division, Hawaiian Monk Seal Recovery Program, National Marine Fishery Service, U.S.A.
- Dr. C. Litnann, Head of the Hawaiian Monk Seal Recovery Program, Protected Species Division, National Marine Fishery Service, U.S.A.
- Dr. M. Yoklavich, Research Fishery Biologist, Santa Cruz Laboratory, National Marine Fishery Service U.S.A.
- Dr. P.M. Richards, Division of Protected Resources and Biodiversity Miami, National Marine Fishery Service U.S.A.
- Prof. J. Harvey, Moss Landing Marine Laboratory, California State University, U.S.A.
- Dr. F. Gulland, Director of the Marine Mammal Centre, U.S.A.



Photo 3. Discussing the development of the Action Plan with Dr. G. Antonelis
© MOm

- Mr E. Haskett, Habitat Program Manager, I.F.A.W. International, U.S.A.
- Cape Cod Hookers Association, U.S.A.
- Dr. J. Mathiopoulos, Sea Mammal Research Unit, St. Andrews. U.K.
- Dr. B. McConnell, Sea Mammal Research Unit, St. Andrews. U.K.
- Dr. P. Lovell, Sea Mammal Research Unit, St. Andrews. U.K.

In addition to the above, the project staff during the project period, through the Marine Mammal Fisheries Network, established and operated in the context of the MOFI project (see Action F.4.), came in contact with a number of European groups and LIFE projects’ executants working for the conservation of marine mammals and on fisheries. Especially useful in collecting first hand information and exchange ideas and experiences from various initiatives aiming at mitigating similar conflicts at various countries was the international expert meeting held in Athens in May 2008 as part of the MMF Network.

Lastly, the project’s staff, throughout the project period, collected all available relevant bibliography on the scientific and conservation aspects of the seal-fishery interaction and, with the consultation of a legal advisor, collected the relevant national and European legislation. All information collected was archived in the beneficiary’s library, so as to be easily available to the project’s staff and to any other interested party.

Considering of outmost importance to involve, as early as possible, in the process of the elaboration of the Action Plan the key stakeholders (coastal fishermen, aquaculture operators, fishery authorities, port police authorities, seal and fishery scientists, national competent authorities, policy makers), the project’s Policy Officers and the Management Team organised and held numerous meetings with them throughout the project period (see Annex A.2., for a detail list of policy meetings). The goals of the meetings held in the early stages of this action were to present the MOFI project’s objectives, rationale and activities, to introduce the need for the formulation of the Action Plan to mitigate the seal-fisheries conflict, while in consecutive meetings the project’s staff informed them on the progress of the drafting of the Action Plan.

Upon completion of the 1st draft in early 2009, the project’s staff decided to organise individual working meetings with all the key stakeholders, instead of a single consultation workshop, as was originally planned. This process was considered more effective, since it ensured the wide and active participation of all key stakeholders, the in depth discussion of the proposed measures with the individual stakeholders, it accommodated the fishermen representatives, who due to their professional obligations would have difficulty to attend a meeting in Athens, and it minimised unnecessary disagreements stemming from internal conflicts existing within the various fishermen associations that would have disrupted the consultative process.

Thus, the Action Plan was presented first to the project’s Steering Committee members (see Action F.3.), where its structure, rationale and key principals and proposals were discussed and agreed upon, while specific comments of the Committee members were taken into account for the formulation of the final draft of the document. Furthermore, the Action Plan’s draft was presented and discussed in separate working meetings with representatives of the National Association of Coastal Fishermen, the central organisation representing coastal fishermen, with key Regional Fishermen Associations in Cyclades and Dodecanese, as well as, with local fishermen’s representatives from the “hot spot” areas. As part of the same process, similar working meetings were also held between the project’s team, lead by the Policy Officers, with representatives of the relevant competent national authorities and of other relevant state bodies, and in particular with the Directorate of Marine Fisheries of the Ministry of Rural Development and Food, the Divisions of Port Police and of Marine Conservation of the Ministry of Mercantile Marine, the Department of Conservation of Natural Environment



Photo 4. Presenting the Action Plan outline to the Steering Committee members © MOm/V.Paravas

of the Ministry of Environment, and the Hellenic Agricultural Insurance Organisation. Lastly, the project team presented and discussed the draft Action Plan with the major Environmental Organisations involved in the conservation of the natural environment of Greece (i.e. GreenPeace, Hellenic Ornithological Society, Hellenic Society for the Protection of Nature, Arktouros, Callisto, Mesogeios SOS Network, Archelon-Society for the Protection of the Sea Turtle and Pelagos-Cetacean research Institute). All the comments received during the above working meetings were noted and evaluated during the finalisation of the Action Plan.

The Action Plan (see Annex A.2. for a printed copy of the Action Plan in Greek and an executive summary of the document in English) includes:

- A section where the magnitude and impact of the seal-fisheries interaction on both the seals and the fishery sector are presented. The results included were derived from the quantitative estimation of the negative consequences of the interaction between monk seals and coastal fisheries that were obtained during the MOFI project and especially through Actions C.1., C.2., D.1.. The key parameters presented and considered in the formulation of the proposals of the Action Plan are:
 - a. monk seal mortality related to the fisheries sector, especially deliberate killings and entanglements in fishing nets
 - b. dietary preferences of the monk seals as they relate to the competition between monk seals and fisheries for specific species
 - c. damage caused by marine mammals on fishing gear, as it was quantified based on the sample fishing activities in the two “hot spot” areas of Alonnisos and Kimolos, and
 - d. impact of marine mammals on fisheries, as it was recorded in the questionnaires conducted to coastal fishermen, aquaculture owners, Port Police authorities, and Fishery Services.
- A section where a critical review of the potentially available measures that have been considered or applied for mitigating relevant interactions from other species on a national or international level is presented. These measures are evaluated with respect to their applicability and feasibility in the Greek setting, their effectiveness in mitigating part of or the whole problem of the marine mammal fisheries interaction, their cost effectiveness and the willingness of the parties involved to accept and contribute to their implementation.
- A last section where a set of specific proposals on legislative, structural, and technical measures to decrease the magnitude and/or the impact of this interaction that should be applied in Greece at the national and regional level is presented. The overall rationale of the proposed measures is to address directly the main source of the seal-fishery conflict, namely the depletion of fish stocks, the common resource of both monk seals and fisheries. Following this rationale, the proposed measures aim at the conservation of fish stocks so as to simultaneously support the conservation of the Mediterranean monk seal population and promote the long-term sustainability of coastal professional fishery. Thus, the measures are developed into three interlinked pillars (see summary Table 1):
 - a. fisheries management measures for the protection and recovery of key fish stocks that constitute the main dietary preferences of the monk seals and key target species of professional coastal fishermen
 - b. financial aid for the professional coastal fishermen in compensation to the damage caused by marine mammals in their fishing nets.
 - c. A set of technical measures, that can and should be supported financially through existing EU resources, are also proposed specifically for aquacultures.



Photo 5. Discussing the Action Plan with the President of Cyclades Fishermen’s association
© MOm/S.Adamantopoulou

Table 1. Summary table of proposed national measures

Category	Measure	Aim
Fisheries management measures	Cessation of all fishing activities during May	<ul style="list-style-type: none"> • improvement of the state of fish stocks • reduction of entanglement of juvenile seals
	Increase selectivity of fishing gear	<ul style="list-style-type: none"> • improvement of the state of fish stocks
	Banning of octopus fishing from May to July and increase minimum landing weight	<ul style="list-style-type: none"> • improvement of the state of fish stocks • increase of prey availability for monk seals
Financial aid measures	Financial aid for marine mammal damage on nets	<ul style="list-style-type: none"> • decrease of marine mammals deliberate killings • reduction of income loss of coastal fishermen
Technical and practical measures	Placement of protective and reinforced nets for aquacultures	<ul style="list-style-type: none"> • reduce seal – aquaculture interactions

Upon completion of the Action Plan and in the context of the public meeting held on the 15th of June 2009 in the Ionian Centre in Athens to disseminate the project’s results to all relevant stakeholders and the public (see Action E.3.), the Action Plan was presented to the invited participants. Following the presentation, an open discussion was held, where representatives from the government, the national competent authorities, the national, regional and local fishermen associations, from regional and local authorities, from marine research institutes, from academic institutions, from environmental organisations, as well as journalists had the opportunity to comment on the Action Plan and the specific proposed measures. During the discussion most of the participants commented favourably on the approach and rationale of the Action Plan and considered that the measures proposed target directly at the source of the conflict and that they are realistic and feasible. In fact, the Sub-minister of the Ministry of Rural Development and Food, present in the meeting, considered the proposed measures readily applicable and committed himself to promote their adoption and implementation.



Photo 6. The president of the Dodecanese Fishermen’s association commenting on the Action Plan © MOm/P.Dendrinou

In the 30th of June 2009, the Action Plan was officially submitted to the three relevant Ministers (Ministry of Rural Development and Food, Ministry of Environment and Ministry of Mercantile Marine) requesting of them for each immediate adoption and implementation. Furthermore it was submitted to the key stakeholders (i.e. fishermen and aquaculture owners) requesting of them to support the adoption process and contribute to the implementation of the proposed measures. The printed Action Plan (500 copies) was distributed to the public meeting’s participants, to all relevant authorities and key stakeholders and to the mass media, while an electronic copy was placed in the project’s web site, so as to be readily available to the general public. Lastly, a translated copy of the document will be forwarded to all scientists and conservationists consulted during this action so as to use it as a blueprint document to develop policies to address the negative interaction of fisheries with monk seals or other marine mammals (e.g. dolphins) in other countries.

This action has resulted in the successful elaboration for the first time in Greece of an Action Plan that includes specific, realistic and feasible measures for the mitigation of the negative consequences of Mediterranean monk seals - fisheries interactions. The fact that, during its elaboration, past experience in dealing with similar conflicts was taken into consideration and that through a wide and extensive consultative process an overall agreement has been reached, in relevance to the measures proposed, make a powerful policy tool that could be readily adopted by the national competent authorities.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 100.764€. The actual cost of this action was in accordance (only 7,71% less) with the original budget estimate (108.532€) in the project proposal.

A.3. Revision of the National Strategy for the Conservation of the Monk Seal

Foreseen start - end: 07/07 - 09/08, Actual start - end: 04/07 - 06/09

This action involves the evaluation and revision of the 1st Conservation Strategy for the Monk Seal in Greece, which was drafted in 1996, in order to formulate the new National Strategy for the Conservation of the Mediterranean Monk Seal to be used in the period 2009-2015.

In order to revise the Conservation Strategy in an objective manner, MOm planned to subcontract, through an international competitive tender, an independent conservation expert, experienced in similar endeavours and having knowledge of the conservation requirements of critically endangered species. Thus, in April of 2007, the project management team and specifically the Scientific Coordinator, in collaboration with the Project Leader, formulated an international call for tender for the Conservation Expert (see Annex A.3.). The announcement of the call for tender was disseminated and publicised widely in the following key nature conservation international fora:

- *Marmam* (<https://lists.uvic.ca/mailman/listinfo/marmam>), the world leading marine mammal research and conservation electronic news and discussion group
- *Monachus Guardian* (<http://www.monachus-guardian.org>), the international electronic news magazine dedicated to Monk Seal research and conservation
- <http://www.mofi.gr>, the MOFI project's website

Following its dissemination and up to the call's deadline in September 2007, the project management team provided detail information on the terms of reference for this work to 11 different candidate scientists from various countries (Australia, France, Germany, Greece, Italy, New Zealand, Spain, U.K., and U.S.A.) that expressed interest in the call. Finally, 3 formal applications/offers were submitted by different scientists (originating from Greece, Italy and the U.K.). The applications were evaluated by a committee, established by the beneficiary specifically for this task that included senior project staff (scientific coordinator, head of research and policy officers) from both MOm and WWF Greece, based on the scientific and conservation expertise of the applicants, their proven experience in similar projects and their competitive financial offer. In October 2007, as planned, the Committee completed the evaluation and selected unanimously for the task Dr. Giuseppe Notarbartolo di Sciara, one of the most respected Italian Marine Biologist and Conservationist expert. All candidates were informed of the selection, and following a series of communications, in December 2007, a contractual agreement, including detailed terms of reference, was signed between the beneficiary and Dr. Notarbartolo in relevance to the particular task of the MOFI project.

In view of the international importance of the Greek National Strategy for the conservation of the Mediterranean monk seal for the species at its global range, in consultation with Dr. Notarbartolo, 3 additional international experts:

- ✓ Dr. David Lavigne, a Canadian seal expert biologist and member of the IUCN Seal Specialist Group
- ✓ Dr. George Antonelis, a seal expert biologist and Head of the Hawaiian Monk Seal Recovery Program at the National Marine Fishery Service of the National Atmospheric and Oceanographic Agency of the United States and



Photo 7. Working meeting between Dr. Notarbatolo and the project's staff
©MOM/V.Paravas

✓ Dr. Harun Guclusoy, a marine biologist at the Dokuz Eylul University and Chair of SAD-AFAG with experience in the study and conservation of the Mediterranean monk seal population in Turkey were invited to participate voluntarily and offer their editorial contribution in the process of structuring and drafting the new Strategy. All 3 experts welcomed the invitation and offered their assistance in this action in a voluntary base.

During the project period, several working meetings between Dr. Notarbartolo and MOM’s staff were held in Athens, during which the relevant documentation, and numerous literature and other reference material necessary for evaluating the effective implementation of the 1996 Strategy were provided by MOM to Dr. Notarbartolo, the key issues (strategic goal, objectives, key actions to achieve the objectives, etc.) to be addressed by the new strategy were discussed and a detailed working plan covering all aspects of the evaluation and revision of the strategy was formulated and agreed upon. In addition, during the formulation of the Strategy, Dr Notarbartolo came in contact and discussed the issues relevant to the new Strategy with the project partners, relevant scientists, conservationists and relevant national, European and international bodies.



Photo 8. Presenting the new National Conservation Strategy in Hawaii ©MOM

The final draft of the new National Strategy was completed as planned in September 2008 and following several consecutive editorial and commenting communications between the project’s senior staff and Dr. Notarbartolo, the final document was completed in early 2009. Upon its completion and in consultation with Dr. Notarbartolo, it was decided that the final output of this action should be developed into two separate documents:

- a) The full report of the National Strategy and Action Plan for the Conservation of the Mediterranean Monk Seal in Greece, 2009-2015 (see Annex A.3.). The full report of the new National Strategy, prepared in English, contains the critical evaluation of the effectiveness of the implementation of the 1996 Strategy, the presentation of the present status and conservation requirements of the species and its habitat, the strategic goal, the rationale and objectives to be achieved during the 2009-2015 period and the detail proposal of the actions necessary to achieve these objectives, including specific indicators for the evaluation of their success.
- b) The print version of the National Strategy and Action Plan for the Conservation of the Mediterranean Monk Seal in Greece, 2009-2015 (see Annex A.3.). This print document presents, in both Greek and English, the strategic goal, the rationale and objectives of the new Strategy as well as the proposed actions necessary to achieve these objectives during the 2009-2015 period, including evaluation indicators. This version was considered useful so as to present to the general reader the new Strategy in a concise, immediate and direct way.

The new Strategy was presented in several occasions both in Greece and abroad during 2009. In particular, the MOFI staff presented the new Strategy in:

- the 3rd and 4th Steering Committee’s meetings (see Action F.3.)
- policy meetings with national authorities representatives
- a specialised workshop on the conservation of the Hawaiian and Mediterranean monk seals that took place during the 1st International Conference on Marine Mammal Protected Areas that was held in April 2009 in Maui, Hawaii and was organised by the National Oceanographic and Atmospheric Administration of USA and the National Marine Fisheries Service of the USA. It should be noted that MOFI’s scientific coordinator was invited to attend the conference, all his travel expenses was covered by the organisers and thus no expenses was charged to the MOFI project.
- a working meeting with the Hawaiian Monk Seal Species Recovery Team of the National Marine Fisheries Service at their Headquarters in Oahu, Hawaii.

- in a meeting of the “International Monk Seal Conservation Alliance”, a forum of the conservation organisations from Spain, Portugal, Turkey and Greece working on the key Mediterranean monk seal populations around the world that was held in Turkey in June 2009. It should be noted that MOFI’s Scientific Coordinator was invited to attend the meeting, all his travel expenses was covered by the organisers and thus no expenses was charged to the MOFI project.
- the Workshop/Open Public Meeting, held in June 2009 in Athens and organised in the context of Actions A.2. and E.3., where the Strategy was presented to the key stakeholders, namely to coastal fishermen, aquaculture operators, fishery authorities, port police authorities, seal and fishery scientists and policy makers.

In all the above occasions, the new National Strategy for the Conservation of the Mediterranean Monk Seal for the period 2009 - 2015 was received well and most stakeholders commented favourably on its formulation, content and especially on its concrete objectives and plan of activities. Lastly, it is of interest to note that monk seal conservationists from other countries and conservationists involved with other marine species expressed their interest to use the new Conservation Strategy as a template for developing strategic plans in relevance to their work.

The Strategy, which was printed in 1000 copies, has already been disseminated to more than 600 stakeholders, authorities and other interested bodies in Greece and abroad, in order to be used as a key policy tool to guide the efforts for the conservation of the species. The Strategy will be readily available to all interested parties in the project’s website.

In the 30th of June 2009, the new National Conservation Strategy was officially submitted to the Minister of Environment, Urban Planning and Public Works, the Minister of Rural Development and Foods and the Minister of Mercantile Marine the Aegean and Island Policy and to their respective services, requesting to adopt the Strategy as the official National Strategy for the conservation of the species in Greece.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 53.212€. The actual cost of this action was in accordance (only 8,17% less) with the original budget estimate (57.560€) in the project proposal.

C. NON-RECURRING BIOTOPE MANAGEMENT

C.1: Record seal-fishery interactions at "hot spot" areas in collaboration with local fishermen

Foreseen start - end: 04/06- 06/08, Actual start - end: 03/06 - 09/08

Following the selection of the "hot spot" areas, in order to actively collect information relative to seal-fisheries interactions, standardised questionnaires targeting the main stakeholder groups (coastal professional fishermen, Port Police authorities, aquaculture units and Fishery Services) were elaborated. In order to formulate the most appropriate questionnaires and finalize the methodological approach and timetable, several technical meetings between MOM's, WWF's and FRI's staff were held at MOM offices in Athens. The design of the questionnaires was mainly based on:

- extensive reviewing of current and past literature on the subject,
- direct communication and consulting with marine mammal and fisheries experts from the U.S.A. and the U.K.,
- the standardized questionnaire, which is used by the Fisheries Research Institute to collect information on fisheries from local fishermen in Greece,
- the already existing questionnaire/report form of MOM's Rescue and Information Network, used to record information provided by non-expert observers on monk seal sightings,
- the experience MOM, WWF-Greece and FRI have gained through past projects relative to the Greek coastal fisheries.

The key issues addressed by these questionnaires (see Annex C.1. for a copy of the relevant questionnaires) and the parameters quantified were:

- a. general information on the local coastal fisheries (i.e. type of fishing vessels, fishing gear used, intensity and seasonality of fishing activities and various socio-economic information) and the local aquacultures (i.e. type and size of aquaculture, species produced, productivity and various socio-economic information),
- b. specific information on frequency and magnitude of monk seal and other marine species interactions with coastal fisheries and aquacultures,
- c. effect of the interaction on the fishermen (i.e. kind and extent of gear damage, loss in fish catch incurred, loss of work time in gear repair) and aquaculture owners (i.e. kind and extent of damage to aquaculture pens, loss of fish incurred, loss of work time for pen repair),
- d. information on measures taken by fishermen and aquaculture owners to mitigate or prevent the interactions,
- e. views and proposals of local fishermen and aquaculture owners, regarding a long-term policy to mitigate the effects of the interaction.

After the finalization of the questionnaires, a plan of activities and a timetable for the expeditions to the "hot-spot" areas was formulated. In each expedition and prior to conducting the interviews the project field team held meetings with the local fisheries related authorities and fishermen's associations in order to explain the rationale and the objectives of the project and to request their collaboration in effectively conducting the interviews. All fishermen's questionnaires in the "hot-spot" areas were conducted *in situ*. They were completed through personal interviews during wider discussions of a variety of matters related to the fisheries sector. Although the questionnaires were standardised, the interviews were open, of extended duration (approximately 60 minutes long), and were conducted in the fishermen's work or leisure places in order to create a relaxed atmosphere and facilitate a proactive and co-operative approach towards answering the questionnaires.

In relevance to the Port Police Authorities and Fisheries Services questioners the project team first contacted the relevant central authority departments, explained the rationale and the objectives of the project and requested their collaboration in the implementation of the action. As a result, the central authorities communicated to their local departments across the country information on the MOFI

project, asking them to contribute to this action by completing the relevant questionnaires, that were subsequently send to them by the MOFI team via mail. Similarly, following a working meeting with the Federation of Greek Aquaculture Owners, the relevant questionnaires were provided to them to send to their members.

Upon completion of data collection and data entry in the Data Centre, MOm’s researchers proceeded with the analysis. Descriptive statistics were used to summarize results and assess the type and magnitude of seal - fishery interaction in Greece and non-parametric tests (Mann-Whitney, Spearman correlation, X^2 tests of independence) were used, where appropriate, for comparisons. The detail description of the methodology, the data collected, the analysis, the results and the conclusions of this action is included in the “Report of the Status of the Monk Seal-Fishery Interaction in Greece” (see Annex C.2.). The key findings according to the different groups of stakeholders interviewed are summarised below:

1. Coastal fishermen

A total of 196 coastal fishermen were interviewed in all 7 “hot spot” areas. The main results of the questionnaires are the following:

- The majority of fishermen interviewed was 40-60 years old and had received only compulsory education. The majority of the fishermen had on an average more than 30 years of professional fishing experience and fishing is their main, year-round, occupation and source of income. Most fishermen were members of a fishing cooperative or association.
- The boats used for fishing were mostly old (>15 years old), poorly equipped coastal fishing boats.
- 13 different types of fishing equipment and techniques were recorded as being used, with considerable differences in the mean time and depth of deployment and main species targeted.
- Fishing trips frequency and duration was larger in the summer and smallest in the winter.
- There were considerable differences in fishing activity between the “hot spot” areas, with highest in Kalymnos and Alonnisos and lowest in Zakynthos and Oinouises.
- Fishermen reported a considerable reduction in fish stocks, due mainly to overfishing; main species affected were the stripped red mullet, lobster, common seabream, white seabream and common dentex. The majority of fishermen considered the effective implementation of the existing legal framework as the most promising solution to this problem.
- Throughout all areas, fishermen considered damages caused by marine mammals to be one of the biggest problems of their sector. However, the relative importance and intensity of the damages caused by marine mammals, overfishing, illegal fishing by amateur and professional fishermen and pollution differed locally.
- Fishermen from all areas reported numerous instances of interactions with monk seals, dolphins, turtles, sharks and whales as well as of entanglements of the above species and of several sea-birds (i.e. sea gulls, common shags and shearwaters).
- Fishermen from all areas reported that monk seals and dolphins had the highest impact to their fish catches and equipment (mainly on nets). Most damages were recorded early in spring and summer, during morning hours, and in variable depths.
- There were significant differences in the size of the damage caused by the two species to the fish catches and fishing equipment. Seals caused less frequently and smaller in size damages to both, fish



Photo 9. Interviewing fishermen in Kythira ©MOm/V.Paravas



Photo 10. Damaged fishing nets by seals in Zakynthos island ©MOm/V.Paravas

catches and fishing equipment, while dolphins caused more often and larger damages to the fish catches and fishing equipment.

- Most fishermen do not take any measures to protect themselves against the damages caused by seals and dolphins because they believe that the solutions available are ineffective. The majority of the fishermen believe that the only effective solution to the damages caused by marine mammals to their livelihood is receiving compensation or subsidies.

2. Aquaculture units

The relevant questionnaires were completed by 19 aquaculture owners. The main results of the questionnaires are the following:

- the presence of dolphins was reported from all areas, while monk seals in only 52% of the areas.
- Monk seals were reported to cause the majority of the damages to aquaculture installations that grew gilthead seabream (*Sparus aurata*), occurring most often in winter and spring. Especially in the Kalymnos “hot spot” area, monk seals were considered to be a major problem to the aquaculture units of the island.
- most aquaculture owners reported that they use strong nets to prevent seals from getting inside their units and proposed this as an effective measure to this problem, requesting government subsidies for their purchase.

3. Port police authorities

The relevant questionnaires were completed and forwarded to the project’s team by 64 port police stations of the total 188 Port police authorities of the country. The main results of the questionnaires are the following:

- the majority of the Port Police officers that replied had received high-school or lyceum education.
- the Port Police officers reported a considerable reduction in fish stocks; main species affected were the european pilchard, the european hake, the red mullet, the common Pandora and the lobster. The majority of the officers considered the establishment of partially or fully closed to fishing areas as the most effective measure to protect fish stocks.
- the Port Police officers considered amateur fishermen responsible for most illegal fishing activities and reported that overfishing is the main problem of the fishing industry in their area of jurisdiction. They considered their service to have adequate resources to deal with these incidents.
- the Port Police officers from most areas reported that both species were present in their area of jurisdiction.
- they reported dolphins to cause relatively more damages, mostly in summer months, and to have higher frequency of entanglements in fishing nets.
- the Port Police officers reported that most fishermen do not take any measures to protect themselves against the damages caused by seals and dolphins because they believe that the solutions available to them are ineffective. They considered that the only effective measure to the damages caused by marine mammals is to establish a compensation mechanism for the fishermen.

4. Fishery Services

The relevant questionnaires were completed and forwarded to the project’s team by only 7 Fishery Services of the 44 located in the coastal and insular part of the country. The main results of the questionnaires are the following:

- Fishery Service officials from all areas reported a significant decrease in fish stocks, and considered overfishing to be the main problem of the sector.
- The main solution proposed by the Fishery Service officials was the establishment of seasonal no-fishing zones.
- Fishery Service officials reported dolphins to be responsible for the majority of damages reported to their services.

- The only solution proposed by the Fishery Service officials to the marine mammal-fishery conflict was financial compensation to the fishermen.

In evaluating the effectiveness of this action, it is evident that it fully achieved its objective, since the project team managed to collect relevant to the seal-fishery conflict, through questionnaires from all 7 “hot spot” areas. In total, 286 individuals from all the key stakeholders (fishermen, port police officers, aquaculture owners and regional Fishery Services officials) participated and were actively involved in this action by providing detail information and openly expressed their opinion and proposals towards resolving the seal-fishery conflict. The in depth discussions with the fishermen on problems that they face daily in their work, contributed significantly in the creation of a positive attitude towards the MOFI project in the “hot-spot” areas. Finally the considerable amount of relevant to the conflict information and the specific data collected proved to be an important baseline for the formulation of the Action Plan (see Action A.2.) and were especially useful in the formulation of the measures proposed to mitigate the conflict.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 89.178€. The actual cost of this action was in accordance (just 9,06% more) with the original budget estimate (81.094€) in the project proposal.

C.2: Measuring the actual intensity of the seal-fishery interaction at the two most important monk seal habitats

Foreseen start - end: 07/06 - 06/08, Actual start - end: 10/05 - 02/09

Even though the foreseen start of this action was July 2006, MOm and the Fisheries Research Institute (FRI), who were responsible for this action, decided to initiate it earlier in order to design on time and test the sampling methodologies to be used. Thus, starting in October 2005, several technical meetings were held at the headquarters of the FRI and MOm in Kavala and Athens respectively, during which the methodology and the timetable of the sampling effort were finalised. As all field techniques and methodologies for estimating the fisheries parameters of interest (i.e. catch per unit effort, etc.) were based on the standard methodology applied by the FRI for monitoring fish populations at a national scale, it was decided to set up a field training workshop for the field team (MOm’s and WWF’s researchers and technicians) at Fri.’s headquarters in Kavala, in March 2006. During the training workshop, upon local fishermen vessels, valuable experience was gained on estimating catch per unit effort (CPUE), and measuring the catch and discard of a fishing trip. It should also be noted that the existing FRI methodologies, did not address the interactions of seals with fisheries. Therefore, technical meetings were held between FRI, the field team of MOm and the field technician of WWF, in order to make the necessary modifications and develop new data forms to include information on the type and extent of damage to the fishing gear, the fish landings and the estimated financial loss.



Photo 11. Recording fish catch aboard a fishing boat in Sporades ©MOm/P.Dendrinos

In parallel, an extensive international literature and market search was conducted in order to find the appropriate acoustic seal deterrence devices that could experimentally be tested and evaluated during the field work in these two areas. Despite the extensive search and consultation with experts from around the world (see Action F.4.), no appropriate device was found that could be applied upon coastal fishery gears that are used in Greece, namely, trammel and gill nets and bottom long lines. It is of importance to note that this extensive search also showed that up to date, there is no scientific evidence that supports deterrent devices as an effective measure in mitigating pinniped-fisheries interactions. Even when such devices were developed and used in other types of fisheries around the world, targeting other pinniped species the

results were at best inconclusive. Taking under consideration the above, the project’s research team considered that this field activity should be handled with extreme caution so as not to use inappropriate devices and at the same time not to introduce unnecessary disturbance factors in the marine environment of these two sensitive “hot spot” areas. Following this development, the Project Leader and the Scientific Coordinator, in consultation with the external team of the MOFI project, officially requested to the DG Environment LIFE Unit and received the permission to exclude this sub-action from the project’s plan of actions (see Section 2 of this report, LIFE Framework).

Taking under consideration, the potential logistical difficulties in applying the sampling methodologies in the field, MOm and FRI decided to begin the sampling effort earlier, in order to test it *in situ*, identify potential shortcomings and adjust it accordingly. Thus, the first sampling expedition to measure the actual intensity of seal-fishery interactions was carried out in May 2006 at the National Marine Park of Alonnisos, Northern Sporades (NMPANS), where a long standing relation existed between MOm’s field researchers and many local artisanal fishermen. It is important to note that the application, for the first time in the NMPANS, of the methodology developed especially for the MOFI project, did not encounter any technical difficulties and no adjustments were required in the overall plan of the fieldwork expeditions. The expeditions in the island complex of Kimolos-Polyaigos began in March 2007. It should be mentioned that at the beginning of the project, the MOFI management team contacted the Fishermen’s Associations of both “hot spot” areas and proposed to them to officially participate in this activity, and coordinate themselves the participation of the local fishermen in the samplings, and manage the foreseen compensation. Despite their original positive reaction and several meetings with the MOFI management team, the Boards of both Associations in the end hesitated to officially collaborate in this activity. Following this development, the project team contacted individual fishermen (fishing boat owners) in both areas, requested for their participation in the field activities, and made individual collaborative agreements (including the respective financial compensation for their contribution) with each one. The main criteria, for choosing the fishermen to collaborate with in this action, were: a) to be professional fishermen, owning a fishing boat, with artisanal fishing as the main source of income, b) to actively operate all year around, and c) to be willing, sincerely, to participate in MOFI project and in particular in this field research activity. It is important to mention that the hesitation of both Fishermen’s Associations to participate created, as expected in such small island communities, to some extent reluctance in the whole fishing community in both areas. Despite this, the relatively high number of fishermen (8 of the 36 active professional fishermen from Alonnisos and 4 of the 13 active professional fishermen from Kimolos) that finally participated in both areas was more than adequate in the context of this action.

Following the established methodology, during each field expedition in both “hot spot” areas, sample fishing with trammel nets and gillnets (i.e. “samplings”) was conducted for at least 5 consecutive days, in collaboration with local fishermen using their boats and gear. The sampling scheme involved one fishing boat available for multiple days and multiple expeditions, or multiple fishing boats. Both types of nets were set in the areas that fishermen are normally working in order to get a representative sample of the local fishing effort of each area. The parameters measured in order to estimate with adequate accuracy the intensity of the seal-fishery interaction were: catch per unit effort (CPUE), seasonal variation in CPUE, and variation in CPUE by type of fishing gear, as well as, damages from seals or other marine species. Catches from each haul were separated by species and the number of individuals and total weight per species were recorded. In cases where seal-interactions were encountered, all relevant data (damages in fishing gears, loss in fish catch, seal entanglements, etc.) were recorded. In order to avoid biased or erroneous estimates of the seal-fishery interactions and fish stock abundance, apart from the on-board “samplings”, yield data from local fishing boats during landings (i.e. “landings”) were also



Photo 12. Recording fish catch and gear damages in the Kimolos area © MOm/G.Paximadis

recorded every month for a total of 24 consecutive months in each “hot spot” area. CPUE data from fishing gears generally provide an adequate index of relative fish stock abundance. Furthermore, damages in fishing gear from seal-fishery interaction were also recorded from the same fishermen during landings and on site fishing gear inspections.

The overall effort invested in the two “hot spot” areas and some key results are presented in the following summary Table 1. The detail description of the methodology, the data collected, the analysis, the results and the conclusions of this action is included in the “Report on the Status of the monk seal-fishery interaction in Greece” (see Annex C.2.).

Table 2: Summary of field research results on measuring seal-fisheries interaction

	NMPANS	Kimolos-Polyaigos
<i>Data collection started</i>	May 2006	March 2007
<i>Data collection completed</i>	May 2008	February 2009
<i>No of fishing boats involved</i>	8	4
<i>Compensation received by the fishermen</i>	30,570 €	29,840€
<i>Total No of samplings performed</i>	40	40
<i>Total No of landings performed</i>	355	342
<i>Total No of species caught</i>	86	89
<i>Common in the two areas, 5 most abundant commercial species caught</i>	<i>Boops boops, Mullus surmuletus, Pargus pargus, Palinurus elephas and Scorpaena scrofa</i>	
<i>Percent of fishing efforts with seal attacks</i>	19%	22%
<i>Percent of fishing efforts with dolphin attacks</i>	2%	7%

All data collected, in the context of this action, were archived in the National Data Centre and were analysed by the FRI fisheries experts in collaboration with MOm researchers and were included in an extensive scientific report.

In evaluating the effectiveness of this action, it is evident that it fully achieved its objective, since it provided the opportunity for the first time to gather accurate data on the nature, the magnitude and the effects of the seal-fishery interaction in the two most important “hot spot” areas for both monk seals and artisanal fisheries. In fact, the formulation of the Action Plan (see Action A.2.) in terms of determining the magnitude of the seal-fishery interaction was to a large extent based on the scientific findings of this action. Furthermore, the exhaustive search conducted in relevance to the acoustic seal deterrent devices clarified that the use of such devices is not the appropriate measure, at least for the present, to implement in order to reduce the monk seal - artisanal fisheries interaction in the Mediterranean. Finally, despite the initial reluctance, the excellent and effective collaboration (in terms of operation, organisation, reliability, financial management) achieved between the field researchers and the fishermen that participated affected in a very positive way the whole fishing community in both areas. This became evident at the end of the project, when in meetings and discussions, the vast majority of the fishermen of both areas stated that if a similar action was going to begin now they were going to participate.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 261.399€. The actual cost of this action was in accordance (just 4,56% more) with the original budget estimate (249.488€) in the project proposal.

C.3: Training of local fishermen of the “hot spot” areas to respond and actively participate in the rescue of monk seals

Foreseen start - end: 01/06 –06/08, Actual start - end: 01/06 - 05/09

In the context of this action, an Instructions Guide entitled: “*Rescue Operation of Monk Seals. Now I can help too!*” was designed and printed in the spring of 2006, as planned, in 1000 copies. The guide was mailed at first to 650 key selected Rescue and Information Network members throughout Greece (i.e. Port Police Authorities, Veterinary Services, Fisheries Services, Fishermen’s Associations and Cooperatives, Aquacultures, and Management Bodies of Protected Areas). During the project period, additional members of the RINT requested to receive the Guide, so in the summer of 2008, it was necessary to reprint another 650 copies.

The guide provides in Greek language a step-by-step “course” to the members of the Rescue and Information Network and to any observers of a monk seal on how to appropriately react when monk seal strandings occur. The guide was, prepared by the Seal Rescue Specialist and the Veterinary Assistant, and was edited by the Communication Officer, in order to present to a layperson (non specialist) the necessary information. The guide, with a practical for use in the field water-resistant cover, includes colourful photographs and illustrations in order to present the necessary information in a clear and attractive way.

The topics covered in the Guide are:

- Basic information on the Mediterranean monk seal’s, biology, distribution, threats and legal protection status.
- Why the readers should be involved in the rescue of a monk seal
- Information on the structure and operation of the Rescue and Information Network
- Instructions on how a layperson should respond to cases of monk seals needing rescue
- Instructions on how a layperson should respond to cases of animals found dead
- Information on the MOFI project, the beneficiary and all bodies involved in the project

Upon completion of the Guide, the Rescue Team with the contribution of other project staff designed and formulated the content and materials of the Rescue Seminars to be held for key stakeholders in the “hot spot” areas. The Seminars consisted of two parts:

- an informative “theoretical” session that provided, through a slide show presentation(see Annex C.3. for a printout of the seminar’s presentation), to the participants key information on:
 - Basic aspects on the Mediterranean monk seal biology and ecology
 - Key threats, relevant legislation and protection measures for the monk seals in Greece
 - The rationale, operation and results of the Rescue Team and instructions on how the participants can help the monk seals in distress until the arrival of the Rescue Team members on site.
- a practical/field session that provides to the participants, through simulations and “hands on” exercises, specific information and practical knowledge and experience on:
 - How to communicate and provide necessary information to the Rescue Team
 - How to react on the presence of a live seal stranded
 - How to act in the case of a dead seal stranding

In organising the seminars, the project’s Rescue Team came in contact with all local RINT members, the local fishing cooperatives and the local Municipalities and authorities (Port Police, Fishery



Photo 13: Rescue seminar in Alonnisos
©MOm

Services, Veterinary Services, etc.) and invited them to participate. During the project, Rescue Seminars were conducted on site in all 7 “hot spot” areas:

➤ **Alonnisos (5-6/12/2006)**

The 15 participants of the seminar were local professional and amateur fishermen, Port Police and Fire Brigade officers, staff members of the Management Body of the National Marine Park of Alonnisos, as well as, local citizens. The presentation part of the seminar was held at MOM’s Information Centre at Patitiri, the main port of Alonnisos, while the next day the practical part took place in the field at a nearby beach. Participants showed great interest to discuss in detail with the Rescue Team various aspects of seal biology, especially those related to fisheries (i.e. feeding habits, diving behaviour, etc.), and participated with enthusiasm in the practical part of the Rescue seminar. Fishermen were especially interested to learn the appropriate methodology on how to disentangle seals from their nets. It is of interest to note that most participants when asked to evaluate the seminar, they stated that even though they came to the seminar with some hesitation, they found it very interesting and they acquired knowledge and experience useful in their jobs and daily activities. Indicative of the positive impact of the seminar is the fact that a few weeks later, one of the participants informed the Rescue Team of an encounter with a young seal swimming in the shallow waters of a bay in Alonnisos. In fact, following the instructions provided at the seminar, he contacted immediately the Rescue Team and he evaluated accurately that the animal did not exhibit any health problems.

➤ **Karpathos (31/5/2007)**

The 20 participants of the seminar were local fishermen, Port Police officers, staff members of the Management Body of the Karpathos protected area, as well as, local citizens. The seminar, organized in close collaboration with the Management Body, was held at the Church Hall of Diafani, the port of the area. It may be of interest to note that the seminar was extended so as to include a lecture by Dr. T. Raus, a botanist from the Freie University of Berlin, on the local flora and the recovery of island’s forests following extended fires during the early 80’s, thus further increasing the interest of the participants.



Photo 14: Rescue seminar in Karpathos ©MOM/P. Dendrinou

➤ **Kimolos (5/10/2007)**

The seminar was held in MOM’s Information Centre in the main village of the island. The seminar in this “hot spot” area was considered of key importance, since Kimolos, is one of the most important monk seal habitats in Greece and holds one of the main breeding colonies of the species. Despite the fact that the local population views conservation initiatives with some scepticism, the seminar had larger than expected participation. Seventeen people participated in the seminar, including the Head of the Milos Port-Police, local fishermen, educators and members of the local diving school. It is of interest to note that in addition to the seminar material, the Rescue Team presented to the participants unique images of a monk seal birth from this area, recorded by a remote control web camera in the context of another MOM project, in order to showcase the great importance of the Kimolos “hot spot” for the Mediterranean monk seal. The participants followed the seminar with great interest and commented positively on the material provided and considered the seminar and the MOFI project an interesting and useful initiative.



Photo 15. Rescue seminar in Kimolos ©MOM



Photo 16. Rescue seminar in Zakynthos ©MOM

➤ **Zakynthos (18/10/2007)**

The seminar was held in Laganas Bay, at a seminar hall offered by a local hotelier. The seminar, which was organised in close collaboration with WWF staff and in consultation with the Management Body of Zakynthos National Marine Park, was widely publicised in the local media, and was attended by 10 participants, including local fishermen, Port Police officers, staff members of the Management Body of Zakynthos National Marine Park and students of the Zakynthos Ecology Department of the University of Ioannina.

➤ **Kalymnos (30/3/2008)**

The seminar, which was organised in close collaboration with the local Fishermen’s Association and the local educators, was held in the presentations hall of the local primary school at the town of Kalymnos. The seminar was quite successful in terms of attendance, since 37 participants, including the president of the local fishing association, local fishermen, the Head of the local Fishery Service, local citizens, members of the local environmental NGO, local scouts, and members of the local school’s environmental team attended. It should be mentioned that the presence of the pupils, that already had participated in the MOFI environmental education activities and were aware of the need and the efforts to mitigate the seal-fishery interaction, and their active participation in the seminar and the field simulation enhanced the interest of the adult participants in the issues presented.



Photo 17. Rescue seminar in Kalymnos ©MOM

➤ **Chios (9/6/2008)**

The seminar, organised in close collaboration with the Head of the local Fishery Service, was held at a presentation hall at the town of Chios, offered by the local church. Twenty five participants attended the seminar, including fishermen and local fish farmers, members of the two local environmental NGOs, the Port Police officer-responsible for fisheries, the Head of the local Fishery Service, the local veterinarian and interested local citizens. The attendants welcomed this initiative, participated with great interest and were keen to learn how to react in emergency cases, especially in view of the extended coastline of this “hot spot” area and its considerable distance from mainland Greece.



Photo 18. Rescue seminar in Chios island ©MOM/V. Paravas

➤ **Kythira (30/5/2009)**

The seminar on Kythira island was the last held in the framework of the MOFI project. The seminar was held at a presentation hall at the fishing port of Kapsali. Forty participants attended the seminar, including local fishermen, Port Police officers, Fishery Service representatives, the local veterinarian, educators, and members of local NGOs, local citizens and children. As the seminar was held close to the completion of the project a short presentation of the Action Plan, which had been already formulated was also included in the seminar. The participants were quite interested on the seminar’s material, while the local fishermen showed great interest for the proposed measures included in the Action Plan.



Photo 19. Rescue seminar in Kythira ©MOM

At the end of each seminar, all the participants received an information package that included a copy of the “Rescue Operation of Monk Seals. Now I can help too!” Instruction Guide, a commemorative Certificate of Participation to the Seminar, the MOFI project’s awareness material, and a T-Shirt with the logo “Member of the Monachus Monachus Rescue Network” (see Annex C.3.)

This action has achieved and actually surpassed the expected results (at least 40 participants originally foreseen) in terms of the number of participants, since 164 locals from the “hot spot” areas attended the Rescue Seminars. Furthermore, the local participants considered the seminars and the material presented, especially the Instruction Guide, quite interesting and useful. In relevance to the impact of this action in contributing towards the reduction of deaths due to entanglements, in fishing gear, in the timeframe of the MOFI’s project duration is quite difficult to assess quantitatively. The average number of deaths, due to entanglements, recorded per year in each of the “hot spot” areas is extremely low to be able to assess a statistically significant difference prior and after the seminars in each area. Nevertheless, the great interest and increased participation, exhibited in all seminars, especially of key stakeholders (i.e. fishermen), testify towards an increased awareness of locals and of their willingness to contribute in such conservation actions.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 38.870€. The actual cost of this action was in accordance (just 6,85% more) with the original budget estimate (36.207€) in the project proposal.

D. RECURRING BIOTOPE MANAGEMENT

D.1: Monitoring seal-fishery interactions and related mortality in Greece in collaboration with fishing communities

Foreseen start - end: 07/05 –06/09, Actual start - end: 07/05 - 06/09

This action involved the improvement of the Rescue and Information Network (RINT) in order to monitor seal-fishery interactions and fisheries related mortality at a national scale. The RINT, operating since 1991, has been developed in order to monitor the overall status of the Mediterranean monk seal in Greece. Its operation is based on the continuous communication with more than 1.200 "Network members" (authorities and inhabitants of coastal and island communities) that provide information on monk seal sightings.

At the initiation of this action, an extensive search was conducted to identify new potential network members from the stakeholders directly related or involved in the seal-fishery interaction issue and especially coastal professional fishermen, fishermen associations, aquaculture owners associations and individuals, local press, inflatable boat owners associations and interested individuals. This effort continued throughout the project period, and as a result the size and extend of the Network increased by 51,4% (619 additional members of which 210 were stakeholders directly related to the seal-fishery interaction) bringing the Network’s membership to a total of 1821 members (Table 3).

Table 3: Rescue and Information Network Membership

	Previous RINT members	New RINT members	Total RINT members
Fishermen associations	83	34	117
Fishery services	51	7	58
Aquacultures	5	162	167
Coastal municipalities	223	0	223
Veterinary services	131	3	134
Port police authorities	186	7	195
Local press	93	55	148
Nautical clubs / Diving clubs	60	29	77
Local radio/TV stations	36	33	69
Government agencies	35	51	86
Educational institutes	14	4	18
Local environmental groups	45	15	60
Interested individuals	240	219	459
Total	1202	619	1821

In order to keep the interest of all the network members active and inform them on the MOFI project and its progress, MOm’s quarterly bulletin “Stories about Seals” and the project’s electronic newsletters were forwarded (see Action E.1.) to them. In addition, during the initial stages of the project, a new Network Information Package was produced and forwarded to all (new and previous) Network members through mail, in order to promote their active participation and reporting of seal-fishery interaction incidents. The new Network Information Package included (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s Interim Project Report in Annex D.1.):

- a letter, thanking the members for their continuous collaboration for the last 16 years in the operation of the Network, presenting the MOFI project and requesting for their participation and contribution in the expansion of the Network's scope in monitoring the seal-fishery interaction
- a short report, presenting in a layman's format, the rationale, the importance of the members contribution to the network and the up to date results of the Network's operation in monitoring the status of this critically endangered species
- a new RINT poster, providing key instructions for the collection and reporting of information (especially in cases of animals needing help)
- a new RINT Response Form, redesigned so as to provide for the collection of detailed information related to incidents of seal-fisheries interactions (gear damage, entanglements, type of gear used, loss of fish catch, etc.) The parallel development of an easy to fill and forward electronically RINT form was also designed to further promote the inflow of reports to MOm.
- the MOFI project's awareness printed material.

In terms of the collection of reports on monk seal sightings, during the project period, the Network received or collected a total of 1093 monk seal sightings (with an average of 273 sighting reports per year) from throughout the country. Of these, 1024 were related to live animals and 69 to dead monk seals (with an average of 17,25 dead seal stranding reports per year) stranded along the Greek coasts. An interaction of seals with fisheries was reported in 211 cases originating from throughout Greece. Thus in terms of assessing the frequency of seal-fishery interaction at the national level, the above data indicate that on an average seal-fishery interactions occur in 19,3% of the cases.

The considerable increase of reports during the project period and in particular:

- in the number of total sightings reported - 36.5% increase relative to the 200 reports received on an average per year during the 1991-2005 period,
- in the number of dead seal strandings reported - 38% increase relative to the 12,5 reports received on an average per year during the 1991-2005 period, and
- in the frequency of seal-fishery interaction incidents reported – 266,3% increase relative to the 14,4 reports received on an average per year during the 1991-2005 period,

is attributed to the positive impact of the MOFI project's overall campaign and especially to the new Network information package that made clear to the Network members the importance of reporting immediately all incidents relative to the monk seal, and especially incidents of seal-fishery interactions. The above conclusion is further supported by the fact that during the project period, the average number of reporters per year forwarding sighting reports to the Network increased to 200,88 from the 157,8 from previous years. It is also of interest to note that during the project period, the reports received originated from both locals (inhabitants, professional fishermen, fish farmers, port police authorities, fishery services) and visitors (tourists, scuba divers, yachtsmen) from throughout coastal Greece, providing evidence of the active involvement of numerous stakeholders in this conservation action. All data collected through the RINT Network were recorded in the National Data Centre, and were used in the estimation of the spatial distribution and relative magnitude of the seal-fishery interactions at a national scale.

In terms of monitoring the mortality of the species throughout the country, the results obtained originate from the 69 monk seals found dead and were reported through the RINT Network. In 29 of these cases, the carcasses were found either fresh or at a moderate state of decomposition, so MOm's Rescue Team travelled immediately to the site. The Rescue Team conducted full necropsies, with the consultancy of the Veterinary School of Thessaloniki and the Erasmus University of Rotterdam, following Standard Operation Procedures, in order to identify the cause of death (see Annex D.1. for characteristic photographs and indicative necropsy report). The collaborating institutes conducted the laboratory analysis of diagnostic samples. All non-diagnostic samples were stored for future research (genetics,

toxicology, morphometrics, age determination, etc.) at MOM’s monk seal tissue bank. The key findings are:

- ✓ in 7 of cases, the cause of death could not be determined unequivocally due to the decomposition of the carcass, and thus the cause of death was considered unknown
- ✓ in 6 cases, clear evidence were found that the animals were deliberately killed. Five of the carcasses examined, in Alonnisos (Sporades), Litochoro (Katerini), Hydra (Attiki), Syros and Milos (Cyclades), bared gun pellets along their body and head, while one pregnant adult female, found in Marmara (Chalkidiki), had been killed by dynamite explosion.
- ✓ in 5 cases, clear evidence were found that the animals died accidentally, due to entanglement in fishing nets. All cases were of sub-adult seals, and the carcasses examined, in Evia, Lavrio and Keratea (Attiki), Naxos and Skiathos (Sporades) showed evidence of drowning in conjunction with signs of net injuries.
- ✓ in 11 cases, the seals died of a variety of non-human (natural) induced causes (disease or parasite infections, premature birth, injuries due to storms, etc.). From these cases 4 were pups found in Evia, Alonnisos and Spetses, 2 cases were sub-adults found in Crete and Syros and 5 were adult animals found in Andros, Skopelos, Alonnisos, Spetses and Tinos.

In the remaining 40 cases where the carcasses were in advanced decomposition or they were reported too late to intervene (e.g. carcasses already buried) the Rescue Team requested of the Network members to take, when feasible, the necessary measurements and photographs, so as to have an accurate record of these events. In 8 such cases, the Network members, following the instructions of the Rescue Team, collected and forwarded samples valuable for future research.



Photo 20. A young male seal found killed in Milos, Cyclades ©MOM



Photo 21. A juvenile male stranded entangled in fishing gears 60 km from Athens ©MOM



Photo 22. A newborn pup found dead in Evia ©MOM/V. Paravas

In assessing the overall mortality patterns of the species during the project period in comparison to the 1991-2005 period the data presented in Table 4, that contain the results from the necropsied cases only, show an identifiable relative decrease of the overall human related mortality during the last 4 years. In fact, we recorded a considerable decrease (approximately 12%) in deliberate killings, in parallel to a slight increase (7%) of entanglements in fishing gear. It should be noted, however, that since the number of specimens is relatively low (22 necropsied cases where the cause of death was identified) caution should be used not to interpret these findings as an unequivocal proof of a decrease of human related mortality.

Table 4: Monk seal mortality rates from data during the MOFI project. Only cases where death causes were determined through necropsies are included.

	1991-2005 (n=44)	2005-2009 (n=22)
Accidental deaths	16%	23%
Deliberate killings	39%	27%
Not human induced deaths	45%	50%

Similarly, in assessing the mortality rates of the different age classes of the species during the project period, a respective considerable decrease is recorded in the relative frequency of deliberate killings across all age classes, in parallel to an increase in the frequency of entanglements in fishing gear observed in sub-adult animals only (see Table 5).

Table 5: Monk seal mortality per age stages from data during the MOFI project. The percentages concern cases with determined death causes.

	Accidental deaths		Deliberate killings		Not human induced deaths	
	1991-2005	2005-2009	1991-2005	2005-2009	1991-2005	2005-2009
Adults	0%	0%	59%	44%	41%	56%
Sub-adults	44%	56%	37%	22%	19%	22%
Pups	0%	0%	9%	0%	91%	100%

In addition, as part of this action, an extensive investigation of the feeding habits of the Mediterranean monk seal was completed. A total of 27 stomach and 14 scat samples, all collected by the beneficiary prior to and during the MOFI project, were prepared and analysed by specialists at the Zoology Department of Aberdeen University in Scotland, a sub-contractor of the project. It should be emphasised that this investigation constitutes the most extensive study of the diet of the Mediterranean monk seal ever conducted and the results provided new information on the biology of the species of seminal importance for its conservation.

The results of the analysis conducted showed that:

- A total of 530 prey items from at least 71 prey species were identified, most to the level of the genus. Of these, 266 were cephalopod items (50%) and 253 fish (48%), plus a few non-cephalopod molluscs (1.6%) and crustaceans (0.4%). The faecal samples analysed contained no identifiable prey remains.
- Although monk seals feed on a wide range of prey, octopus was found to be the most frequent in terms of numbers eaten and had the highest contribution to the reconstructed prey biomass. Among the octopus species, *Octopus vulgaris* (34% of prey by number) was around three times as numerous in the diet as *Eledone cirrhosa* (11%). Fish of the families Sparidae (28%) and to a lesser extent Scorpaenidae (3%), Congridae (2.5%) and Atherinidae (2.5%) were also frequent. Most of the prey species recorded was of commercial importance in fisheries.
- The statistical analysis suggested that stomach contents varied according to seasons, as well as, cause of death although statistical significance was marginal, due to the small sample size. No trends in diet related to sex or age class were identified.
- The fact that, the predominant species found in the stomachs of the nine animals that had been deliberately killed, were commercial fish species of high value, confirms the high probability of strong interactions between monk seals and commercial fishing activities.
- As part of this work, it was necessary to assemble a reference collection of potential fish prey of monk seals. Specimens were measured and weighed, the otoliths and jaw bones extracted and measured to derive regression relationships between hard part size and fish size which could be used to estimate the size and weight of the prey found in the stomachs of the seals. This valuable reference collection will be available for use in future dietary studies.

Lastly, as part of this action, for the first time a further study was carried out to determine, through stable isotope analysis, the foraging ecology, behavior and dietary preferences of the Mediterranean monk seal. Initially, it was planned that the analysis would be carried out by a specialist at the Sea Mammal Research Unit at the University of St. Andrews. Finally, due to unforeseen problems in the work schedule of SMRU, and upon their recommendation, the stable isotope analysis was carried at the Okanagan Regional Chemical Analysis Centre of the University of British Columbia in Canada, a well established and specialised laboratory in these techniques. In total, 44 monk seal skin samples (as teeth samples analysis was considered extremely time consuming and could not be completed during the

MOFI project) and 121 potential prey items were analysed. All samples prepared were appropriately stored in the deep freezer (-70^o), purchased specifically for this action. The results of the analysis indicate that:

- The Mediterranean monk seals are amongst the top predators in the eastern Mediterranean.
- They forage predominantly on fish and cephalopods amongst coastal benthic and reef associated communities - a feeding strategy that appears to be followed by the species throughout its life.
- Octopus and the White Sea Bream were identified as the monk seal’s key prey items. However, the results obtained provided clear evidence that Mediterranean monk seals consume a wide range of species in this part of their distribution.
- There was no evidence to suggest that Mediterranean monk seal diet and feeding habits of the species changed significantly over the course of the past 15 years.

The detail description of the methodology, the data collected the analysis, the results and the conclusions of all the different sub-actions conducted in the context of action D.1. is included in the “Report on the Feeding Preferences of the Mediterranean Monk Seal in Greece” (see Annex D.1.).

In evaluating the overall effectiveness of this action, from the results presented above, it is clear that it fully achieved its objectives:

- ✓ The Rescue and Information Network expanded in size and improved in its operational capacity, but most importantly, its members with renewed interest, actively responded and provided on time and at increased rate valuable information for assessing the seal-fisheries interactions and for monitoring the species mortality at a national level. Indicative is the impressive average annual increase of 266,3% in the collection of seal fisheries interaction reports, that surpassed the expected (15%).
- ✓ The data collected, during the project’s period, in relevance to the patterns of mortality provide quite encouraging signs for a gradual decrease in human related mortality especially in deliberate killings.
- ✓ For the first time unique methodologies were utilised for the determination of the species diet, feeding preferences, ecology and behaviour, while in parallel valuable tissue samples were collected and stored in the Monk Seal Sample Bank managed by the beneficiary
- ✓ All the sub-actions of this action provided key results valuable in the elaboration of the Action Plan (see Action A.2.) for mitigating the negative consequences of the monk seal fisheries interactions.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 161.918€. The actual cost of this action was in accordance (only 5,16% less) with the original budget estimate (170.268€) in the project proposal.

D.2. Rescuing monk seal individuals found stranded from fisheries related incidents

This action involved the response of the beneficiary’s Rescue Team to cases of monk seals needing emergency aid, as well as, their treatment during the first critical for their survival period. At the beginning of the project, the Rescue Team prepared all necessary equipment (rescue kit, consumables, etc.) and was ready to respond immediately, on a 24-hour basis, to any report of a stranded live animal.

As described in Action D.1., reports on stranded alive animals were received by the beneficiary’s Rescue Team, through the operation of the RINT. Upon confirmation of an emergency incident, the Rescue Team travelled on site in the fastest available way (project’s car, airplane, boat, etc.) examined the animal and provided first aid. In parallel, instructions were given to the local Port Police Authority and “RINT Members” to monitor the animal until the team’s arrival.

Following the detail on site examination of the animal, the Seal Rescue Specialist, in close consultation with the Veterinarian, decided on the appropriate treatment procedure:

- If the animal could be treated *in situ* and for a short period (not more than a few days), the rescue team remained in the area and treated the seal taking all precautions necessary to minimize human disturbance. In the cases encountered in the “hot spot” areas, the active involvement and assistance provided by the trained local stakeholders was valuable (see Action C.3.).
- When prolonged treatment was considered necessary (e.g. orphan pups), the animal was transported and admitted to MOm’s Seal Treatment and Rehabilitation Centre in Alonnisos.
- In the cases that it was evaluated that no human intervention was needed, instructions were given to the local observers and the Port Police authority to monitor the “stranded” animals minimizing any possible disturbance, so as to allow them to return back to the sea on their own.



Photo 23. Treatment *in situ* by the Rescue Team ©MOm

All procedures relevant to the rescue and treatment of animals were based on MOm’s Standard Operation Protocols (reaction to the emergency call, initial examinations, transportation and admission of a patient to the Centre, veterinary treatment, nutritional program, preparation for release), which are in compliance with the specifications for wildlife rehabilitation centres provided by the Ministry of Agriculture. Furthermore, all rescue and treatment operations were conducted under the official permission of the Ministry of Agriculture and in co-operation with the Ministry of Environment.

During the project period, the Rescue Team responded to 15 cases of monk seals needing aid (see Table 6 for a summary of these cases and Annex D.2. for the *Report of the Rescue Operations for the Mediterranean Monk Seal in Greece: Case Histories 2005-2009*, for a detail description of each case).

Table 6: Rescued seals during the MOFI project

Date	Code name	Place	Age	Sex	Status-Outcome
26/6/2005	Fokas	Mykonos, Tinos islands	Sub-adult	♂	Treated on site - released
26/6/2005	Aggeliki	Saronic Bay	Sub-adult	Unknown	Monitored - not found
2/11/2006	Alan	Oreoi Bay	Pup	♂	Treated on site – died
8/11/2006	Alliki/Robby	Kefallonia	Pup	♂	Monitored - released
28/8/2007	Betty/Georgi	Koilada	Adult/Pup	♀/♂	Monitored - released/not found
1/10/2007	Victoria	Tinos Island	Pup	♀	Treated on MOm’s STRC - released
25/12/2007	Alexandra	Stylida	Adult	♀	Monitored - released
20/08/2008	Gerasimos	Kefallonia	Pup	♂	Monitored -released
31/08/2008	Dionysis	Zakynthos	Pup	♂	Monitored - released
19/09/2008	Christos N	Evia	Pup	♂	Treated on site - died
15/10/2008	Gavos	Piperi island	Pup	♂	Monitored - released
30/11/2008	Skouliki	Astakida islet	Pup	Unknown	Monitored – not found
10/12/2008	Artemis	Leros island	Pup	♀	Treated on MOm’s STRC - released
18/4/2009	Anastasoula	Andros island	Adult	♀	Monitored – died
11/02/2009	Spetsiota	Spetses island	2 Adults / 2 Pups	2 ♀ / 2 Unknown	Monitored – released

In evaluating this action, it is evident that it has achieved the expected results. The Rescue Team, throughout the project period, was ready and responded immediately to all the cases of animals needing care which were reported through the Rescue and Information Network. In fact, the Rescue Team managed to respond in 15 cases (an average of 3.75 cases per year) almost double the number of cases anticipated at the initiation of the project, based on the rate of two such cases reported during the 1991-2005 period. The considerable increase in the number of cases encountered is a clear indicator of the increase in the interest and awareness of the local stakeholders and of their willingness to actively participate and contribute to the conservation of the Mediterranean monk seal. This positive change will have a significant impact on the long term conservation of the species, especially in view of the fact that all the people that reported these incidents were local inhabitants, stakeholders and authorities. Lastly, the most important outcome of this action, in terms of the immediate impact to the species, is the fact that through the Rescue Team's actions in the 12 such cases, the 17 animals involved returned back to their natural environment. Considering the overall size of the population of the Mediterranean monk seal in the country (estimated at 250-300 individuals) the contribution of this action in decreasing mortality (even though not exclusively related to fisheries), must be evaluated as extremely important.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 103.908€. The actual cost of this action was in accordance (just 1,88% more) with the original budget estimate (101.957€) in the project proposal.

E. PUBLIC AWARENESS AND DISSEMINATION OF INFORMATION

E.1: Awareness campaign targeting key stakeholders

Foreseen start - end: 07/05 –06/09, Actual start - end: 07/05 - 06/09

This action was initiated and completed, as planned, during the project period. The first task completed, by the project staff, and especially the project’s Communication Officer, with the consultancy of experts in advertising and communication, was to design the overall awareness campaign. The campaign targeted especially the coastal fishermen, aquaculture owners, local fishery and port police authorities, and the inhabitants of fishing communities at the local “hot spots” level. The overall objective was to sensitise the national and local public and key stakeholders about the critical status of coastal fisheries and monk seals and the necessity for integrated measures for the conservation of the Mediterranean monk seal, fish stocks and coastal fisheries. Key concept of the campaign was that local fishing communities can benefit from the MOFI project, since mitigation of the monk seal and fisheries interaction directly affects the fishing communities’ livelihoods. This concept was applied to all awareness actions of the campaign. It should be mentioned that during the project period, the project team considered necessary, in addition to the originally foreseen awareness and communication tools, to produce a number of additional tools that did not however increase the original budget foreseen for this action. It should be noted that in all material produced, the contribution of the LIFE-Nature program was properly acknowledged (including all relevant logos) as well as of all partners and co-financiers that contributed to the project.

Due to the unique subject and theme of the campaign in relation to the particular target groups, it was initially considered important to involve a coastal fisherman in the implementation of the awareness campaign. For this task a coastal fisherman from Kimolos “hot spot” area was selected to participate in the project as an external consultant. His involvement was initiated from the beginning of the campaign, at the design phase, where his contribution proved to be of fundamental importance regarding the approach, the tone, the character and the language used in the design of the campaign’s communication tools, such as the informational brochures, the booklets, the TV and Radio spots, the short documentary and the presentations for the open meetings at the “hot spot” areas. It should, however, be mentioned that the original plan, to have a professional fisherman participating in the awareness campaign expeditions to the “hot spot” areas, could not be realised, as it was not possible to agree with a single professional fisherman to leave his home and work (professional fishing) and participate in the expeditions.

Table 7 summarizes all communications and awareness tools produced during the project period.

Table 7: MOFI’s Communication and Awareness Tools

Activities	Quantity		Target Audience	
	Total planned	Total produced	Expected audience	Results achieved
In situ Campaign at the “hot spot” areas	7	7	60% - 90% of target groups in hot spots	25%-100% depending on the size of the hot spots
TV spot	2	2	1.000.000 of general public	>2.500.000 of general public
Radio spots	2	2		Not possible to estimate
MOFI Leaflet	10.000	5000	50,000 persons	40.000
MOFI Booklets	Not planned	1000	5,000 persons	5.000
MOFI Poster	2.000	1000	50...0 persons	50.000
RINT Poster	Not planned	2000	80.000 persons	80.000
RINT Layman’s Report	Not planned	2000	5,000 persons	5,000
Banner	Not planned	10	5,000 persons	7,000
Short documentary	1	1	60% - 90% of target groups in hot spots	<ul style="list-style-type: none"> • 25%-100% depending on the size of the hot spots • 1660 web viewers

Mass media coverage	Not estimated	<ul style="list-style-type: none"> • 25 Press Releases • 350 news items • 10 national TV appearances • 7 local TV appearances • 8 national radio interviews • 3 local radio interviews 	1,000,000 of general public	≈ 4,000,000
Website	1	1	≈100,000 of general public	75,500 of general public
e- Newsletter	8	8	3,000/issue	2,000/issue
“Stories About Seals”	16	16	5,000/issue	4,000/issue

Details on the relevant activities conducted in relevance to the implementation of this action and to the production, distribution and impact of each communication and awareness tool are presented below:

a. Production and distribution of printed material

- The project’s **informative and awareness leaflet**, available in Greek language, was designed and produced. The 10 pages leaflet was written in layman’s language and used strong imagery. Content-wise, it provided a short and insightful overview of the monk seal-fisheries interaction, presenting information on the species and the fishery sector in Greece. Its focus was on the MOFI’s activities and how the project aimed to benefit fishing communities and the monk seal. The leaflet made good use of the campaign’s logo, literally translated from Greek as “Fisheries and Monk seal: a strong alliance”. During the project period, 5.000 copies were printed and were distributed to the local public of the “hot spot” areas, the visitors of MOM’s Information Centres, at MOM’s stands at various events attended, as well as, to all meetings with key stakeholders and authorities (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s Interim Project Report in Annex E.1.).
- Two additional **MOFI booklets**, not originally planned, were designed, produced and distributed during the first year of the project. The booklets, available in Greek and English, were considered necessary at the initiation of the project in order to provide key information on the project’s objectives and activities, on technical details (partners, sub-contractors, co financiers, budget, etc.) and to introduce the issue of the monk seal and fisheries interaction and conflict. The booklets (1000 copies printed) were distributed at all initial meetings with key stakeholders and authorities at the local, national and international level, to the local public at the “hot spot” areas during the team’s initial visits, to the visitors of MOM’s Information Centres and at MOM’s stands at various events attended (these deliverables were forwarded to the DG Environment LIFE Unit services within the MOFI’s 1st Progress Project Report in Annex E.1.).
- A **MOFI poster** was designed and produced (1,000 copies printed), emphasising the MOFI logo “Fisheries and Monk seal: a strong alliance” using images that linked seals and fishermen. The posters were distributed to key stakeholders and authorities, to interested parties at MOM’s Information Centres, at MOM’s stands at various events attended, to the local public of the “hot spot” areas during the *in situ* awareness campaign and to the local children participating in the project’s environmental education program. (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s Interim Project Report in Annex E.1.).
- A **RINT poster**, not originally planned, was designed and produced (2000 copies), especially targeting the Rescue and Information Network members and was included in the new RINT information package (see Action D.1.). Considering that this poster was posted at key public locations (port police offices, etc.) it is estimated that at least 20,000 people viewed it. The poster

promoted the involvement of local people and authorities in reporting monk seal sightings and strandings and provided basic instructions on how to respond in cases of emergency (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s Interim Project Report in Annex D.1.).

- A set of **10 Banners (for outdoor and indoor activities)**, not originally planned, was produced (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s 1st Progress Project Report in Annex E.1.). Following the recommendation of LIFE Unit’s officials, these banners were used as notice boards to present the MOFI project in the activities and events of the project, such as the *in situ* public awareness campaigns (see below), the final open public meeting, where the results of the project were presented (see Action E.3.), and in various conferences attended by the project staff (see Action E.3.) In addition, they were utilised in various other occasions such as in MOm’s Information Centre in Alonnisos, in MOm’s Rehabilitation Centre in the National Marine Park of Alonnisos Northern Sporades, and in other exhibitions/events (e.g. seal releases, Athens Ecolife environmental exhibition, etc.).
- A **RINT Layman’s Report**, not originally planned, was designed and produced (2000 copies), especially targeting the Rescue and Information Network members and distributed as part of the new RINT information package (see Action D.1.). The report presented in a layman’s format and using vivid images and graphs, the rationale, the importance of contributing to the network and the up to date results of the Network’s operation in monitoring the status of this critically endangered species (this deliverable was forwarded to the DG Environment LIFE Unit services within the MOFI’s Interim Project Report in Annex D.1.).



Photo 24: MOFI’s awareness material

a. Production of audio-visual material

- The production of the **short documentary** of the MOFI project (see Annex E.1. for a DVD copy of the documentary), “Fishermen and Seals” was completed as planned. Production-wise, the film’s scenes were shot by MOFI staff during the project’s activities; the project’s Communication Officer developed the scenario and conducted the narration, while external assistance was utilised for the post production and original score. The goal of the 15 minute long film was to sensitise the local and national public about the problems faced by the local fishing communities and the monk seal. Using strong images and fishermen’s statements, obtained through short interviews, the film presented the

every day hardships of fishermen in Greece, including their interaction with marine mammals and especially with the Mediterranean monk seal. It also focused on how the survival of the most endangered marine mammal of Europe, is challenged by the fishery sector. The narrative concluded with the notion of interdependence between fishermen and marine wildlife, while the MOFI project was presented as the first step towards resolving the conflict between the monk seal and fisheries in Greece. The film was disseminated widely and was broadcasted by local TV stations at the "hot spots" areas, where existent, was presented throughout the project period at MOm's Information Centres in Alonnisos and Kimolos and was available to the general public through the MOFI website (1,660 web-visitors downloaded and watched the documentary). Last but not least, the project's short documentary was used throughout the project's awareness activities, especially during the in situ campaign at the hot spot areas, where it was received with positive comments about its realistic and vivid depiction of the seal-fishery conflict.

- **The 2 MOFI TV Spots** (see Annex E.1. for a DVD copy of the 2 TV spots) were designed and produced by the MOFI Communication Officer with the collaboration of external assistants. Both TV Spots were disseminated widely to all national TV stations, as well as, to the local TV stations of the "hot spot" areas, where existent, and there were also available to the general public through the MOFI website. Considering the rules of airing "public interest" spots on national TV stations, that limit the duration and the consecutive periods of airtime, the project's team managed to secure the maximum possible airtime. Specifically, the 1st TV spot aired for a total of 3 months (October 2007, March 2008 and April 2008) during the project, while the 2nd spot aired for a total of 2 months (November 2008, June 2009), resulting in both spots to have been aired for a total of 1,134 times. Based on the relevant airing figures collected, it is estimated that more than 2,500,000 people watched the spots and were informed about the project. Furthermore, the 2nd TV Spot also aired in MOm's Facebook Page (<http://www.facebook.com/mom.gr>), established in January 2009, that currently has 14,900 members. Airtime in local TV stations could not be measured, since local stations do not keep relevant data on the airtime of "public interest" spots.
- **The 2 MOFI Radio Spots** (see Annex E.1. for a DVD copy of the 2 radio spots) were produced by the MOFI Communication Officer with the collaboration of external assistants based on the narrative of the TV spots in order to have continuity and coherence in the awareness campaign. They were both disseminated widely during the project period, to major national radio stations, as well as, to local radio stations of the "hot spot" areas, where existent, and they were also available to the general public through the project's website. Airtime could not be measured, since the majority of radio stations do not keep relevant data on the airtime of "public interest" spots.

c. Mass Media Coverage

Throughout the project period, the Communication Officer and all the project's staff actively sought and took advantage of any opportunity to bring forward issues related to the seal-fisheries interaction and the MOFI's objectives, activities and expected results to the mass media. During the project period 25 Press Releases were disseminated presenting various issues, news and results related to the MOFI project and as a result 350 news items appeared in the local, regional, national and international mass media of both print (newspapers, magazines) and electronic (TV, Radio, internet) format (see Annex E.1 for a complete list of printouts of the news items). In all Press Releases, the contribution of the LIFE-Nature program was properly acknowledged (including all relevant logos) as well as of all partners and co-financiers that contributed to the project.

Based on the circulation and airing figures of the various media, it is estimated that approximately 4,000,000 people were informed about the project. It should be mentioned that a larger than expected audience was reached due to the successful rescue and rehabilitation operation of "Victoria" and "Artemis", that were circulated widely in national (TV prime-time news) and international news agencies (such as Athenian-Macedonian Press Agency, Reuters, Times, BBC, etc.). All news items,

relative to the MOFI project, were archived and a selection of the most characteristic was available to the general public through the MOFI website.

d. MOFI Project’s Website.

The MOFI website was designed by the project’s staff, with the consultancy of experts in web design and e-communication, and was launched in April 2006. The MOFI website, available in Greek and English, was regularly updated during the project period, at least every 2 months, with news items, announcements and new documentation (reports, educational material, etc). The website provided a wealth of information and relevant material to scientists, conservationists, the Mass Media, as well as, the general public about the MOFI project, the project partners, the Mediterranean monk seal, the fisheries sector in Greece and the project’s activities. It was accessed directly through <http://mofi.mom.gr>, through MOM’s website (<http://www.mom.gr>), and through MOM’s Facebook Page (<http://www.facebook.com/mom.gr>). During the project 75,500 different visitors have visited the website. The site has proved to be especially useful for to the Mass Media, as press releases, announcements, the MOFI Newsletter, photographic material and relevant publications, could be readily downloaded. Educators also regularly used the site to download relevant educational material to use in various educational activities.

e. MOFI Project’s e-Newsletter

The project’s e-Newsletter, both in Greek and English, was designed by the MOFI Communication Officer, with the consultancy of experts in e-communication, and it was produced twice per year, for a total of 8 issues. Its goal was to present the progress of the project’s activities, as well as, short interviews from various key stakeholders (policy makers, fishermen’s representatives, aquaculture owners, scientists, etc.). It was electronically distributed to a total of 2.000 recipients, in Greece to national, regional and local competent authorities, key stakeholders, representatives of interest groups, environmental organisations, and members of the scientific community and abroad to relevant E.U. authorities, international organisations, conservation initiatives and projects and to members of the scientific community. All e-Newsletter issues (see Annex E.1 for the 7th and 8th issues of MOFI’s newsletter. All previous issues 1st-6th have been forwarded to the DG Environment Life Unit services in the MOFI’s Progress and Interim Reports in the respective Annexes E.1.) were also featured within MOFI’s website and thus they were available to the general public.

f. “Stories about Seals” Periodical Publication

As planned, 16 issues of MOM’s quarterly publication “**Stories about Seals**” (see Annex E.1 for the 41st, 42nd, 43rd and 44th issues of “Stories about seals” publication. All previous relevant issues 29th-40th have been forwarded to the DG Environment Life Unit services in the MOFI’s Progress and Interim Reports in the respective Annexes E.1.), with two pages dedicated to the MOFI project, were produced during the project period. In each issue special reference was made on specific actions, key developments, and results of the MOFI project. The publication was mailed to 4.000 recipients per issue in Greece and abroad, including MOM’s members and supporters, RINT members, journalists, environmental organizations, as well as, international, national, regional and local authorities and bodies.

e. *In situ* Campaign at the “hot spot” areas

In parallel to the production of the above awareness tools, the project’s Communication Officer, in collaboration with the project management team and partners, designed the *in situ* awareness campaign. Prior to each visit to the “hot spot” areas, the Communications Officer contacted the local media, arranging for relevant interviews and coverage of the open public meetings, submitting short articles about the MOFI project and following up the event, with relevant articles and photographic material. The project team also made contacts with fishermen, cultural and environmental associations, as well as, with local authorities and various stakeholders in order to maximize the events’ success. The open meetings were conducted by the Communication Officer with the contribution of the rest of the project’s staff. Each event started with a presentation of the MOFI project (see Annex E.1. for a printout of the presentation) in which the speaker addressed the need of the MOFI project to be carried out in Greece. Several contemporary environmental issues such as, depleted fish-stocks, loss of biodiversity and even

climate change were interlinked with problems facing fisheries in Greece today and the critically endangered status of the Mediterranean monk seal. Based on the specific conditions of each “hot spot” area, the presentation was modified to include additional topics of interest. At the end of the presentation, an open discussion with the participants was held, during which the project staff answered questions regarding the project. Each event concluded with the presentation of the MOFI short documentary.

The *in situ* campaign was initiated in the fall 2007 and during the project period “expeditions/open public meetings” were organised in all 7 “hot spot” areas. In total, 280 inhabitants and representatives of local authorities and stakeholders of the 7 “hot spot” areas participated in this activity. Taking into consideration, the participation of the various local stakeholders in the meetings and the local media coverage during these expeditions and depending on the size and population of each “hot spot” area, through this action, the project team managed to come in contact and inform a considerable proportion of the target groups. In the smaller “hot spot” areas, such as Kimolos, Kythira, Alonnisos, and Northern Karpathos, it is estimated that upon completion of this action between 75% to 100% of both the local population and the stakeholders were informed about the MOFI project, while in the larger and more populated “hot spot” areas even though a smaller proportion of the population was informed, most of the key stakeholders (i.e. fishermen and fishery related authorities) were well aware of the project and its importance.



In evaluating the overall effectiveness of this action, it is important to note that all originally foreseen communication and awareness tools, as well as, a number of new ones that were considered necessary, were produced as planned. The overall campaign achieved two parallel goals:

At the local level to raise the interest of all relevant stakeholders and to bring them together to discuss openly within the local communities the seal-fisheries conflict and the need to find a common solution. In parallel, to bridge the gap and improve communication between the local stakeholders and the project executants (NGOs, research institutes), allowing for a more constructive exchange of views and thus setting the conditions to find common proposals to mitigate the seal-fisheries problem.

- At the national level to bring to the attention of the general public, the seal-fishery conflict and the need to find solutions that would lead to a more sustainable fishery, as well as, to the conservation of the Mediterranean monk seal. In parallel, to bring to the forefront of the agenda of the relevant policy makers and stakeholders the need to address the seal-fishery conflict, through the adoption of the proposals elaborated as a result of the MOFI project.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 163.937€. The actual cost of this action was in accordance (only 4,81% less) with the original budget estimate (171.824€) in the project proposal.

E.2. Environmental education at the “hot spot” areas

Foreseen start - end: 03/06 –06/08, Actual start - end: 10/05 - 06/09

At the initiation of this action, the project’s staff and in particular the Environmental Educator with the assistance of an expert consultant, who was selected following a call of tender, designed the MOFI project’s Environmental Education Program to be conducted in the “hot spots”. The overall theme of the educational program was to provide to the pupils with the appropriate information and material to actively work in order to understand the tight link between the marine ecosystem and fishing communities, with emphasis on the interaction between the Mediterranean monk seal and the fishery sector. Thus, key elements in the design of the educational activities were:

- For the pupils to:
 - Learn to appreciate the marine ecosystem.
 - Comprehend the relationship and interaction between marine ecosystem, fisheries and local community.
 - Become active and environmentally aware citizens within their communities.
- For the educators, to provide them with easy accessibility to environmental educational tools, to support the implementation of the environmental education program at these areas, throughout the duration of the MOFI project, and promote the continuation of such activities after the completion of the project.

Taking into account these directions and the latest education methods and models, the project’s Environmental Educator in collaboration with the external consultant formulated a program that gave emphasis on the in-depth knowledge and group involvement of the pupils on the seal-fishery issue. This resulted in a program that consisted of numerous interrelated activities that needed extended time for their implementation (i.e. the whole school year), thus limiting the number of schools and the groups of students that could participate in the program. Furthermore it should be noted that all activities designed aimed at promoting the pupils to work in groups, hence individual activities (i.e. art competitions, individual assignments, etc) were replaced by group participatory activities.

Based on this rationale, 2 extensive educational programs, adjusted appropriately for the ages of the pupils for the primary and the secondary schools of the “hot spot” areas, were formulated.

The main elements of the primary school program, entitled “*Travelling with Fishermen*” (this deliverable was forwarded to the DG Environment Life Unit officials in the 1st MOFI’s Progress Report in Annex E.2.) were:

- a. An introductory field visit by the MOFI staff to both pupils and educators to present and familiarise them with the MOFI environmental education program.
- b. A 2-day interactive workshop, by the project's personnel in collaboration with the local educators, to groups of pupils with various activities related to the marine ecosystem, fisheries, local community and their interaction.
- c. A field-work investigation project about the traditions of their local community in relation to the marine ecosystem and the fisheries. The project would be conducted, throughout the school year, by the pupils themselves working in groups within their local community, guided by their teachers. MOM would provide all supportive material for this activity (photographic cameras, tape-recorders, consumables).
- d. At the end of the school year an event, where the pupils will present the results of their projects to their local community, in the presence of their teachers and of the project's personnel.

The main elements of secondary school program entitled "*Sea: Our Common Home*" (this deliverable was forwarded to the DG Environment Life Unit officials in the 1st MOFI's Progress Report in Annex E.2.) were:

- a. An introductory field visit by the MOFI staff to both pupils and educators to present and familiarise them with the MOFI environmental education program.
- b. A training workshop on the basic principles of a field-work investigation. Students would learn how to plan and conduct an interview, where and how to find sources of information, how to communicate with the local authorities, etc. The project's staff, in collaboration with the local educators, would conduct the workshop, and provide all supportive material.
- c. A field-work investigation project on the influence and impact of the traditional fishery sector and of the protection of the marine ecosystem on their local communities. The project would be conducted, throughout the school year, by the pupils themselves working in groups within their local community, guided by their teachers. MOM would provide all supportive material for this activity (photographic cameras, tape-recorders, consumables).
- d. A series of lectures conducted by the MOFI staff and invited speakers from the local community or from other relevant bodies, covering topics, such as: fishing in the Greek seas, biodiversity of the Greek marine ecosystem, traditions in Greece related with the sea and fishing, active participation within a community.
- e. At the end of the school year an event, where the pupils would present the results of their projects to their local community, in the presence of their teachers and of the project's personnel.

Upon completion of the design of the environmental education programs, the beneficiary presented them to officials of the Ministry of Education and requested the necessary permits for their implementation of the program. Permits were issued in May 2006 and were annually renewed for the subsequent school periods.

Immediately upon the issue of the permits, the project staff designed and produced the following educational tools:

➤ For the primary schools:

- an educators' guide on how to organize the collection of local fishery related stories and fairytales (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI's Interim Report in Annex E.2.).
- an educators' guide on the characteristic and endangered animals and plants of the Greek seas (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI's Interim Report in Annex E.2.).
- a set of printed photographs depicting the characteristic and endangered animals and plants of the Greek seas (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI's Interim Report in Annex E.2.).

- a coloring children’s illustrations book within which 10 marine animals introduce themselves to the pupils, presenting their habits, biotopes and threats (see Annex E.2.).
 - a poster, entitled “10 steps for protecting the marine environment”, presenting 10 easy steps that children of 8-12 years old can do towards protecting the marine environment (see Annex E.2.).
 - a children’s book presenting as a tale the status and threats of the Mediterranean monk seal. This publication has been designed and printed as part of another project of the beneficiary and thus was not charged to the MOFI project (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
 - a comic publication the status and threats of the Mediterranean monk seal. This publication has been designed and printed as part of another project of the beneficiary and thus was not charged to the MOFI project (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
 - a recorded fairytale presenting in a vivid way the seal-fishery conflict (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
 - an educational “tool-box”, entitled “A Suitcase Full of Sea” that includes material for various educational activities (board games, slides, videos, etc) on the marine environment and the Mediterranean monk seal. This educational “tool-box” has been designed and produced as part of another project of the beneficiary and thus was not charged to the MOFI project.
 - a certificate of participation to the MOFI educational program (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
- For the secondary schools:
- a guide for both educators and students, on the basic principals of how to conduct an investigation/research on the local fishery and the seal-fishery interaction (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
 - a fisheries guide for both educators and students with information on the history of fisheries in different civilizations, the current state and problems of the fishery sector, the strong interrelation of fisheries with the status of the marine ecosystem. Each section of the guide provides additional sources of information as well as, proposes simple actions pupils can do towards protecting the marine environment (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s 2nd Progress Report in Annex E.2.).
 - a set of printed photographs depicting the characteristic fishing methods used in Greece (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).
 - a book entitled “*Monachus monachus: The Mediterranean monk seal*” presenting detail information on the history, biology, status and threats of the Mediterranean monk seal. This publication has been designed and printed as part of another project of the beneficiary and thus was not charged to the MOFI project.
 - an educational “tool-box”, entitled “A Suitcase Full of Sea” that includes material for various activities (board games, slides, videos, etc) on the marine environment and the Mediterranean monk seal. This educational “tool-box” has been designed and produced as part of another project of the beneficiary and thus was not charged to the MOFI project.
 - A certificate of participation to the MOFI educational program (this deliverable was forwarded to the DG Environment Life Unit officials in the MOFI’s Interim Report in Annex E.2.).

In the fall of 2006, the *in situ* implementation of the environmental education program was initiated at “hot spot” areas. In preparation for the educational expeditions, the project staff, in consultation and collaboration with the Regional Environmental Education Authorities of the Ministry of Education and the

local schoolmasters, visited all “hot spot” areas and selected the specific schools from each area that would participate in the program. In particular:

1. Alonnisos “hot spot” area (school year 2006-2007)

In Alonnisos both the primary and the secondary schools of the island participated in this action and conducted in full the respective educational programs. Taking into account their school curriculum and in consultation with the local schoolmasters and educators, 24 pupils from the primary and 19 students from the local secondary school, requested and participated in the educational activities.

In addition to the aforementioned educational activities of the program, and upon the request of both educators and students of Alonnisos, two additional activities were organised:

1. A workshop, held in the spring 2007, with a series of lectures on fisheries and the marine environment, with guest speakers:

- the curator of the Alonnisos Folklore Museum, who presented to the students the history of fisheries (i.e. traditional methods of fishing, legends, folklore, etc.) in Alonnisos.
- a children’s book author, who spoke about active citizenship and the significance of active participation in a community, providing to the students information on the right of citizens in the access of information, participation in the decision-making process, the role of legislation in the protection of the environment and citizens’ constitutional rights.
- MOFI’s educators, who made slide presentations on the marine biodiversity of the Aegean Sea, endangered and protected species, the status of the word marine environment and the effects of intensive and illegal fisheries worldwide.



Photo 26. Interactive workshop in Alonnisos
© MOm/I.Tsevi

2. An educational field trip for the Alonnisos students and educators to the National Marine Park of Zakynthos, in April 2007. The field trip was organised by the MOFI project’s educators in collaboration with the staff of the Management Body of the National Marine Park of Zakynthos and the Centre of Environmental Education of Zakynthos. The students through lectures and field trips within the protected area learned about the natural environment of Zakynthos island, the goal, the structure and operation of protected area and in working meetings with the students of Zakynthos exchanged experiences from their respective projects on seal and fisheries and their overall participation in the MOFI educational program. Part of the cost of this field trip was covered by the MOFI project.

At the end of the school year, an event was organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments. The MOFI’s staff present distributed to them commemorative certificates and small gifts (MOFI’s awareness material).

2. Zakynthos “hot spot” area (school year 2006-2007)

In Zakynthos, due to the considerable number of schools (41 primary and secondary schools) in the island and the large size of the student body, the project’s educator in close collaboration with the local schoolmasters and educators, carefully selected the schools that were invited to participate in this action based on their proximity to fishing communities and their willingness to have their pupils involved in this program. As a result, the primary (with 18 pupils) and the secondary (with 24 students) schools of Volimes, a village strongly depended on fisheries, the primary (with 18 pupils) school of Lithakia, a village in the vicinity of the National Marine



Photo 27. Zakynthos students receive their certificate for participating to the MOFI educational program © MOm

Park and one of the secondary (with 18 students) schools of the city of Zakynthos, agreed and participated in the program. All educational activities foreseen in the programs were conducted in the above schools of Zakynthos. At the end of the school year, an event was organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments and the MOFI’s staff distributed to them commemorative certificates and small gifts (MOFI’s awareness material).

3. Kalymnos “hot spot” area (school year 2007-2008)

In Kalymnos island, in dealing with the same issue, namely the considerable number of schools (17 primary and secondary schools) and the large size of the student body, the project’s educator in close collaboration with the local schoolmasters and educators, carefully selected the schools that were invited to participate in this action based on their proximity to fishing communities and their willingness to have their pupils involved in this program. As a result, 3 primary schools with 104 pupils (2nd and 6th primary schools of the fishing port of Pothia and the primary school of the coastal village of Argos) and 2 secondary schools with 33 students (1st technical high school and 2nd gymnasium of the city of Kalymnos), agreed and participated in the program.



Photo 28. “Playing” the fishermen in Kalymnos © MOM

All educational activities foreseen in the programs were conducted in the above schools of Kalymnos. At the end of the school year, an event was organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments and the MOFI’s staff distributed to them commemorative certificates and small gifts (MOFI’s awareness material).

4. Karpathos “hot spot” area (school year 2007-2008)

In Karpathos island, the MOFI’s educator, in consultation with the local schoolmasters and educators, selected schools that were either closely related to the island’s fishing communities or were quite interested to participate in the programme. As a result, the primary schools of the villages of Pyles and of Diafani (with a total of 14 pupils) and the secondary schools of the villages of Olympos and Aperi (with a total of 59 students) participated in the program. At the end of the school year, an event was organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments. The MOFI’s staff present distributed to them commemorative certificates and small gifts (MOFI’s awareness material).



Photo 29. Students of Kalymnos & Karpathos present their work on the MOFI project © MOM

5. Kimolos “hot spot” area (school year 2008-2009)

In Kimolos both the primary and the secondary schools of the island participated in this action and conducted in full the respective educational programs. Taking into account their school curriculum and in consultation with the local schoolmasters and educators, 17 pupils from the primary and 20 students from the local secondary school, requested and participated in the educational activities. At the end of the school year, an event was organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments. The MOFI’s staff present distributed to them commemorative certificates and small gifts (MOFI’s awareness material).



Photo 30. Participating in MOFI’s educational program in Kimolos © MOM

6. Chios “hot spot” area (school year 2008-2009)

In Chios, due to the extended size of the island, the considerable number of schools (40 primary and secondary schools) in the island and the large size of the student body (more than 3,000 students), the project’s educator in close collaboration with the local schoolmasters and educators, carefully selected the schools that were invited to participate in this action based on their proximity to fishing communities and their willingness to have their pupils involved in this program. As a result, the primary schools of the villages of Kataraktes and of Lithi (with a total of 40 pupils) and 4 secondary schools from the city of Chios agreed to participate in the program. However, in the initial phase of the program’s implementation, due to a strike of the local secondary school educators of the island, the students at these schools had to cancel their work assignments, thus only the primary schools completed the project. At the end of the school year, similar events were organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments. Due to other obligations of the MOFI’s staff during these dates, the commemorative certificates and small gifts (MOFI’s awareness material) were forwarded to the schoolmasters who distributed them to the students.



Photo 31. Participating in MOFI’s educational program in Chios © MOM

7. Kythira “hot spot” area (school year 2008-2009)

In Kythira island the primary schools of Chora and of Ag. Pelagia (with a total of 38 pupils) participated in this action and conducted in full the respective educational programs. The single secondary school of the island had already implemented an environmental education program in relation to the marine environment the previous school and had already chosen another environmental issue to work on during the school year. At the end of the school year, similar events were organised within the schools, where in the presence of their parents, educators and local citizens, the pupils presented their work assignments. Due to other obligations of the MOFI’s staff during these dates, the commemorative certificates and small gifts (MOFI’s awareness material) were forwarded to the schoolmasters who distributed them to the students.



Photo 32. Students of Kythira present their work for the MOFI project © MOM

In evaluating the overall implementation of MOFI’s environmental educational program, a clear achievement is that program was conducted with success in all the “hot spot” areas. Indeed, within the 3 years of implementation of the educational program, 21 different schools participated and a total of 446 pupils, guided by their local educators, actively and with great interest, motivation and creativity worked in the program. Lastly, it is of interest to note that the local educators, whose active contribution was seminal for the implementation of the program, in communication with the MOFI educator at the end of each year, evaluated the MOFI’s educational program concept, operational rationale, educational activities and especially the educational tools quite favourably.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 64.922€. The actual cost of this action was in accordance (just 7,36% more) with the original budget estimate (60.143€) in the project proposal.

E.3. Dissemination of results among the project's stakeholders and the scientific community

Foreseen start - end: 04/06 –06/09, Actual start - end: 12/05 - 06/09

Considering that the dissemination of information to all relevant authorities and stakeholders at the local, regional and national level was of seminal importance for the unimpeded implementation of the project, the MOFI's staff throughout the duration of the project and at every opportunity or meeting conducted in the context of other project actions, provided to them updates on the project's progress and results.

Furthermore, in view of the fact that at the initiation of the MOFI project the Mediterranean monk seal and fisheries conflict was not a well documented environmental issue and relatively unknown within the national and international scientific and conservation community, the project management team decided to initiate this action earlier than originally planned, in order to take advantage of the major relevant international conferences and introduce and publicize the MOFI project (rationale, activities, methodological approach, expected results and progress) to as wide as possible European and international scientific and conservation audience.

During the project period, the project's personnel attended 14 International and 4 National Conferences/Events, and presented the MOFI project's rationale, activities and results and various seal-fishery related issues (see Annex E.3. for a detail list of the conferences attended). It should be noted that travel expenses from only 8 of the 18 conferences attended have been covered by the MOFI project (either fully or partially), while the rest have been covered by other sources of the beneficiary or by the organisers. In all conferences attended, MOFI awareness material was distributed to the participants, the MOFI website was publicised and effort was invested to collect contact information of the participants, in order to enlarge the MOFI's mailing list, and keep interested scientists and stakeholders informed of the project's developments, through the MOFI newsletter.

The conferences attended, especially the ones charged to the project, were carefully selected by the project management team, based on their relevant importance with regards to the issue of seal-fishery interactions and in parallel aiming at informing the maximum number of attendees from the specific target groups (i.e. scientists, conservationists, stakeholders). In relevance to the abovementioned conferences, the following summary information may be of interest:

- *16th Biennial Conference on the Biology of Marine Mammals, 12-16 December 2005, San Diego, USA*
Being the largest and most influential international conference on marine mammals with more than 2000 participants from around the world, it was considered as a unique opportunity to introduce in this conference the MOFI project to the scientific and conservation communities. MOFI's Head of Field Research attended the Conference and presented during the "Video Night", one of the most popular sessions with an audience of more than 600, scenes related to the monk seal and to fisheries and introduced through an oral presentation the MOFI project. In addition, he had the opportunity to discuss in detail with numerous participants from throughout the world the project's methodology and to exchange views and experiences in dealing with the seal-fisheries issue. Travel expenses for this Conference were covered by the MOFI project budget.
- *34th Annual Symposium of the European Association of Aquatic Mammals, 17-20 March 2006, Riccione, Italy*
Being one of the two most influential Conferences on marine mammal research and conservation at the European level with more than 500 participants, it was considered as a key opportunity to introduce the MOFI project to the European scientific and conservation community. MOFI's Seal Rescue Specialist, who attended the conference, gave an oral presentation on "*Rescuing Mediterranean Monk Seals in Greece: mitigating the seals - fisheries conflict*", with specific emphasis on the MOFI project (see Annex E.3. for a printout of the oral presentation). Travel expenses for this Symposium were covered by the MOFI project budget.

- *20th Annual Conference of the European Cetacean Society “Marine Mammals and Man in Coastal Ecosystems: Can They Co-exist?”, 31 March-6 April 2006, Gdynia, Poland*

Being the other most influential Conference on marine mammal research and conservation at the European level with more than 1000 participants, it was considered that by participating to this as well, the MOFI project would have been presented to the widest possible European audience. MOFI’s Seal Rescue Staff/Veterinary Assistant, attended the conference and gave a poster presentation on “*Investigating the Causes of Death in Monk Seals, Stranded in Coastal Greece (1986-2005)*”, giving specific emphasis on the MOFI project and the activities implemented aiming at reducing mortality in the species. (see Annex E.3. for a print copy of the poster presentation). Travel expenses for this Conference were covered by the MOFI project budget.

- *Green Week 2006: Biodiversity is Life, 30 May-2 April 2006, Brussels, Belgium*

MOM accepted the invitation of the European Commission, Directorate General for the Environment and participated in the largest annual environmental event organised in Brussels with more than 3500 conservationists from throughout Europe. In its kiosk MOM presented the MOFI project, among with other past conservation initiatives supported by the LIFE financial instrument. Throughout the event, MOFI’s Project Leader and Policy Officer presented using visual and printed material the MOFI rationale, activities, methodological approach, expected results and up to date progress (see Annex E.3. for characteristic photographs from the event). Travel expenses for this event were not covered by the MOFI project budget.



Photo 33. Presenting the MOFI project to the Commissioner for the Environment in Green Week event © MOM

- *10th International Congress on the Zoogeography and Ecology of Greece and Adjacent Regions, 26-30 June 2006, Patra, Greece*

MOFI’s staff and in particular the project’s Head of Field Research and the Seal Biologist participated in the 10th International Congress on the Zoogeography and Ecology of Greece and Adjacent Regions, organised by the Hellenic Zoological Society. In the Congress, attended by 200 scientists, the project’s staff presented in a poster format 2 issues relevant to the seal-fishery interaction, entitled “*Diving development and behaviour of a rehabilitated Mediterranean monk seal*” and “*Mediterranean monk seal and fishery interactions in the National Marine Park of Alonnisos, Northern Sporades*” (see Annex E.3. for print copies of the poster presentations). In parallel to the meeting, the project staff had the opportunity to have a working meeting with the Regional Fishery Service and discuss issues relevant to the MOFI project. Travel expenses for this congress were not covered by the MOFI project budget.

- *European Workshop on the Development of Good Practice Guidelines for the Cleaning and Rehabilitation of Wildlife, 21-23 October 2006, Albufeira, Portugal*

MOM was invited to participate in this European technical workshop, organised by the Zoomarine (Mundo Aquatico SA), the Sea Alarm Foundation, the International Fund for Animal Welfare (IFAW) and the Instituto Ricerca Scientifica e Technologica Applicata al Mare (ICRAM) in the context of the EU DG Environment Grant No 07.030900/3005/429215/SUB/A5. MOFI’s Seal Biologist participated in the workshop and had the opportunity to present to the 50 participants the MOFI project and its progress. Travel expenses for this workshop were not covered by the MOFI project budget.

- *21st European Conference for ESRI Users, 6-8 November, Athens, Greece*

MOM was invited to participate in this European Conference, organised by Marathon Systems, that was attended by 500 participants. The project’s Fisheries Field Researcher presented, through an oral talk entitled “*A GIS-based approach to the Conservation of the Mediterranean Monk seal *Monachus monachus* in Greece*”, the application of GIS technology in conservation projects and especially the use of this technology in the MOFI project in selecting the “hot spot” areas and in developing the Monk

Seal National Data Centre (see Annex E.3. for a printout of the oral presentation). Travel expenses for this workshop were not covered by the MOFI project budget.

- *International Conference “Integrated Management of Coastal Regions: from theory to participative actions for a sustainable future”, 23-24 November 2006, Athens, Greece*

MOm was invited to participate in this International Conference, organised by the Mediterranean SOS Network and the Coastal Practice Network (CoPraNet), which was attended by 350 participants. The project’s Scientific Coordinator presented, through an oral talk entitled “*Seal-Fisheries Interaction: Mitigating the Conflict in Greek Seas*”, the MOFI project’s rationale, activities, expected results and up to date results (see Annex E.3. for a printout of the oral presentation). Travel expenses for this workshop were not covered by the MOFI project budget.



Photo 34: Presenting MOFI in an International Conference. Athens, 11/2006 © MOm

- *2nd European Wildlife Disease Association Student Workshop “Wildlife conservation and the Threat of Infectious Diseases” 26-29/4/2007, Sithonia, Greece*

MOm was invited to participate in this European technical workshop, organised by the European Wildlife Disease Association, which was attended by 80 conservationists and wildlife veterinarians. MOFI’s Scientific Coordinator participated in the workshop and, through an oral talk entitled “*Formulating and Implementing a Conservation Strategy for a Critically Endangered Species: The Case of the Mediterranean Monk Seal in Greece*”, presented the Strategy and efforts for the conservation of the monk seal in Greece, including the MOFI project’s rationale, activities, expected results and up to date progress (see Annex E.3. for a printout of the oral presentation). Travel expenses for this workshop were not covered by the MOFI project budget.

- *National Workshop: “Effect of Aquacultures on the Marine Environment and adaptation of environmental parameters within production”, 27 April 2007, Athens, Greece*

MOm was invited to participate in this stakeholder workshop, organised by the Department of Biology of the University of Crete, which was attended by 60 participants representing various fishery related stakeholders. MOFI’s Scientific Coordinator participated and presented the MOFI project’s rationale, activities, expected results and up to date results. Travel expenses for this workshop were not covered by the MOFI project budget.

- *Lecture Series on Environment and Technology, 18 May 2007, Athens, Greece*

MOm was invited to participate, as a guest speaker, in this Technical Lecture Series, organised by OTM Ltd - Consulting Engineering Company, which was attended by 50 participants. The project’s Fisheries Field Researcher presented, through an oral talk entitled “*A GIS-based approach to the Conservation of the Mediterranean Monk seal *Monachus monachus* in Greece*”, the application of GIS technology in monk seal conservation projects and especially the use of this technology in the MOFI project in selecting the “hot spot” areas and in developing the Monk Seal National Data Centre. Travel expenses for this event were not covered by the MOFI project budget.

- *European Stakeholder Workshop “The Future of European Fisheries and Aquaculture Research”, 26 June 2007, Haarlem, Holland*

MOm was invited to participate in this European stakeholder workshop, organised in the context of “The Future of European Fisheries and Aquaculture Research” project funded under the 6th Framework Program of the EU. Considering that the aim of the FEUFAR project is to outline key challenges, strategic options and the research needs of fisheries and aquaculture in European waters, MOFI’s Seal Biologist participated and presented to the 25 participants the MOFI project and discussed the need for complementarity between research and conservation initiatives. Travel expenses for this workshop were covered by the MOFI project budget.

- *23rd Annual Seminars of Syros, 5-6 July 2007, Syros, Greece*
MOM accepted an invitation to participate in a workshop entitled “On the Way to Sustainability: The Contribution of Environmental Education”, organised by the National Research Foundation and the Scientific and Educational Foundation of Cyclades in the context of the 23rd Annual Seminars of Syros. Considering that the 20 participants to the workshop were mainly educators from various parts of the country, including some of the project’s “hot spot” areas, MOFI’s Environmental Educator in an oral presentation entitled “*Pilot Environmental Education Project on Fisheries*” gave a detail account of the MOFI’s environmental education activities and up to date results (see Annex E.3. for a printout of the oral presentation). Travel expenses for this seminar were partially covered by the MOFI project budget, while the rest by the organisers.
- *5th International Symposium on Wild Fauna, 22-27 September 2008, Chalkidiki, Greece*
The project staff participated in the 5th International Symposium on Wild Fauna organized by Wildlife Animals Vigilance Euromediterranean Society (WAVES Hellas), which was attended by 120 wildlife scientists and conservationists. MOFI’s Seal Biologist attended the conference and presented the MOFI short documentary and the up to date progress and results of the project. Travel expenses for this conference were not covered by the MOFI project budget.
- *13th Hellenic Ichthyologist Conference, 27-30 September 2007, Lesvos, Greece*
The project staff participated in the 13th National Ichthyologist Conference organized by the Pan-Hellenic Society of Ichthyologists and supported by the Department of Marine Sciences (University of the Aegean), the Ministry of Rural Development and Food, the Local Government of Lesvos, the Municipality of Lesvos and the Geotechnical Chamber of Greece. Being the largest fisheries science meeting in Greece with an attendance of approximately 200 participants, the MOFI Fisheries Field Researcher in a poster presentation entitled “*Mediterranean monk seals and coastal fisheries: dealing with the conflict in Greek seas*” described the project’s up to date activities and results (see Annex E.3. for a copy of the poster). Travel expenses for this conference were not covered by the MOFI project budget.
- *17th World Marine Mammal Science Conference, 29th November-3 December 2007, Cape Town, South Africa*

Being the largest and most influential international conference on marine mammals with close to 2000 participants from around the world, it was considered as a unique opportunity to present in this conference the MOFI project progress and up to date results to the scientific and conservation communities. MOFI’s Seal Researcher attended the Conference and presented during the “Video Night”, one of the most popular sessions with an audience of more than 500, scenes related to the monk seal and to fisheries and presented the MOFI project short documentary. In addition, MOM in an exhibition booth within the congress, rented and covered financially by MOM and not charged to the MOFI project, presented the MOFI project activities and displayed to the participants the project’s awareness material. There, the project representative had the opportunity to discuss in detail with numerous participants the MOFI project and to exchange views and experiences on dealing with the seal-fisheries issue (see Annex E.3. for characteristic photographs from the conference). It should be noted that the participation to this conference, which was held outside of the EU, was foreseen in the original proposal and, following a specific written request by the beneficiary, was further approved by the EU LIFE Unit. Travel expenses for this Conference were covered by the MOFI project budget.



Photo 35. Informing the participants of the conference on the MOFI project’s goal
©MOM/P.Dendrinou

- *LIFE NATURE thematic conference “Protecting Europe’s Nature: Learning from LIFE” 17-19th November 2008, Brussels Belgium*

In November 2008 the LIFE unit organized the conference with the aim to present and systematize the knowledge and know how gained throughout the implementation of LIFE projects. In a series of eight workshops, attended by more than 200 delegates, focusing on habitats (forest, marine, river and grasslands) as well as on climate change, invasive and alien species, species conservation and international co operation, participants discussed “best practice” approaches to practical and policy based actions. MOFI’s Project Leader, was invited to present the goals, main activities, up do date results and problems faced regarding all LIFE projects that MOm has implemented including the MOFI project (see Annex E.3. for a printout of the oral presentation). This first LIFE Nature ‘best practice’ conference was an excellent opportunity to exchange opinions with other LIFE beneficiaries and policy makers. Travel expenses for this Conference were partially covered by the MOFI project budget while the rest were covered by the organisers.



Photo 36. Presenting the MOFI & the previous LIFE projects in Brussels, November 2008 ©MOm

- *23rd Annual Conference of the European Cetacean Society, 2-4 March 2009, Istanbul, Turkey*
Being one of the key scientific meetings at the European level with more than 1000 participants from throughout Europe, it was considered that this conference organised by the major European marine mammal scientific society, despite the fact that was held in Turkey, was the appropriate venue to present the new findings on the diet of the Mediterranean monk seal, a key result of the MOFI project. Thus, the MOFI’s Seal Biologist attended the conference and in collaboration with the University of Aberdeen scientists, presented an oral talk entitled “Diet of Mediterranean monk seals *Monachus monachus*”. That included the results of the monk seal diet study conducted in the context of the MOFI project. (see Annex E.3. for a printout of the oral presentation). In parallel he participated to a technical workshop on the Mediterranean monk seal organised as part of the conference, where he had the opportunity to exchange experiences with monk seal scientists and conservationists from throughout Europe. Travel expenses for this Conference were covered by the MOFI project budget.

Overall, in assessing the effectiveness of these actions it is of interest to note that through the activities conducted, the project team has achieved the original plan, namely to attend at least 8 national and international conferences and events during the project in order to disseminate information on the project, its activities and results. In fact, the MOFI project was been presented in 18 international and national conferences and meetings and to approximately 12000 participants (scientists, conservationists, stakeholders, policy makers, educators, local, regional and national authorities and journalists), surpassing the initial expected results. In addition to the above, during the project period, the project’s staff in the effort to disseminate information and results, in relevance to the monk seal-fisheries interaction and the MOFI project, have prepared and published the following scientific articles in refereed scientific journals:

- Dendrinos, P., Adamantopoulou, S. Androukaki, E., Chatzisprou, A., Karamanlidis, A.A., Paravas, V., Tounta, E. Kotomatas, S. 2007. *Mediterranean Monk Seal, Monachus monachus, and Fisheries: Conserving Biodiversity and Mitigating a Conflict in Hellenic Seas*. pp 287-293. In State of Hellenic Fisheries. C. Papaconstantinou, A. Zenetos, V. Vassilopoulou, G. Tsepres (editors), published by the Hellenic Centre for Marine Research, 466 pp. (see Annex E.3. for a print copy of the publication)
- A. Karamanlidis, E. Androukaki, S. Adamantopoulou, A. Chatzisprou, W.M. Johnson, S. Kotomatas, A. Papadopoulos, V. Paravas, G. Paximadis, R. Pires, E. Tounta, P. Dendrinos. 2008. *Assessing accidental entanglement as a threat to the Mediterranean monk seal Monachus Monachus*. Endangered Species Research Volume 5 (2 & 3): 205-213. (see Annex E.3. for a print copy of the publication)

It should be mentioned that in both publications, there is appropriate reference to the contribution of the LIFE financial instrument and the EU support of the MOFI project in the relevant work reported.

In the context of this action, a last but of key importance event aiming at disseminating the overall results of the MOFI project, was the public meeting which was held in Athens on the 15th of June 2009 and was co-organised by MOM and WWF Greece. Invitations were for the meeting were forwarded to more than 200 recipients and specifically to all relevant governments authorities, to the key stakeholders, including the National Fishermen's Association, all coastal professional fishery regional associations and the aquaculture associations, to fishery scientists from various academic institutions and research institutes, policy makers, representatives of environmental non governmental organisations and the members of the press (electronic and press). During the meeting, which was attended by approximately 50 delegates (to whom travel and subsistence expenses were covered), the MOFI's staff presented all the project activities and the results achieved, giving special emphasis in presenting in detail the two key outputs of the project, namely the **National Strategy for the Conservation of the Mediterranean Monk Seal in Greece** and the **Action Plan to Mitigate the Seal-Fisheries Interaction** (see Annex E.3. for a printout of the presentation).



Photo 37. The Public Meeting for the presentation of the Action Plan and the new Strategy ©MOM

Following the presentations an open public discussion was held providing the opportunity to the participants to comment on the project and express their views in the proposed Strategy and Action Plan. It should be mentioned that most of the participants, including the fishermen's representatives, commented quite favourable on the project and its achievements, while they considered the proposals included in the two key outputs as realistic, concrete and feasible. Characteristic was the statement of the Sub-Minister of Rural Development and Foods, Mr K. Kiltidis, who attended the meeting: "I am pleased to see that through the MOFI project, the project executants dare to tackle a problem that has remained unsolved for decades and bring a proposal with concrete results and definite directions for its solution". All project outputs and the awareness material produced for the MOFI project was distributed to the participants of the event.



Photo 38. The Sub-minister of Rural Development and Food, participating in MOFI's Public Meeting

Furthermore, the key results of the MOFI project were compiled in a Layman's Report, in printed and electronic format, (see Annex E.3. for a copy of the Layman's Report in Greek and English) that will be forwarded to the European Commission and to the national authorities and will be distributed to approximately 2000 interested bodies and individuals. All awareness material, outputs and reports of the MOFI project are fully available in the project's website (www.mofi.gr) so as to accommodate the dissemination of the information for the project.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 58.295€. The actual cost of this action was in accordance (just 0,47% more) with the original budget estimate (58.023€) in the project proposal.

F. OVERALL PROJECT OPERATION AND MONITORING

F.1. Financial monitoring and evaluation of the project

Foreseen start - end: 07/05 –06/09, Actual start - end: 07/05 - 06/09

In order to achieve the objective of this action, namely the accurate, timely and effective financial management of the MOFI project, the project management team, in collaboration with the accountant, at the initiation of the project, developed the necessary internal financial management tools and procedures. Thus, taking into account the plan of activities, the original project budget and the seasonal financial parameters (i.e. cash flow), the management team developed yearly, quarterly and monthly budgets of the project's expenses. These were the key financial monitoring tools used by the project management team to evaluate on a monthly basis the financial progress of the project, and to have an accurate and up to date view of the budgeted versus actual expenses. At the end of each "project year", the yearly, quarterly and monthly budgets were updated, while throughout the project period, when necessary, appropriate adjustments were made, in order to ensure the effective financial operation of the project. During the project, all relevant invoices of the expenses incurred for the project were collected at MOM's offices, were entered into the beneficiary's accounting system by an external assistant, and were validated by the project's Accountant according to the national legislation and accounting rules and the Common Provisions of the LIFE Programme. At monthly working meetings, the Accountant presented a monthly financial statement to the Project Leader, who reviewed that all expenditures conducted were in relevance to the project, followed the budget and then were approved. Following this procedure, at the end of each "project year", annual financial statements of the project were produced and upon evaluation by the Project Leader were similarly approved.

In addition, MOM, in order to ensure an independent audit of the project's financial management, at the initiation of the project and at the beginning of each financial year, renewed its contract with the "Associated Certified Public Accountants S.A. (SOL)", a team of independent auditors, well experienced in monitoring similar projects. SOL monitored and evaluated all financial aspects of the project, and certified all relative financial statements according to national legislation and accounting rules, as well as, according to the LIFE Standard Agreement & Common Provisions. The Auditors' Report, prepared in accordance to the standard LIFE Audit Report, is included in the Final Financial Report of the project, which is forwarded to the European Commission.

Lastly, it should be noted that in response to a request by the European Commission for a field visit of EU LIFE Unit officials in Chios, a "hot spot" area of the MOFI project on the 9th and 10th of June 2008, a working meeting was held between the project staff and EU officials to review the financial management of the project. During the meeting, the financial management procedures applied by the beneficiary and all relevant documentation (invoices, internal financial management procedures and rules, contracts between the beneficiary and the project partners and subcontractors, etc.) were presented. In addition, the necessary information and clarifications were provided to all questions posed by the Committee officials, which conducted the financial control. The minor modifications suggested by the Commission's officials in relevance to the recording of the project expenses aiming at improving the clarity of the financial reports of the project, were noted and were since adopted in the standard procedures of the MOFI project's financial data recording.



Photo 39. Meeting on project's financial issues in Chios ©MOM/V.Paravas

In evaluating the effectiveness of this action, in terms of ensuring the sound financial management of the project and in parallel ensuring the timely and unimpeded implementation of all the project actions, it is

evident that it has achieved both objectives. Key parameters in concluding the above is the fact that all relevant to the project costs incurred were paid in full and in a timely fashion, throughout the project period there was close agreement between anticipated and actual budgets, all financial agreements between the beneficiary and the project partners and subcontractors were fully honored and all financial reports were produced on time, in accordance to the LIFE Standard Agreement & Common Provisions and were approved by the external auditors.

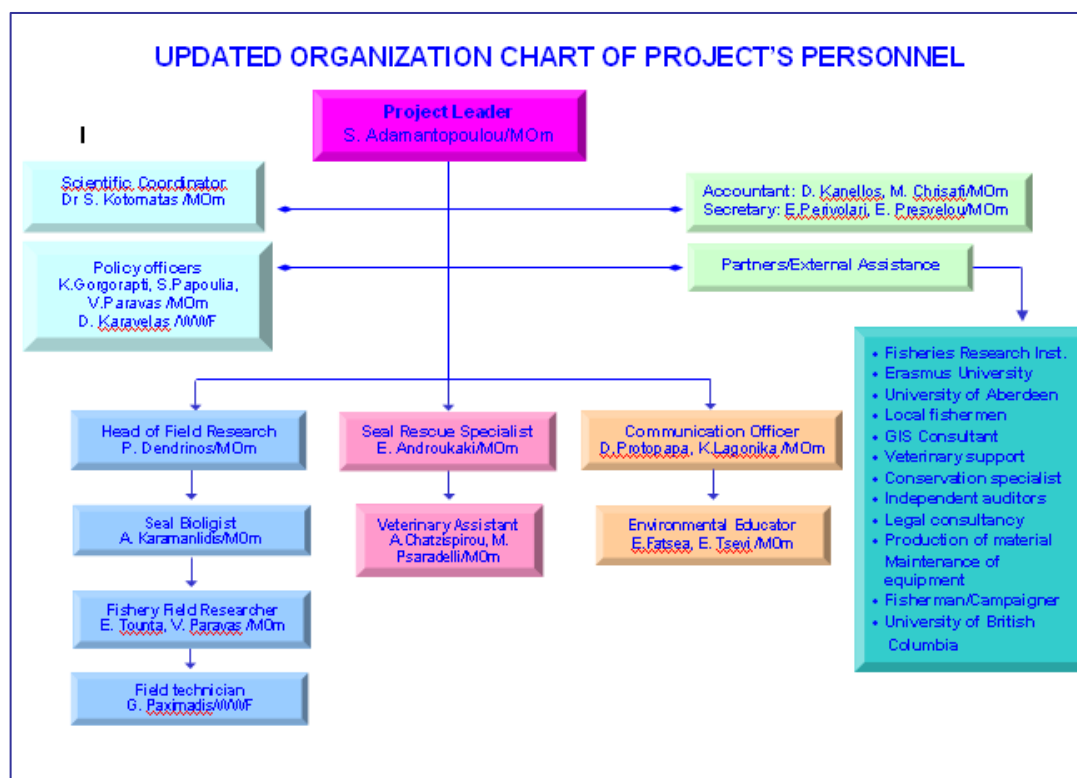
Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 139.710€. The actual cost of this action was in accordance (just 5,52% more) with the original budget estimate (132.004€) in the project proposal.

F.2. Overall management of the project

Foreseen start - end: 07/05 –06/09, Actual start - end: 07/05 - 06/09

At the initiation of the project, in July 2005, the beneficiary’s Board of Directors assigned the overall management of the MOFI project to a team of senior staff members, and specifically to Stella Adamantopoulou, MOM’s Coordinator of *in situ* conservation activities, who was assigned the role of the Project’s Leader, assisted by Dr. Spyros Kotomatas, MOM’s Scientific Coordinator, and Panayiotis Dendrinis, MOM’s Head of Field Research. All shared long experience in conservation work and they were involved in the management and implementation of several previous LIFE-Nature projects. Following the establishment of the management team, the project’s detailed organigram of all the project’s staff and of its duties was elaborated and completed as planned in October 2005 and was updated whenever necessary. The following Figure 2 presents the project’s organigram with all personnel involved, including changes that occurred during the project’s duration in specific positions.

Figure 3: Updated organigram of MOFI project’s personnel



The project’s management team within the first months of the project prepared and finalised all necessary contractual agreements between the beneficiary and the project’s partners and key subcontractors. The management team, in collaboration with the project partners and key subcontractors, developed an overall yearly plan of activities, that described the time plan of all actions, the personnel involved in each one, the outputs and milestones of each action, the expected results and the specific indicators to be recorded so as to evaluate their effectiveness. In addition, operational annual and periodic budgets were prepared (see Action F.1), that allowed the management team to monitor and manage the financial aspects of the project.

Throughout the project period, the project’s management team conducted regular monthly meetings during which the progress of the project was evaluated. All activities, outcomes and milestones were monitored in terms of their adherence to the annual plan. Problems were discussed and solutions were examined and decided. Furthermore, in June 2006, June 2007 and June 2008, as scheduled, annual project evaluation meetings were held, with the participation of all the project staff including WWF-Greece and Fisheries Research Institute representatives. During these meetings, the progress of all project’s activities was examined, using the existing set of indicators and based on the up to date achieved results, outputs and milestones. These meetings gave the opportunity to the project staff to exchange experiences from the project’s up to date implementation and ideas on the work scheduled to be conducted. Following these meetings, the project’s management team revised, if necessary, and finalised the plan of activities and annual budget for each coming year.

With regards to the reporting of the project, the project management team coordinated the preparation of all project reports that were forwarded to the European Commission as planned (see Table 8).

Table 8: MOFI Project Reports

Project Reports	Foreseen Delivery Deadline	Actual Delivery Date
1 st Progress Report	07/2006	30/07/2006
Interim Technical and Financial Report	07/2007	30/07/2007
2 nd Progress Report	07/2008	18/07/2008
Final Technical and Financial Report	07/2009	20/07/2009
Layman’s Report	07/2009	20/07/2009

It should be mentioned, that all technical reports, written in English, were translated in Greek and were forwarded to the Steering Committee members, to other relevant national authorities and key stakeholders, to the project partners and to the project co-financers, and were placed in the project’s web-site to make them easily accessible to the general public. Furthermore, the project’s management team, throughout the project period, and especially following the evaluation of the above mentioned reports, responded promptly and in writing to any comments or clarification requested by the DG Environment LIFE Unit officials.

With regards to the project’s outputs and milestones it should be mentioned that all 48 foreseen outputs were produced and key milestones were achieved during the project period (see Annex F.2. for a complete list of the MOFI project deliverable outputs and milestones presenting also the actual dates of delivery). In addition, 5 more outputs, that the project management team considered necessary, were produced (without affecting the overall budget of the project).

Table 9: MOFI Project Deliverable Products and Milestones not originally planned

Deliverable or Milestone not originally planned			
RINT Layman’s Report	D.1.	-	30/06/2007
Report of the Evaluation of the Past Strategy and of the Elaboration of the new National Strategy	A.3.	-	15/04/2009
National Strategy for the Conservation of the Mediterranean Monk Seal in Greece, 2009-2015	A.3.		20/06/2009
Action Plan for the Mitigation of the Seal-Fishery Interaction	A.2.	-	20/06/2009
Report of the MOFI Project’s Rescue Operations	D.2.	-	30/06/2009

From the foreseen outputs/milestones, the majority was either produced earlier or on time (52%) or was completed with a minor delay (25%) of less than 2 months. The remaining 23%, completed with some delay, where mostly specific awareness and dissemination tools that additional time was necessary for the collection of material for their design and production.

In the context of the overall management of the project the following additional activities were conducted during this project period:

- Regular working meetings were held at MOM’s offices with Mrs. K. Raftopoulou, representative of Astrale GEIE – Prospect C&S, the External Monitoring Team of the European Commission’s Directorate General for the Environment, assigned to the MOFI project, in order to monitor its progress.
- The project’s progress was presented to DG Environment’s and DG Fisheries officials during the Project Leader’s and the Policy Officer’s visit in Brussels, in parallel to the Green Week event, in June 2006.
- the project management team, in June 2006, accompanied Mrs. Raftopoulou, in a visit to the National Marine Park of Alonnisos Northern Sporades, a key “hot spot” area. During the mission, the project’s management team and the MOFI field personnel guided Mrs. Raftopoulou to various sites within the Park and presented in detail the up to date activities and results of the project.
- In June 2007, the President of the Hellenic Democracy, Mr Karolos Papoulias, accompanied by the Minister of Aegean, the Head of the Prefecture of the Dodecanese, members of the Greek Parliament and local stakeholders visited the Northern Karpathos “hot spot” area. MOFI’s Project Leader was requested by the President’s office to guide the President in the area. During the visit, Mrs. Adamantopoulou had the opportunity to inform the President and the other officials about the natural environment of this “hot spot”, its conservation requirements and the past and current conservation initiatives (including previous LIFE projects) and to present in some detail the effort to mitigate the seal-fishery interaction through the MOFI project.



Photo 40: Astrale representative visiting the Alonnisos Marine Park “hot spot” ©MOM/P. Dendrinios



Photo 41: Astrale representative visiting the Kimolos “hot spot” ©MOM/S. Adamantopoulou



Photo 42. Informing the President of the Hellenic Democracy in Karpathos ©MOM

- The Project Leader, in July 2007, accompanied Mrs. Raftopoulou, in a visit to the Kimolos “hot spot” area. During the mission, the MOFI team, including WWF Hellas and the Fisheries Research Institute researchers, informed in detail Mrs. Raftopoulou on the progress of all project activities, who also had the opportunity to see the field team’s activities in measuring the actual intensity of the seal-fishery interaction on the local fishing boats in close collaboration with local fishermen.
- In September 2007, representatives of IFAW, a co-financer of the MOFI project, visited the Karpathos “hot spot” area. MOFI’s staff, who were on site conducting awareness activities, had the opportunity to inform IFAW’s representatives on the progress of the project. In addition, in collaboration with the Karpathos-Saria Management Body’s personnel, they guided the IFAW representatives to the protected area using the vessel “SARIA”, which was constructed by MOM during a previous LIFE-Nature project, and currently used by to the Management Body in conservation activities of this “hot spot” area.
- In February 2008, Mrs. Raftopoulou, was invited and visited the Alonnisos “hot spot” area during the release of the pup “Victoria” that was treated at MOM’s Seal Treatment and Rehabilitation Centre. During the visit the progress of the project and especially of the rescue activities were presented and discussed.
- in June 2008, the DG Environment’s LIFE Unit officials, Mr Tsalas, Technical Desk Officer, and Mrs Chatzilabou, Financial Desk Officer, accompanied by Mrs. Raftopoulou/ Astrale GEIE, the MOFI project’s management team and representatives of WWF Hellas and of the Fisheries Research Institute, visited the Chios “hot spot” area. During the mission, the project’s management team, presented and discussed in detail the up to date technical progress of the project. Furthermore during the mission, the EU officials had the opportunity to observe in the field the project team to conduct interviews with local fishermen in the ports of Chios and to conduct the Rescue Seminar to the key stakeholders of the Chios “hot spot” area.



Photo 43. Presenting MOFI’s progress to the DG Environment’s LIFE Unit officials
©MOM/V. Paravas

In evaluating the effectiveness of this action, it should be noted that the establishment of an experienced project management team and the development of the proper project management tools and procedures (contractual agreements, detailed and concise plan of actions, annual evaluation meetings, monthly progress assessment meetings, etc.) proved extremely useful in the effective management of a quite demanding (numerous and diverse activities, extended geographic coverage, several partners and subcontractors, personnel with variable specialities, numerous external factors influencing the activities) project. In assessing the overall implementation of the project, its overall management is considered quite successful since:

- ✓ all partners, subcontractors and personnel performed their tasks effectively, in a coordinated and harmonious manner
- ✓ all project actions were conducted as planned (see Annex F.2. for a sample of characteristic photographs, in electronic format, from all the project actions, as well as, a video presentation of these images)
- ✓ the obstacles encountered were dealt and overcome efficiently without affecting the goal or the activities of the project
- ✓ the foreseen outputs were produced and the key milestones were met in a relative timely schedule and in the context of each action the actual results achieved in several occasions surpassed the expected.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 157.623€. The actual cost of this action was in accordance (just 0,98% more) with the original budget estimate (156.085€) in the project proposal.

F.3. Establishment of a Steering Committee for evaluating the project’s progress

Foreseen start - end: 10/05 –06/09, Actual start - end: 10/05 - 06/09

During the project period, MOm, in collaboration with WWF-Greece, established the project’s Steering Committee. The Steering Committee’s role was to:

- evaluate the project’s progress, in terms of the expected results, based on the predefined indicators and the specific outcomes
- assess the achievement of the project’s milestones and the quality and impact of the project’s deliverable products
- identify possible unexpected constraints that may impede specific activities and propose alternative solutions to overcome these obstacles, and
- provide guidelines on the strategic development of the project with emphasis on the elaboration of the Action Plan to mitigate the seal-fishery interaction.

This was planned to be achieved through annual meetings of the Steering Committee. It was originally foreseen that the members of the Steering Committee would be representatives of: MOm, WWF-Greece, the Fisheries Research Institute, the key authorities and stakeholders relevant to the seal-fisheries interaction (the Ministry of Rural Development and Foods, the Ministry of Environment, the National Association of Coastal Fishermen), the European Commission and, when appropriate, selected experts in the fields of fisheries and marine mammal conservation. However, it was considered appropriate to also invite in the Committee representatives from the Ministry of Mercantile Marine (Port Police & Marine Conservation Divisions), as it is the competent authority in the enforcement of fisheries and marine legislation. During the initiation of this action, the project’s management team conducted a series of meetings with the relevant bodies in order to present the role of the Steering Committee and invite them to participate. Apart from the meetings, throughout the project period, all project outputs and reports prepared (awareness material, news-releases, newsletter, etc.) were forwarded to the Steering Committee members so as to keep them fully informed on the project’s progress and results.

The 1st meeting of the Steering Committee was held, as originally planned, on the 25/11/2005 at MOm headquarters in Athens, with the participation of the following stakeholders’ representatives: Ministry of Rural Development and Foods (Mrs. M. Tsouvala and Mrs. E. Papachristou), Ministry of Mercantile Marine (Mrs. A. Schina), Ministry of Environment (Mrs. C. Andrikopoulou and Mr. S. Chrisochoos), Fisheries Research Institute (Mr. A. Kallianiotis and Mr. T. Papadopoulos), WWF-Greece (Mr. D. Karavellas), as well as, MOm’s MOFI Management Team. The representatives of the National Association of Fishermen and of Astrale, GEIE/Prospect C&S (the external LIFE-Nature monitoring team) were not able to attend due to other commitments. During the meeting, the project objectives, rational and activities were presented in detail (see Annex F.3.). The Committee members expressed their support to the aims and activities of the project and pointed out the importance of keeping stakeholders on the local, regional and national level continuously informed on the progress of the project. A detail account of the topics discussed and the views expressed can be found in the minutes of the 1st Steering Committee meeting (see Annex F.3.)



Photo 44: The 1st meeting of the Steering Committee ©MOm/E. Perivolari

The 2nd meeting of the Steering Committee was also held as planned, on the 04/06/2007 at MOm headquarters in Athens, with the participation of the following stakeholders’ representatives: Ministry of Rural Development and Foods (Mrs. M. Tsouvala), Ministry of Mercantile Marine (Mrs. A. Schina and Mrs Vlandou), Ministry of Environment (Mr. S. Chrisochoos), Fisheries Research Institute (Mr. A. Kallianiotis), Astrale GEIE/Prospect C&S (Mrs K. Raftopoulou), WWF-Greece (Mr. G. Paximadis), as well as, MOm’s MOFI Management Team. The representative of the Kalymnos Fishermen Association

who had planned to participate at the last moment was not able to attend due to unexpected commitments. During the meeting, the up to date progress of the project’s activities was presented in detail, as well as, the plans for the next reporting period (see Annex F.3.). The Committee members participated actively in the discussion and expressed their satisfaction on the project’s development. Some key issues raised where:

- The increased participation of fishermen in the project’s activities and especially in measuring the seal-fishery interaction from all “hot spot” areas was viewed as a key positive development.
- The up to date lack of the appropriate system of seal deterrents for coastal fishing gears was considered an obstacle and alternatives should be considered.
- The additional emphasis given on the *in situ* environmental education activities was considered as an important investment of the project.



Photo 45: The 2nd meeting of the Steering Committee ©MOM/V.Paravas

All participants expressed their continuous interest and support to the project. A detail account of the presentations and the key issues discussed can be found in the minutes of the 2nd Steering Committee meeting (see Annex F.3.)

The 3rd meeting of the Steering Committee was held, on the 20/03/2009 at MOM headquarters in Athens, with the participation of the following stakeholders’ representatives: Ministry of Rural Development and Foods (Mrs. Koudouradaki), Ministry of Mercantile Marine (Mrs. Xipnitou & Mr Petrou), Ministry of Environment (Mr. S. Chrisochoos), Fisheries Research Institute (Mr. A. Kallianiotis), Astrale GEIE/Prospect C&S (Mrs K. Raftopoulou), WWF-Greece (Mr D. Karavellas & Mr. G. Paximadis), as well as, MOM’s MOFI Management Team. The considerable delay of this meeting was due to the decision of the beneficiary, in consultation with WWF-Hellas and FRI, to wait until the completion of the key “research” activities (i.e. C.1., C.2., and D.1.) for the measurement of the seal-fishery interaction, so as to discuss with the Committee members the findings of these activities. During the meeting, apart from presenting the up to date progress of all project’s activities, the findings relevant to the magnitude of the interaction, the structure and up to date development of the Action Plan and of the new Conservation Strategy were presented and discussed in detail (see Annex F.3.). The Committee members expressed their satisfaction with the up to date progress of the project. They considered the fact that, through the project activities, it has been possible to accurately measure the magnitude of the seal-fisheries interaction at the national level a great achievement. Furthermore, they commented positively on the structure and content of the National Structure for the Conservation of the Monk Seal in Greece. Lastly, the rationale and the key proposals included in the Action Plan to mitigate the seal-fishery interaction were discussed in depth and constructive comments were provided. It should be noted, that during the same period several working meetings were held by the project staff with Fishermen Associations representatives to discuss the issues presented in the Committee meeting and especially the Action Plan (see Action A.2.). A detail account of the topics discussed in the Committee can be found in the minutes of the 3rd Steering Committee meeting (see Annex F.3.)



Photo 46. The 3rd meeting of the Steering Committee ©MOM/V.Paravas

The 4th meeting of the Steering Committee was held, on the 29/06/2009, as planned, at MOM headquarters in Athens, with the participation of the following stakeholders’ representatives: Ministry of Rural Development and Foods (Mrs. K. Koudouradaki), Ministry of Mercantile Marine (Mrs. Mr. E. Petrou), Astrale GEIE/Prospect C&S (Mrs K. Raftopoulou), WWF-Greece (Mr. G. Paximadis), as well as, MOM’s MOFI Management Team. The representatives of the Ministry of Environment and of F.R.I. did not

participate due to unforeseen last minute commitments. During the meeting, the progress and the results of all project activities were presented and were evaluated in relevance to the originally foreseen expected results (see Annex F.3.). The discussion was then focused on the two key outputs of the project:

- the Action Plan and the proposals formulated to mitigate the intensity of the seal-fishery interactions, and
- the National Strategy for the Conservation of the Monk Seal in Greece for the period 2009-2015.

The Committee members expressed their satisfaction with the overall operation and management of the project, especially with the fact that all activities were conducted as planned and that most of the expected results have been achieved. Furthermore, they commented favourably in relevance to both key outputs. More specifically, they considered the National Strategy as a key document for the future implementation of conservation actions for the species and that they will support its adoption within their respective services. On the issue of the Action Plan, they commented quite favourably on the concreteness of the data presented in relevance to the magnitude of the conflict, on the realism and feasibility of the proposals, and on the achievement of considerable consensus with a number of fishermen association representatives. Finally, the Committee members expressed their full commitment to support both documents and provided suggestions on how to further advance the future implementation of both the National Strategy and the Action Plan. The MOFI management team thanked the Committee members for their participation in the project and for their support and advice throughout its operation. A detail account of the topics discussed and the conclusions expressed can be found in the minutes of the 4th Steering Committee meeting (see Annex F.3.).



Photo 47. The 4th meeting of the Steering Committee ©MOM/V.Paravas

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 49.491€. The actual cost of this action was in accordance (only 12,96% less) with the original budget estimate (55.905€) in the project proposal.

F.4. Networking marine mammals-fishery interaction projects (MMF Network)

Foreseen start - end: 10/05 –06/09, Actual start - end: 10/05 - 06/09

At the initiation of this action, the first task was to contact a number of potential participants in order to introduce the concept of the establishment and operation of the Network for marine mammals and fishery interactions, present its objective and its functionality. Apart from the originally planned to be invited European LIFE-Nature projects (TartaNet project, LINDA project, “Reduction of mortality of *Caretta caretta* in the Greek seas” project, “Reduction of the impact of human activity on *Caretta* and *Tursiops* and their conservation in Sicily” project, “Activities for the protection of cetaceans in the international sanctuary” project and “Conservation of cetaceans and turtles in Andalusia and Murcia” project), the beneficiary contacted a number of institutes, organisations and NGOs that are involved or are interested in the conservation of the Mediterranean monk seal at the European and international level. Particularly the MOFI team contacted CBD Habitat Foundation in Spain, working at Cap Blanc-Mauritania; National Park Service of Madeira-Desertas islands in Portugal, SAD-AFAG organisation in Turkey, the Monachus Guardian international electronic journal and National Marine Fisheries Service in USA, which is working on the recovery of the Hawaiian monk seal in the Hawaiian island chain in the Pacific Ocean. All the above institutes or NGOs and organisations were invited to become members of the Network.

During the development of the discussion group, MOM also took advantage of existing relations with several of the MMF members and started bilateral e-communications and discussions on various topics related to the marine mammal-fishery interactions and specifically on:

- Identification of fisheries related mortality in marine mammals
- Measures (legislative or technical) applied in different project in various countries to mitigate marine mammal and fisheries interactions
- Marine mammal acoustic deterrent devices and their effectiveness
- Awareness campaigns and techniques in addressing similar conflicts
- Consultative processes with key stakeholders (i.e. fishermen) in addressing similar conflicts

Even though, these initial discussions did involve all potential members, they have been quite useful sources of information and existing experiences for the MOFI staff. In parallel, throughout the project’s period, MOFI staff also took advantage of the presence of several MMF Network members in Greece, for reasons not related to the MOFI project, and had bilateral meetings and discussed with them in further detail the MOFI project, the MMF Network and the above mentioned topics. Specifically meetings were held with the following bodies:

- representatives of beneficiary and partner of LIFE-LINDA project
- representatives of Archelon, beneficiary of LIFE2002/NAT/GR/8500
- representatives of SAD/AFAG
- representatives of Monachus Guardian
- representatives of Marine Fisheries Service, USA.

After the positive response from most of the invitees to participate in the Network, the next step towards the full operation of the Network was the establishment of the electronic discussion group. MOM designed and implemented the electronic Marine Mammal Fisheries (MMF) Network based on an convenient, stable and cost-efficient internet forum platform, provided by Yahoo! Groups. The MMF Network address is http://groups.yahoo.com/group/Marine_Mammal-Fisheries_Network and is fully accessible by the members of the forum. During the MOFI project 26 experts on marine mammal fisheries interactions, from 13 different institutions or NGOs and 9 countries became members of the electronic Network. The MOFI team was responsible for the maintenance and administration of the Network and for registering or inviting new members.



Photo 48. Print screen of MMF Network’s e-page

Following several unsuccessful attempts, due to the unavailability of the participants, the MOFI project management team organized a meeting of various marine mammals and fisheries experts in the context of the MMF Network’s operation. The meeting, which was held on May 10th 2008 in MOM’s headquarters in Athens, brought together experts from conservation projects throughout Europe, that discussed in detail the progress of the MOFI project, exchanged experiences in dealing with seal or other marine species (i.e. cetacean’s species and turtles) – fisheries related problems and proposed conservation solutions towards mitigating the monk seal-fisheries conflict.

The following experts attended the meeting:

- 1) Dr. Irene Galande (LIFE representative), CTS Settore Conservazione Della Natura, Italy
- 2) Dr. Manel Gazo, SUBMON, Spain
- 3) Dr. Harun Guclusloy, SAD-AFAG/Dokuz Eylul University, Turkey
- 4) Hemmo Muntingh, IFAW-EU Office, Belgium
- 5) Aliko Panagopoulou (LIFE representative), ARCHELON/Sea Turtle Protection Society, Greece
- 6) Tasos Papadopoulos, FRI/Fisheries Research Institute, Greece
- 7) Giorgos Paximadis, WWF-Hellas, Greece
- 8) Dr. Graham Pierce, School of Biological Sciences, University of Aberdeen, UK
- 9) Rosa Pires, Park Natural De Madeira, Portugal

- 10) Dr. Giuseppe Notarbartolo di Sciara, ACCOBAMS, Italy
- 11) Dr. Tero Sipilä, METSÄHALLITUS, Natural Heritage Services, Finland
- 12) Stella Adamantopoulou, MOm, Greece
- 13) Jenny Androukaki, MOm, Greece
- 14) Panos Dendrinou, MOm, Greece
- 15) Calliope Lagonika, MOm, Greece
- 16) Dr. Alexandros Karamanlidis, MOm, Greece
- 17) Dr. Spyros Kotomatas, MOm, Greece
- 18) Vangelis Paravas, MOm, Greece
- 19) Marianna Psaradellis, MOm, Greece

The meeting was initiated with detail presentations by the experts on their experiences and results of their work towards resolving the marine mammals – fisheries interaction issue at their respective settings. In the second part of the meeting four discussions sessions were held on the following topics:

- The use and effectiveness of technical measures in mitigating seal – fisheries conflicts (different types of equipment – acoustic devices, nets etc.)
- Compensation (monetary or other) measures for fishermen as a management tool in mitigating seal – fishermen conflicts’,
- Legislative framework, eventual modifications required to deal with the problem, and
- Involvement of fishermen and local stakeholders in the efforts towards the resolution of the issue.



Photo 49: MMF Network workshop
©MOM/V.Paravas

All participants, as well as, representatives from additional marine LIFE projects that were invited, but could not attend, received the minutes (see Annex F.4. for the Marine Mammals-Fisheries Network Meeting Minutes), were informed of the results of the meeting and were encouraged to actively participate in the MMF Network.

Throughout the project period, the MMF members had several communications and discussions on issues relevant to marine mammal - fisheries interactions. Additionally, MOm, the Network administrator, during the progress of the MOFI project forwarded to the members and uploaded to the discussion group all the reports and publications produced, while the members similarly uploaded documents, reports and scientific publications relevant to the issue.

This action has achieved its objectives, since:

- The Marine Mammal-Fisheries Network has become a convenient, cost effective, and direct mean of communication between the Network members, for collecting information, exchange of expert opinions and techniques for the evaluation of various measures and methodologies to mitigate the negative consequences for marine mammals and fisheries as well as on other issues relevant to marine research and conservation.
- the existing knowledge and experiences from best practices applied worldwide for the mitigation of the negative effects of marine mammals and fisheries interactions were readily disseminated among the members.
- has significantly increased the collaboration between the members of the Network.
- the information collected and disseminated through the Network and the discussions between its members, especially during the meeting held proved valuable in the formulation of a feasible and realistic Action Plan towards mitigating the marine mammals-fisheries interactions
- the electronic part of the Network will remain available to all members of the network after the completion of the MOFI project, facilitating and expanding communication and collaboration among its members.

Lastly, it may be of interest to note that the actual total expenditures incurred for this action were 41.593€. The actual cost of this action was in accordance (only 10,11% less) with the original budget estimate (45.798€) in the project proposal.

F.5: Elaboration of "After-Life Conservation Plan"

Foreseen start - end: 04/09 –06/09, Actual start - end: 04/09 - 06/09

Upon the conclusion of the MOFI project and taking into consideration the specific outputs produced, the results obtained, the successes achieved and the drawbacks encountered during the 2005-2009 period, it is important to consider what remains to be done towards achieving fully the long-term objective of the project, namely the improvement of the conservation status of the Mediterranean monk seal and the promotion of sustainable coastal fisheries in Greece.

In consideration of what further actions need to be done, which stakeholder should take the lead and who should contribute to them, and what resources are necessary to ensure the continuation of the efforts towards achieving the above goal, the following points address the two most important issues:

- ✓ **The Action Plan to mitigate the negative effects of the monk seal – fisheries interaction** is one of the key outputs of the MOFI project. What is necessary to be done in the immediate future is for the national competent authorities to adopt it and to implement the particular measures proposed within it. In fact the fate of the Action Plan lies almost explicitly in the responsibility of the relevant national authorities and specifically to the Ministry of Rural Development and Food, that has the leading role, and of the Ministries of Environment and of Mercantile Marine. MOm, WWF Hellas and the Fisheries Research Institute have already submitted the Action Plan to the relevant Ministers urging them to adopt it and to start immediately the official consultation process necessary for the legislative establishment of the proposed measures. The fact that the Action Plan has already been discussed with all the key stakeholders and was received positively, and that within the Action Plan's proposals the necessary processes for the establishment and operation of the measures, as well as, the monetary resources for their financing (i.e. amateur fishing licenses fee, National Fisheries Operational Plan 2007-2013, etc.) have been identified, has created the appropriate setting for its immediate adoption by the Ministers. It is thus a matter of their political willingness to advance and resolve this issue or to delay the whole process. The commitment of the Sub-minister of Rural Development and Food during the Public Meeting, where the Action Plan was presented, is a strong and encouraging sign. Despite this, there is still a role to be played by all the key stakeholders in this issue, to actively promote the Action Plan's adoption and to support and contribute to the implementation of the proposed measures. In relevance to this, the environmental organisations, and especially MOm and WWF Hellas have already agreed to start a policy campaign, financed by their own resources and utilising the mass media, for the adoption of the Action Plan as a first step and subsequently for the effective implementation of the proposed measures. What is important though is that the key stakeholders, especially the fishermen, must take a proactive role in presenting to the policy makers and the national competent authorities a unified front, and have the Action Plan and the need for its adoption and immediate implementation as a key demand of their sector.
- ✓ The other key output of the MOFI project, directly related to the long-term conservation and recovery of the species, is the **National Strategy for the Conservation of the Mediterranean Monk Seal in Greece, 2009-2015**. What is necessary to be done, in the short- and medium-term future, is for the interested parties to adopt it and to implement the actions necessary for achieving its goals and objectives. It is important to note that a key element and an important advantage of the Strategy is that within it, all necessary actions to actively promote and ultimately achieve the species recovery are clearly defined, the stakeholders that should take the responsibility or contribute to these actions are identified, and the potential resources necessary for the implementation of the strategy are proposed. Thus, the issue, seminal for the future of the National Strategy, is who will utilise it and how it will be

used. In fact the fate of the National Strategy lies in the responsibility of all interested parties (relevant national and international authorities, environmental organisations, scientific and conservation community, local stakeholders and in fact the Greek society, as a whole) to promote and to contribute to its implementation. MOm, being the organisation that was responsible for the Strategy's elaboration and that its constitutional statutes establish the promotion of the conservation of the species as a key goal, is evident that it adopts this Strategy and that will use all its available resources to promote it and to implement its actions, when possible, or promote the implementation of the actions, for which the national competent authorities are responsible for. Towards this, MOm has already submitted the National Strategy to the relevant Ministers urging them to adopt it and use it as a key policy document to guide the national efforts for the conservation of the species. In the coming months, the same will be requested of the relevant services of the European Commission (D.G. Environment, D.G. Fisheries), since the conservation of the monk seal in Greece is not a national conservation issue, but a European one. Lastly it should be noted that an evaluation process is already foreseen within the Strategy so as to assess its progress and effectiveness, and MOm is committed to conduct, on its own resources, such an evaluation.

Furthermore, it is of interest to elaborate on the future plan on a number of additional issues that resulted from or are directly related to the MOFI project:

- ✓ The **Mediterranean Monk Seal National Data Centre**, developed in the context of the MOFI project, proved to be a key tool in recording and studying various parameters relevant to the monk seal and the coastal fisheries in Greece. It is considered necessary to sustain it, continue to use it and potentially expand its application. A key fact is that the necessary resources for its design, establishment and initial operation were secured through the MOFI project, and what is now necessary for its sustainability and functionality is that the bodies interested on these topics to be willing to continue to use it, by inputting relevant data and refer to it when they need to retract information. MOm, having a long-term interest on the collection of data and on the study on the Mediterranean monk seal, its habitat and on the activities that may influence the species, and the main organisation working on the study and conservation of the species in Greece, is the most suitable body to take the lead and be the one responsible for its function and management. As MOm, already uses the Data Centre, as its central database, to archive all of its research data, it can and will continue to use it without the need to invest additional noteworthy resources. Furthermore, MOm, by communicating to all the relevant bodies and stakeholders (Greek ministries, regional and local authorities, NGOs, academic and research institutions) of the existence, the content, the functionality and the terms of use/access to the Data Base, it can expand its usefulness to a number of other bodies as a key reference tool.
- ✓ The **National Rescue and Information Network (RINT)** is another important activity for monitoring the status of the Mediterranean monk seal (i.e. distribution, mortality, seal-fishery interactions) and for supporting a number of conservation actions (i.e. rescue, treatment and rehabilitation) that was established in 1991 and was enhanced through the MOFI project. The importance of this action as well as the fact that its operation is based on the collaboration and contribution of numerous stakeholders makes it imperative to continue its function in the future. The fact that RINT's operation is already well established, its membership expanded in numbers and geographic coverage and its communication tools are already developed, a number of which are electronic, makes it relatively easy and feasible for MOm to continue conducting this activity on its own resources.
- ✓ The value of **monitoring the mortality of the Mediterranean monk seal throughout Greece by conducting necropsies** is self-evident in such a critically endangered species, and it was clearly apparent during the MOFI project as well. MOm has the appropriate specialized staff and the expertise and experience to conduct this action and will continue to do so in the future. However, this activity is quite demanding in resources in order to cover the whole country and to respond on time to all such incidents. Thus to ensure the long term continuation of this activity appropriate resources must be secured. As the Greek state has the responsibility based on the Habitat Directive to ensure the existence of a proper monitoring system, it should also contribute, if not take the full responsibility, of

securing the necessary financial resources. Relative to this activity is also the continuation of the operation of the **monk seal sample bank**. Being the single largest collection of samples of this endangered species it is necessary to secure its continuous operation and proper management. MOm, already is responsible for its establishment and operation, and as it has the experience and expertise, should continue to do so. Through the MOFI project the necessary equipment for the sample bank's operation have been secured and thus limited resources are required for its maintenance. MOm will either obtain these from its own resources or seek the support of the national competent authorities. What further needs to be done in relevance to samples bank is to develop the appropriate system of access to the samples to allow scientists from around the world to contribute to it or use it in order to advance the scientific knowledge for the species. Such a system is already being developed by MOm in consultation with various collaborating scientists.

- ✓ As it was evident in the previous sections of the final report, through the MOFI project activities, a considerable amount of new data has been produced in a number of fields relevant to the Mediterranean monk seal and its interaction with fisheries. In particular the **data collected through actions C.1, C.2, D.1 and D.2** is important to be fully analysed, and to prepare **scientific publications** on the relevant fields so as to present to the conservation and scientific communities throughout the world these important findings. MOm and the project partners and collaborators (FRI, WWF Hellas, University of Aberdeen, University of British Columbia) have already agreed to invest the necessary time to prepare such joint publications. Furthermore as it was done throughout the duration of the MOFI project, MOm's researchers and policy campaigners, as well as, the scientists from the relevant partners and subcontractors will continue to **disseminate these findings as well as the overall results of the MOFI project** in the relevant national and international scientific and conservation fora, depending on the available resources of each organization.
- ✓ The **numerous communication, awareness and educational tools** developed and produced during the MOFI project prove to be quite effective in raising the awareness and in promoting the involvement of the key stakeholders and of the general public in the efforts to conserve the Mediterranean monk seal and to promote sustainable coastal fisheries. MOm, as well as, the project's partners and subcontractors will continue to use these tools in the future, in continuation of this effort. Specifically, the tools developed in electronic formats, such as, the website, the TV-spots, the documentary, etc., as well as, a number of educational tools that will be modified in electronic format, as the cost of their maintenance is minimal, it is anticipated to remain in use for an extended period of time within MOm's website.
- ✓ The **Marine Mammal Fisheries Network** developed during the course of the MOFI project proved effective and valuable in bringing together and establishing regular communication between conservationists and scientists from around the world. MOm as well as most of the participants will continue to participate in the network and utilize it to address commonly further issues in the field of marine mammals and fisheries and to promote and establish collaborative efforts and projects. The electronic nature of the network, requiring minimal resources, and the close relations established among the network members are key factors that ensure its functionality and continuation in the future.

In closing, upon assessing the progress achieved through the MOFI project during the 2005-2009 period and taking under consideration the need for immediate implementation of the Action Plan's measures to mitigate the seal-fishery interaction and of the wide array of actions foreseen in the Strategy, a new conservation initiative and a comprehensive plan of activities must be formulated for the immediate future. The National Strategy for the Conservation of the Mediterranean Monk Seal in Greece just developed, sets the basis and provides the guidelines for such a new initiative for the period 2009-2015. What remains to be done is to involve all key stakeholders and to find the necessary financial resources, taking advantage of private, national and European sources (including the LIFE+ program), to implement the strategy and to actively pursue the recovery of the species, the protection of its habitat, the sustainability of coastal fisheries and thus the conservation of the marine environment in Greece.

7. EVALUATION AND CONCLUSIONS

a. The process

The initial rationale of developing, design and implementing the MOFI project, proved to be valuable and quite effective in the actual implementation of the project as a whole, as well as, of its particular actions. Upon completion of the project, four years after its initiation and actually five since the preparation of the original proposal, in evaluating the overall MOFI rationale and design their effectiveness becomes quite evident since:

- ✓ The rationale to develop the project and to implement its actions at three parallel geographical levels, namely at the national level, at the 7 "hot spot" areas and at the two key areas for the Mediterranean monk seal, proved to be extremely useful, since it allowed to collect the necessary information with the appropriate gradient of detail, that is from the more general at the national level to the very specific and detailed at the Alonnisos and Kimolos "hot spot" areas. This was true not only for the scientific data collected through actions C.1., C.2., D.1., but also for the actions that aimed at involving key stakeholders, such as, A.2., C.3., F.3., F.4., as well as, for the actions that aimed at raising the awareness of the adults and children such as E.1., E.2., E.3.
- ✓ The fact that all the project actions were implemented following their exact original design is a clear proof of the feasibility and the practicality of the project design. Experience has showed that implementing complex conservation projects in the field, involving numerous partners and subcontractors, targeting several stakeholders, and working in an extended geographical area, quite often need to diverge from their original design. The fact that the MOFI project adhered to its original plan and design testifies that in fact it was carefully and properly planned and that it was effectively implemented.
- ✓ Lastly, the fact that the original operational, managerial and financial plans were in fact followed practically in the field and that proved effective in conducting the actions and managing the project's resources in a timely fashion, but most importantly in achieving to a great extent the expected results, shows that the overall process of implementing the MOFI project was a successful one.

b. The project management

In assessing the development of the MOFI's project implementation, throughout the project period, it is important to note that the beneficiary and the project's partners and subcontractors did not encounter any significant difficulties or critical problems in implementing the planned activities. This was mainly due to the existing experience within the project executants in planning, managing and implementing *in situ* conservation projects in, small, island and coastal communities. The initial effort invested, by the project management team and senior staff members of both beneficiary and partners, to elaborate detailed annual and monthly plans of activities and respective budgets that took under consideration logistical difficulties and peculiarities that are encountered when working in such settings, proved extremely useful in the efficient operation of the project. A key factor contributing to this is that, even though the project executants are institutions with variable backgrounds (NGO's, universities, research institutes), there was a clear understanding of the projects goals and objectives and a full agreement on the methodology and plan of activities. This allowed for ease in communication between all executants and for efficient decision making by the project management team.

The plan to involve in the MOFI project non governmental organisations, state research institutions, academic institutions and various conservation, communication and educational experts (as beneficiary as beneficiary, partners, subcontractors), proved to be quite useful, since it allowed to develop a multidisciplinary team necessary to tackle effectively a complex issue such as the seal-fishery conflict. The multiplicity of knowledge and experiences within this team proved to be an asset in implementing such a

variety of actions, while the clear plan for implementing the project, developed by the beneficiary and the main partner and subcontractor (WWF-Hellas and FRI) ensured that this team did not diverge or create unnecessary delays during the course of the project.

It is of interest though to elaborate on two “minor” problems encountered during the course of the project, which however did not affect seriously its implementation, namely the occasional opposition or hesitation to be involved in the project on the part of some fishermen and the continuous changes of the relevant to the seal-fishery issue officials within the competent national authorities and various stakeholders’ representatives:

- At the initiation of the MOFI project, as anticipated, some reservations and to some extent negative reactions were encountered on the part of some of the fishermen. However, one has to consider that the seal-fisheries conflict is an issue that has not been resolved for decades, creating considerable frustration on the part of the fishermen that continue to sustain damages to their gear. Thus, some fishermen’s first reaction to any initiative related to the seal-fisheries conflict is to demand immediate and direct monetary compensation. Furthermore, despite the fact that the MOFI project’s objective was to address this conflict at a national scale, through an appropriate, effective and feasible Action Plan, some fishermen were and still may be interested only to resolve this issue locally. In this context, offhand proposals put forward by some fishermen during initial meetings with the beneficiary included demands that the entire MOFI project budget should be distributed now directly to them. Such initial reactions were encountered when the beneficiary discussed the collaboration within the MOFI project with the Alonnisos and Kimolos Fishermen Associations. However, as was the case in both areas, the project beneficiary and partners, through continuous informal and formal meetings with the fishermen and their representatives at both the local and national level, explaining the rationale and goals of the MOFI project, progressively led to a decrease in the misconceptions and misunderstandings, and to the participation of a considerable number of fishermen in the project. It is indicative that during the project a relatively high number of fishermen (8 of the 36 active professional fishermen from Alonnisos and 4 of the 13 active professional fishermen from Kimolos) finally participated from both key “hot spot” areas, while close to 200 fishermen from all 7 “hot spot” areas contributed to the project by participating in the interviews. The gradual increase in the participation of fishermen in the project and especially their overall positive reaction to the proposals included in the Action Plan is clear evidence that this anticipated difficulty was dealt with in an appropriate and effective manner.
- The second issue relates to one of the anticipated constraints namely changes in the various government officials that were involved either directly (i.e. members of the Steering Committee), or indirectly (i.e. Heads of relevant Ministry departments, elected representatives of stakeholders) with the MOFI project. Indeed, during the project period, numerous such changes did occur. Most characteristic cases were: the 4 consecutive change of the Director of the Fisheries Department at the Ministry of Rural Development and Foods; the transfer of the representative of the Ministry of Environment in the Steering Committee to another department; several changes in the Board of the National Association of Fishermen and several changes in the local, regional and national authorities following the local elections in October 2006 and the national elections in September 2007. These changes, even though they did not affect directly the project activities, demanded from the project personnel to repeatedly invest additional effort to inform the new officials on the project’s objective, rationale, activities and progress and to ensure the continuation of the collaboration with the relevant authorities and stakeholders in the context of the MOFI project. This was even more prominent with respect to the policy issues of MOFI, such as, the development of the Conservation Strategy and the Action Plan. It should be noted that even though the investment of additional effort was anticipated, the fact that the timing and the specific positions of such changes were beyond the control of the project executants, when changes did occur they disrupted to some extent the normal work flow of the project and the project’s management team has to make the necessary adjustments.

c. Success and failures

In evaluating the project’s actions in terms of the success of the individual methodologies applied, in terms of the results achieved and in terms of their cost efficiency, it is evident, as it has been presented in the specific evaluation of each action in section 4 (Progress, Results), that all actions were conducted following to a large extent the originally designed methodologies, most expected results were achieved and in several actions to a greater than expected degree, and all actions were implemented within the originally foreseen budget.

It is of interest though to elaborate further on the overall successes and failures of the project actions in terms of methodology applied and results achieved. Key success, in terms of the methodologies chosen and applied to conduct the project actions, are difficult to be identified and singled out, when all actions are considered successful, since their methodologies proved to be suitable and feasible, while in parallel all the actions were effective in achieving the expected results. Despite this, the fact that for the first time in Greece specific methodologies were designed and applied in the actions A.1., C.1., C.2., and D.1. conducted to measure and estimate the magnitude of the impact of the seal-fishery interaction to both seals and fisheries, and that through these actions the project team managed to collect the necessary data and to arrive to specific results, that were recognised as accurate and were accepted as valid by all the key stakeholders (fishermen, relevant fishery authorities, scientists from research and academic institutions) must be viewed as a great success of the project.

As an additional success must be viewed the methodology chosen to elaborate the Action Plan, and the proposals included within it, to mitigate the seal-fishery interaction and especially the plan to have extended and open discussions and consultation upon it, with all the key stakeholders, especially the fishermen. If one considers that conservationists and especially NGOs and fishermen viewed each other with considerable distrust, the decision to come in direct contact, establish channels of communication and discuss openly the issue proved to be a key factor in their active participation in several project’s activities and in their positive reaction to the specific proposed measures and the Action Plan in general.

Lastly, if one looks in further detail in order to identify some weaknesses in the actions conducted, the role of the project’s Steering Committee was not as active and supportive to the extend originally foreseen. This, however, was not so much due to the choice of its members, but must be attributed to the continuous changes in the representatives of the various national authorities, their heavy workload that did not allow them to follow closely the project’s development and especially to the fact that they were not always directly responsible for setting the policy within their authorities and thus had relatively limited power to promote the project’s results.

d. Comparison against the project-objectives

In order to evaluate whether the project objective, namely “*to improve the conservation status of the European Union’s largest population of the critically endangered Mediterranean monk seal found in Greece, by mitigating the negative consequences of the interaction between *Monachus monachus* (decrease the overall mortality rate of the species) and the fishery sector (decrease the loss of income through the proposed provision of socio-economic incentives)*” was actually met, it is necessary to assess the results of all the project actions in the short-term and in a long-term level:

1) In the short term, that is within the timeframe of the project, based on the evaluation of the results of the individual project actions, it is evident that the original objective has been met to a considerable degree, since:

- A significant decrease in the species human related mortality was observed, especially relative to the deliberate killings. Specifically, as it was described in Section 6. Action D.1., during the project period a 12% average decrease in deliberate killings was recorded (see Table 4) and actually such a decrease was evident throughout all age classes of the species (see Table 5). This result takes even higher

significance, in view of the fact that this cause of death has been considered for several decades as one of the most important direct threats for the conservation of the species. In order to consider the actual effect of this decrease in the deliberate killings on the overall population size of the Mediterranean monk seal in Greece, by extrapolating the percentage of decrease and taking into account the annual recorded mortality rate (17,25 animals per year), it is estimated that on an average 2 more monk seals will survive every year. Even though, this decrease may not be directly attributed only to the impact of the project's actions on the attitude of the fishermen, it must be viewed as a strong and positive sign towards the long-term resolution of the conflict. An additional important result achieved during the project period, in relevance to decreasing the species mortality, has been the high number of animals rescued and released in the context of Action D.2. As it was described in Section 6. Action D.2., through the Rescue Team's actions 17 animals, that their life was threatened, returned back to their natural environment during the project period. Considering the overall size of the population of the Mediterranean monk seal in Greece (estimated at 250-300 individuals) the overall contribution of the project in decreasing mortality (even though not exclusively related to fisheries), must be evaluated as extremely important.

- A significant increase in the collaboration between the project executants and the fishermen and other key stakeholders (educators, students, authorities) was achieved during the project period. This is evident from the particular results of the relevant project actions and specifically:
 - ✓ The active participation and contribution of the key stakeholders and in particular of local fishermen, local authorities (port police, fisheries services), local educators and pupils, in the implementation of a number of project's actions, such as, the measurement of the seal-fishery interaction aboard fishing boats in Alonnisos and Kimolos (see Section 6, Action C.2.), the conduction of interviews in all hot-spot areas (see Section 6, Action C.1.) and the implementation of the awareness campaign and the environmental education program in schools of all hot-spot areas (see Section 6, Actions E.1. and E.2.).
 - ✓ The interest exhibited by the key stakeholders and especially by the local fishermen in the measurement and estimation of the magnitude and extent of the seal-fishery interaction and their agreement on the methodologies applied in the implementation of the relevant actions. Most important though is the fishermen's acceptance of the results obtained and their overall consensus, at the level of their regional associations, that they are realistic and depict with considerable accuracy the effect that the marine mammals have on their fishing activities. This last achievement should be emphasized in view of the fact that up until the initiation of the MOFI project, all relevant stakeholders and especially fishermen could not agree on the real magnitude of the problem. This more often than none led any attempt to effectively tackle the seal-fishery issue into a deadlock since there was no commonly accepted baseline for discussion.
 - ✓ Most significant achievement, though, is the positive response of the key stakeholders to the measures proposed within the Action Plan (see Section 6, Action A.2.). The overall agreement between the project executants and the key stakeholders and especially the fishermen that the proposed measures address the issue properly taking into consideration both the conservation of the monk seal and the sustainability of the coastal fishery sector, are realistic and feasible, may lead the national competent authorities to quickly adopt the Action Plan and will contribute to the effective implementation of the particular measures.

2) The long-term success of the project in meeting its objectives cannot be fully assessed at the present time. However, it is clear that in order to mitigate the seal fishery conflict on the long-term two are the key prerequisites:

- On the one hand the negative effects of the fisheries on the monk seal population needs to steadily continue to decrease through the direct decrease of human related mortality and by the indirect effects of the fishery measures proposed within the Action Plan that will lead towards the conservation of fish stocks and thus of the species food resources.

- On the other hand, it is absolutely necessary for the Action Plan to be adopted and the proposed measures to be implemented by the national competent authorities so as to alleviate the direct financial burden that fishermen suffer from marine mammals and for them to benefit by the measures that will lead to the protection and recovery of the fish stocks, their main resource.

If both these prerequisites are not met within a reasonable timeframe the momentum created by the MOFI project might be lost, and the conflict between marine mammals and fisheries will remain unsolved. It is clear that only if policy makers and all relevant stakeholders realize that the source of the problem is the lack of a comprehensive marine conservation policy that leads to the gradual collapse of fish stocks, then by addressing this problem fish stocks could recover and as a consequence the seal fishery conflict will be resolved. In order to assess the long term success of the project, a number of indicators could be used (see Part i of this section) that deal with both aspects of the interaction namely the seals and the coastal fishermen.

e. Environmental benefits, policy and legislation implications

The MOFI project had a significant positive impact on the conservation status of the Mediterranean monk seal and in particular:

- ✓ It led to a direct decrease in the species mortality, through the rescue, treatment, rehabilitation and release of a number of individual seals.
- ✓ It resulted in a noticeable decrease in the human related mortality of the species especially of deliberate killings a serious threat for the species in Greece over the last two decades.
- ✓ It resulted in a significant increase in the knowledge of key ecological parameters of the species (feeding preferences, movements, etc) that are critical in developing appropriate conservation measures.
- ✓ Lastly, a key for the conservation of the species policy document has been elaborated that will guide the efforts to conserve the species and its habitat in the future.

The results of the MOFI project and especially its two key policy outputs namely the Action Plan and the National Conservation Strategy, have a series of policy, legislative and financial implications at both the National and European level since their tightly related and relevant to the implementation of the Habitat Directive and the Marine Framework Strategy Directive. The detailed description of the policy, legislative and financial implications can be found in the full documents provided in the Annex of this report.

f. Innovation, demonstration value.

In assessing the MOFI project in terms of its innovative and demonstration value, the following are some key issues worth commenting:

- The whole concept of the MOFI project itself had a strong innovative character, since it tackled for the first time a long lasting conflict between nature conservation and fisheries. The overall project's structure and methodology to develop a number of actions at 3 parallel geographical levels and to actively and directly involve numerous key stakeholders in the project actions, was viewed by the stakeholders themselves interesting and was gradually seen as a unique opportunity for the stakeholders, especially the fishermen, to participate, in order to achieve the project's objective and at the same time secure their own long term benefit.
- The variability of the project executants (NGOs, State Research Institutes, Academic Institutions), not usually encountered in Greek Life projects in the past, created a multidisciplinary team more effective in addressing a complex issue, such as the seal-fishery conflict.

- The participatory component widespread across most actions of the project was quite innovative, since the stakeholders participation was a necessary factor for the implementation of the actions and a key factor of success or failure. In particular, in Action A.2. stakeholders participated in the development and consultation process of the Action Plan; in Action C.1. fishermen and relative authorities participated in the questionnaires; in Action C.2. the intensity of the interaction was measured onboard local fishing boats with the cooperation of local fishermen; in Action C.3. the Rescue seminars depended on the participation of local stakeholders; in Action D.1. RINT membership and operation was based on the participation of local stakeholders; in Action D.2. the rescue of seals depended on the timely report of incidents from local stakeholders; in Action E.1. a local fisherman was involved in the design of all awareness material that targeted local stakeholders and in Action E.2. local educators and schoolchildren participated.
- Lastly, some of the project actions, such as the feeding preference studies, the measurement of the seal fishery interaction aboard fishing boats and the rescue seminars designed especially for fishermen, were implemented following innovative methodologies, applied for the first time in relevance to the Mediterranean monk seal.

In evaluating the demonstrative value of the MOFI project, is considerable, since the whole project (rationale, design and activities) could easily be used as a model for structuring and implementing conservation projects to tackle similar nature-human conflicts and/or to apply them to address the Mediterranean monk seal –fishery conflict in different countries of the species range. In fact, in the context of a recent collaborative initiative, entitled “i-monk: International Monk Seal Conservation Alliance”, where all the major groups working for the conservation of the Mediterranean monk seal across its range (Greece, Turkey, Portugal, Spain) participate, the MOFI project was considered by the Alliance’s members as a model system that could be adopted and used in other countries in order to deal with the monk seal-fishery conflict.

g. Socio-economic effects

As it was described previously it is not possible at present to assess the long term success of the project. Thus it is also difficult to evaluate the long term socio-economic effect of the project on the key relevant stakeholders and especially on the coastal fishermen and the fishing communities. If the proposed in the Action Plan measures are actually implemented their anticipated impact will be considerable since they will support financially the local coastal fishermen directly by covering part of the cost resulting from the damages sustained by the marine mammals, but more importantly the implementation of the measures that will lead to the sustainability of key fish stocks will have a considerable and long term impact on the coastal fisheries sector and as a consequence on the fishery community themselves.

h. The future:

This section, in accordance to the EU guidelines for the preparation of LIFE nature Final reports, is elaborated in the “After LIFE Conservation Plan”.

i. Long term indicators of the project success.

In order to assess the MOFI project’s or similar projects’ success in the future, some of the quantifiable indicators already used by the MOFI management team to assess the project’s effectiveness could be applied. In particular useful indicators are:

- Number of RINT membership
- Number of monk seal sightings (alive, in need of care, dead) reported by RINT members
- Number of rescued animals

- Number of animals found dead due to human-related causes (deliberate killings/accidental entanglements)
- Number of stakeholders participating in project actions
- Number of children from fishing communities participating in environmental education activities
- Number of mass media articles issued on the seal-fishery interaction
- Number of visitors to project’s website
- Number of stakeholders supporting the measures of the Action Plan
- Number of Action Plan measures implemented
- Number of fishermen affected by the measures
- % decrease in human related monk seal mortality
- Number of authorities/stakeholders adopting the National Strategy
- Number of National Strategy actions implemented

8. COMMENTS ON FINANCIAL REPORT

In evaluating the project's financial plan and financial management it is of importance to note that during the project there were no significant obstacles encountered neither in terms of the project's income nor in terms of the project's expenditures. This was due to the development of the proper management and monitoring tools (annual and periodic budgets, monthly monitoring meetings, etc.) and to the strict adherence to them by the beneficiary and the project partners.

The following developments with regards to the MOFI project's financial plan and specifically to the project's income (financing) are of importance to comment upon:

- The European Commission, forwarded on time to the beneficiary, as foreseen in the project's contract, the 1st pre-financing payment, as well as, the 2nd pre-financing payment for a total of 657.188,7€.
- The Prefecture of Magnesia, the regional authority that Alonnisos, one of the key "hot spot" areas, is within its jurisdiction, during the project period, honoured its original commitment, completed all necessary administrative procedures and deposited to the beneficiary the 1st, 2nd, and 3rd financial instalments for a total of 60.000€, while the 4th and last instalment of its financial contribution (20.000€), is due to be deposited upon submission to the Prefecture Services, the Final Technical and Financial Report, as foreseen in the respective contract.
- The International Fund for Animal Welfare (IFAW), an international conservation NGO, honoured its original commitment and paid the full amount of 41.480€ to the beneficiary, as foreseen in the respective contract. In addition, in response to the beneficiary's proposal, IFAW decided to increase its financial contribution to the project with additional funds, that amount to an extra 120.000€. IFAW also honoured its additional commitment and deposited through several instalments the full amount of 120.000, in accordance to the new relevant contract.
- Piraeus Bank, one of the leading financial institutions in Greece, in response to a proposal by the beneficiary, decided, in the fall of 2005, to co-finance the MOFI project with an amount of 200.000€. During the project period, honouring its commitment Piraeus Bank deposited in several instalments the full amount (200.000€) of its financial contribution, as foreseen in the respective contract.
- MOm, the project beneficiary, and WWF Hellas and the Erasmus University of Rotterdam, Holland, the project partners, contributed, as foreseen, the full amounts of their contributions, that is 145.753,30€, 32.597,54€, 3.545,57€, respectively.
- Lastly, in relevance to the accrued interest from the pre-financing payments on the part of the European Commission to the beneficiary, it should be mentioned that from the 1st and 2nd payments it is estimated that a total of 918,22€ were accrued. However, it is important to note that the beneficiary in order to ensure the unimpeded implementation of the project and especially the on time implementation of the project's actions, it was necessary to enter into a bank loan agreement, so as to ensure the on-time payment of all costs incurred and a positive and functional project cash flow. The loan agreement's remains active throughout the project's duration and up until the deposit of the final payments from the European Commission and the project's co-financiers. In view of this and especially of the fact that during the project period the beneficiary had to pay interest for a total of approximately 21.000€, honouring the payments to the bank on the respective loan agreement, it is considered that, by balancing the interest income with the interest expenditures/payments, there was no overall interest accrued and thus no amount is reported in the Final Statement of Expenditures.

In view of the abovementioned changes in the Financial Plan of the project and specifically in the co-financiers and their relative contribution during the course of the project, a request for modification of the project was forwarded on the 22nd of July 2008 to the European Commission and was accepted on the 22nd of October 2008, through the Supplementary Agreement No 1 to Grant Agreement for Project LIFE05/NAT/GR/000083.

The Table below summarises the costs, presented by cost category, incurred during the project period, by the project’s beneficiary and partners for implementing the MOFI project.

Table 10: Project costs incurred

Cost category	Total cost according to the Commission’s decision	Total costs incurred during the project 1.07.2005 - 30.06.200	%
1. Personnel	885.888,00	905.427,06	102,21%
2. Travel	123.305,00	107.180,46	86,92%
3. External assistance	304.713,00	300.583,03	98,64%
4. Durables: total cost	75.300,00	75.315,23	100,02%
5. Land purchase	0	0	0%
6. Consumables	54.300,00	49.913,72	91,92%
7. Other costs	19.000,00	18.647,35	98,14%
8. Overheads	102,229,00	101.374,20	99,16%
Total	1.564.735,00	1.558.441,05	99,60%

The total costs incurred during the reporting period, were in accordance to the annual budgets elaborated by the project management team and are in full agreement with the expected budget according to the Commission’s decision.

The following issues with regards to the MOFI project’s financial plan and specifically to the project’s expenditures are of importance to comment upon:

1. with respect to the **Personnel** costs:

The costs incurred in this category were calculated based on the time spent by the foreseen MOFI personnel for the implementation of the project. The slight increase (approximately 2%) of the actual relative to the originally budgeted personnel costs is well within the limits allowed by the LIFE Common Provisions. It should be mentioned that in addition to the MOFI personnel described in the project’s contract, the following changes were considered necessary:

- The cost of the Erasmus University’s staff and in particular the Principal Investigator, the Veterinary Pathologist, and the Researcher, that were directly involved in the MOFI project, inadvertently was included in the original budget of the project in the external assistance category described as “University of Rotterdam: Virology and histology analysis of monk seal samples”. As the Erasmus University is a partner of the project, the cost of its staff in the final financial statement is included in the Personnel cost category. It should be noted that the personnel cost actually incurred is in agreement with the original amount budgeted in the external assistance category.
- WWF Greece, one of the project partners, included one additional staff member to MOFI’s personnel, a Project Administrator. Her involvement in the project, for a total of approximately 16 working days was necessary for the administrative support (reporting, accounting, etc.) of the partner’s contribution to the project. It should be noted that this change did not affect the total personnel cost of WWF Hellas.
- The foreseen Fisherman/Campaigner that contributed to the design and implementation of the awareness campaign, due to the national accounting rules, having already an established profession, as a fisherman, was not possible to be hired by the beneficiary as staff (neither through a long term contract, nor through a part-time agreement), as it would be necessary for the fisherman to terminate his professional fishing activity. Thus, it was decided to collaborate with him as an external assistant/consultant to the beneficiary and the relative costs have been included in the Final Statement of Expenditures in the External Assistance category of expenses.
- MOM, the beneficiary, during the course of the 4 year duration of the project, in certain cases had more than one person occupying specific MOFI personnel positions. This was due either to the

management team’s decision to hire part time staff to conduct in parallel certain tasks (i.e. one part time fisheries researcher to work mainly in the NMPANS and a second part time fisheries researcher to work mainly in the Kimolos “hot spot” areas) or due to the need to the replace specific staff members, who resigned from their position during the course of the project period, with new staff to cover the vacant MOFI’s personnel position (i.e. Communication Officer, Policy Officer, Veterinary Assistant, Secretary).

- Lastly, MOm in two cases during the project period, following the resignations of two of the MOFI project’s staff, namely the Environmental Educator in 2006 and the Accountant in 2007, decided to fill the specific positions with professionals that had already some collaboration in the context of the MOFI project, and thus were familiar with the project activities and with the requirements of the specific positions. Thus, for the position of the Environmental Educator, hired the environmental educator expert (Mrs. I. Tsevi), who had collaborated with MOm as an external assistant in the design of the environmental education material and tools and for the Accountant position, the external assistant (Mrs. M. Chrisafi), a certified accountant herself, with whom MOm had already a collaboration for the data entry of the project invoices,.

The following table shows all the personnel (of the beneficiary and the project partners) that was involved in the implementation of the MOFI project.

Table 11: Project’s personnel

Beneficiary/ Partner	Personnel Role	Personnel Name	Working Period
MOm	Project Leader	ADAMANTOPOULOU S.	01/07/05 - 30/06/09
	Scientific Coordinator	KOTOMATAS S.	01/07/05 - 30/06/09
	Head of Field Research	DENDRINOS P.	01/07/05 - 30/06/09
	Seal Biologist	KARAMANLIDIS A.	01/07/05 - 30/06/09
	Fisheries Field Researcher	PARAVAS E.	01/01/06 - 30/06/08
		TOYNTE E.	01/07/05 - 30/06/09
	Seal Rescue Specialist	ANDROYKAKI E.	01/07/05 - 30/06/09
	Veterinary Assistant	HATZISPYROY A.	01/07/05 - 31/12/07
		PSARADELLI M.	01/03/08 - 30/06/09
	Environmental Educator	FATSEA E.	01/01/06 - 31/12/06
		TSEVI I.	01/04/07 - 31/05/09
	Policy Officer	GORGORAPTI K.	01/07/05 - 31/12/05
		PAPOULIA ST.	01/01/06 - 31/01/07
		GORGORAPTI K.	01/01/07 - 30/06/07
		PARAVAS E.	01/01/08 - 30/06/09
	Communication Officer	PROTOPAPA D.	01/07/05 - 31/03/06
		LAGONIKA K.	01/01/06 - 31/01/09
		PROTOPAPA D.	01/01/09 - 30/06/09
	Accountant	KANELLOS D.	01/07/05 - 30/09/07
		CHRISAFI M.	01/10/07 - 30/06/09
Secretary	PERIVOLARI E.	01/07/05 - 31/12/06	
	PRESVELOY E.	01/01/07 - 30/06/09	
WWF	Policy Officer	KARAVELAS D.	01/07/05 - 30/06/09
	Field Technician	PAXIMADIS G.	01/07/05 - 30/06/09
	Project Administrator	MARAGOY N.	01/07/05 - 30/06/09
ERASMUS	Principal Investigator	OSTERHAUS A.D.M.E.	01/07/05 - 30/06/09
	Veterinary Pathologist	KUIKEN T.	01/07/05 - 30/06/09
	Researcher	van RUN P.R.W.A.	01/07/08 - 31/12/08

It is important to mention that all the above changes did not affect the overall budget of this category of expenses.

2. with respect to the **Travel** costs:

The costs incurred in this category include all travel expenses that were conducted for the MOFI project and have been charged in accordance with the internal rules of the beneficiary and of the partners. The relative decrease (approximately 13,1%) of the actual relative to the originally budgeted travel expenses was the result of the fact that some of the expeditions to the “hot spot” areas that were conducted in the context of different actions were combined in time and thus less expenses were necessary, as well as, to the fact that the beneficiary, being a non-governmental/non-profit environmental organisation, managed to get an “in kind” donation of free boat tickets to Alonnisos, one of the main “hot spot” areas, thus less travel expenses were incurred.

One issue that needed further clarification during the project’s duration was related to the travel expenses incurred for travelling outside the European Commission and in particular once in the U.S.A. in the context of Action of Action A.2. and once in the U.S.A. and once in South Africa in the context of Actions E.3. These trips, even though were foreseen in the technical description of the project, the related travel costs were not all properly included in the relevant financial forms. This issue was brought to the beneficiary’s attention by the EU LIFE Unit official comments on the intermediate report of the project (EU LIFE Unit correspondence ENV/E.4/PC/AT/D(2007)20563 of 14/11/2007) and were appropriately addressed by the beneficiary in writing (MOm’s communication Ref. Num 08/2960 of 24/7/2008, see Annex of the Final Financial Report for a copy of the correspondence) to the satisfaction of the LIFE Unit Services (EU LIFE Unit email correspondence of 22/11/2007).

3. with respect to the **External Assistance** costs:

The costs incurred in this category, refer to all sub-contracting costs that were undertaken in direct relation to the implementation of the MOFI project. The costs incurred are in full agreement to the expenses budgeted in terms of the nature of the services provided (all external assistance foreseen was utilised) and in terms of adhering to the original budget (actual costs incurred amount to 98,64% of the budget). All subcontracting costs incurred were based on either framework or direct agreements with specialists, or on competitive tenders that were used to select the companies or persons that provided the services. A single discrepancy is that the foreseen in this category budget item “Determination of monk seal feeding preferences through stable isotope analysis” that was originally planned to be carried out by the Sea Mammal Research Unit at the University of St. Andrews, Scotland, for reason beyond the control of the beneficiary (see Action D.1.) could not be conducted, and thus the beneficiary selected the University of British Columbia, Canada (Okanagan Regional Chemical Analysis Centre) to carry out this work.

4. with respect to the **Durable** costs:

The costs incurred in this category relate to the purchase by the beneficiary of the necessary equipment for the effective implementation of the MOFI project. The costs incurred are in full agreement to the expenses budgeted in terms of the kind of equipment purchased (all foreseen equipment were purchased) and in terms of adhering to the original budget (actual costs incurred amount to 100,02% of the budget). The full costs for the purchase of the equipment is considered eligible, since the beneficiary is a non-governmental/non-profit environmental organisation, and thus based on the LIFE Common Provisions, article 21.7., the rule of depreciation does not apply. It should also be mentioned that since the beneficiary is an NGO it undertakes the obligations, as it is also clearly stated in the beneficiary’s statutes, to continue to assign these goods definitively to nature conservation activities beyond the end of the project co-financed under LIFE-Nature. Lastly, it is also important to note that all equipment purchased in the context of the MOFI project have been properly labelled with the LIFE logos

5. with respect to the **Consumables** costs :

All costs included in this category relate specifically to the purchase, manufacture, repair or use of any material, goods or equipment that were not on the inventory of durable goods of the beneficiary or partners, were not treated as capital expenditure in accordance with the tax and accounting rules applicable to the beneficiary or partners and were directly related to the implementation of the MOFI project. The small decrease (approximately 8%) of the actual relative to the originally budgeted

consumable expenses was the result of the fact that some of the expeditions to the “hot spot” areas that were originally planned to be conducted separately in the context of different actions, were finally combined in time and thus less consumable expenses were necessary and to the fact that as the beneficiary and main partner are non-governmental/non-profit environmental organisations they managed to get certain consumables (office consumables, photocopy paper, etc.), that were originally budgeted, as “in kind” donations.

6. with respect to the **Other** costs:

All costs included in this category were necessary for the MOFI project and, as planned, refer to the cost of the external auditing of the beneficiary’s and partners’ financial management of the project by an independent auditor (SOL). In addition, upon the instructions of the LIFE Unit officials, during the financial management audit and mission to the project, the registration fees for the conferences attended for disseminating the MOFI project results (in the context of Action E.3.) and the fees for the acquisition of CITES permits for the transport of samples between countries (in the context of Action D.1.) were also included in this category. The costs included in this category are in accordance with the original budget (actual costs incurred amount to 98% of budget).

7. with respect to the **Overheads** costs:

All costs included in this category covered general indirect costs needed to employ, manage, accommodate and support directly or indirectly the personnel of the project beneficiary and the partners working on the MOFI project. These costs amount to 6.95% of the total eligible costs (excluding overhead costs) incurred for the project, and thus are within the limit of 7% set by the LIFE Common Provisions.

In closing, it should be mentioned that the beneficiary, throughout the project period, and especially following the evaluation of the financial summary reports, responded promptly and in writing to any comments or clarification requested by the DG Environment LIFE Unit officials. In particular to the financial issues raised by the Head of the LIFE Unit in relevance to the Interim Financial Statement, (EU LIFE Unit correspondence ENV/E.4/PC/AT/D(2007)20563 of 14/11/2007) specific answers were provided to the LIFE Unit’s financial desk officer during the auditing mission held in Chios “hot spot” area (see Action F.2.), were forwarded in writing (MOM’s communication Ref. Num 08/2960 of 24/7/2008) to the LIFE Unit’s financial services, and as requested in the above communication are also attached in the Annex of the Final Financial Report.

Lastly, in relevance to the external audit of the financial management of the project, SOL, the selected company of independent auditors monitored the beneficiary’s and the partner’s financial management and the financial progress of the project throughout its duration. At the completion of the project they approved and issued the necessary audit report (see Final Statement of Expenditures), which was produced in two parts, one for MOM, the beneficiary, and Erasmus University, one of the project’s partner, and one for WWF Hellas, the other partner of the project. The reason for the elaboration of the report in two parts is due to the fact that two different auditors from SOL conducted separately and independently the respective audits. Minor discrepancies between the beneficiary Auditors’ report and the Final Financial Report were due to minor transfers of specific costs incurred between categories of expenses that were conducted after the completion of the Auditors’ report, following the recommendations of the representative of Astrale GEIE – Prospect C&S, the External Monitoring Team of the European Commission’s Directorate General for the Environment, that reviewed the report prior to forwarding it to the Commission services.

9. LAYMAN’S REPORT

The MOFI Project’s Layman’s Report is included as a separate document in the Annex E.3. of this report.

10. AFTER LIFE CONSERVATION PLAN

The MOFI Project’s After LIFE Conservation Plan is described within Section 6, Action F.5. and is also included as a separate document in the Annex F.5. of this report.

Monk Seal & Fisheries

MOFI

"Mitigating the Conflict in Greek Seas"



Fisheries Research Institute



PREFECTURE
OF MAGNESIA



Final report to the European Commission, July 2005 - June 2009
The **MOFI project** LIFE05NAT/GR/000083
«**Monk seal and fisheries: Mitigating the conflict in Greek seas**»