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MEDITERRANEAN ACTION PLAN

Meeting of Experts on the implementation of the Action Plans for marine mammals (monk seal and cetaceans) adopted within MAP

Arta, Greece, 29-31 October 1998

REPORT OF THE MEETING OF EXPERTS ON THE IMPLEMENTATION OF THE ACTION PLANS FOR MARINE MAMMALS (MONK SEAL AND CETACEANS) ADOPTED WITHIN MAP

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Introduction

1. Following a recommendation made by the Third Meeting of the National Focal Points for SPAs (Tunis, 25-27 March 1996), the Contracting Parties to the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution at their Tenth Ordinary Meeting (Tunis, 18-21 November 1997) approved the convening by RAC/SPA in 1998 of a meeting of experts on the implementation of the three action plans for the conservation of species, adopted within the Mediterranean Action Plan. On the same occasion, the delegation of Greece expressed the willingness of the Greek Government to host the meeting and to provide additional funds necessary to its organization.

2. For organizational reasons, it was decided to divide the originally conceived single meeting into two separate expert meetings: one covering the implementation of the Action Plan for the Conservation of Mediterranean Marine Turtles; and one dealing with the implementation of the Action Plan for the management of the Mediterranean Monk Seal *Monachus monachus* and of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea.

3. The Meeting of Experts on the Implementation of the Action Plans for marine mammals (monk seal and cetaceans), adopted within MAP was held at the Hotel Byzantino, Arta (Greece), upon the invitation of the Government of Greece, from 29 to 31 October 1998, with the main objectives of reviewing the implementation of the Action Plans so far achieved and discussing priorities and measures for their further implementation.

Participation

4. Experts designated by the following Contracting Parties to the Barcelona Convention attended the Meeting: Albania, Algeria, Bosnia & Herzegovina, Croatia, Cyprus, European Community, France, Greece, Israel, Italy, Lebanon, Libyan Arab Jamahiriya, Malta, Morocco, Slovenia, Spain, Syrian Arab Republic, Tunisia and Turkey.

5. The following organizations were represented: Secretariat of the Bonn Convention for the Conservation of Migratory Species of Wild Animals (CMS), International Commission for the Scientific Exploitation of the Mediterranean Sea (ICSEM), Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), International Commission for the Conservation of Atlantic Tunas (ICCAT), Hellenic Society for the Protection of Turtles (STPS), Acquario di Genova, Centro Studi Cetacei, Archipelagos- Marine and Coastal Management, Centre National de Recherches Oceanographiques et des Peches de Mauritanie (CNROP, mauritania), Centro Oceanografico de Malaga, DELPHIS, ICRAM, Euronature - European Natural Heritage Fund, Environmental Research Bureau, IMMA Inc, Marine Environment Research and Education Centre, Hellenic Society for the Study and Protection of the Monk Sea (MOM/HSPPMS), National Centre for Marine Research, Parc National du Banc D=Arguin, RIMMO, Seal Rehabilitation and Research Centre, Tethys Research Institute, The Whale and Dolphin Conservation Society, Underwataer Research Society/Monk Seal Research Group, World Wide Fund for Nature (WWF), Istanbul University, Universite de Corse.

6. The Regional Activity Centre for Specially Protected Areas (Tunis) acted as the Secretariat of the Meeting.

7. The complete list of participants is attached as annex 1 to the present report.

Agenda item 1: Opening of the Meeting

8. The Meeting opened at 9.30 a.m. on Thursday, 29 October 1998, under the Presidency of Mr Demetrios Kaloudiotis, Secretary-General of the region of Epiros. Mr. Mohamed Adel Hentati, Director of RAC/SPA welcomed the participants and expressed sincere thanks to the Government of Greece for its generosity in hosting the Meeting, to the heads of the local administration for their assistance and hospitality, and to ETANAM (Development Agency for the Amvrakikos Gulf S.A.) for helping to organize the gathering. After briefly outlining the background to the Meeting, he said that it had important questions to examine, particularly with regard to the problems faced. He concluded by urging the Mediterranean countries to increase their efforts to ensure co-operation and better co-ordination of their initiatives to create a synergy for nature conservation activities in the region.

9. The Vice-Prefect of Arta, Mr Christos Papageorgiu, welcomed all participants. He described the efforts of the local people and bodies to preserve and use their natural environment in a sound and sustainable way. He concluded by wishing the experts success in their important work.

10. In his welcoming statement, the Mayor of Arta, Mr Costas Vagias, wished the participants success in their important efforts to promote conservation.

11. The Director of ETANAM, Mr Costas Arvanitis, made an opening statement of welcome.

12. Mr Lucien Chabason, Co-ordinator of MAP, warmly thanked the Greek authorities for their hospitality and welcomed the newly appointed Director of the RAC/SPA Centre in Tunisia, Mr Mohamed Adel Hentati, who was replacing Mr Mohamed Saied, whose term had greatly contributed to the smooth running and reputation of the Tunis Centre. He expressed a wish to see the legal protection of marine mammals extended to cover all Mediterranean countries and noted two new events that had occurred since the start of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea. They were the adoption of the Protocol on Specially Protected Areas and Biological Diversity, and the signing of the Agreement on Conservation of Cetaceans of the Black Sea and Contiguous Atlantic Area (ACCOBAMS) in Monaco in 1996. The Co-ordinator urged countries to speed up their processes for the ratification of those instruments. He stressed the need to update the two action plans in the light of new findings on the species in question. Some results had been noted and certain new data were appearing regularly, which confirmed or negated the hypotheses put forward and the opportuneness of the conservation measures. However, our knowledge of the species was evolving slowly. Lack of means was not the only cause of lack of data and their often disparate nature. There needed to be better co-ordination of the programmes to study these species in the Mediterranean. The Co-ordinator concluded by stressing the role played by NGOs and volunteers, which was valuable for the survival of these populations in the often extensive and inaccessible areas in which they were distributed.

13. The Secretary-General of the region of Epiros, Mr Demetrios Kaloudiotis, after having briefly described the region's priorities to ensure an effective compromise between development and conservation of natural resources, officially declared the Meeting open and welcomed all participants.

Agenda item 2: Rules of Procedure

14. The Meeting noted that the Rules of Procedure adopted for meetings and conferences of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols (UNEP(OCA)/IG.43/6/Annex XI), as amended by its Eighth Ordinary Meeting, would apply *mutatis mutandis* to its deliberations.

Agenda item 3: Election of officers

15. In accordance with rule 20 of the rules of procedure, and after informal consultations, the Meeting unanimously elected the following officers:

Chairperson:	Mr Giulio Relini	(Italy)
Vice-Chairpersons:	Mr Alfred Baldacchino	(Malta)
	Ms Vanja Svetina	(Slovenia)
Rapporteur:	Mr Zitouni Bourtiba	(Algeria)

Agenda item 4: Adoption of the agenda and organization of work

16. The Meeting adopted its agenda, based on the provisional agenda contained in document UNEP(OCA)/MED WG.146/1. The agenda is attached to the present report as annex 2. The Meeting also agreed to follow the timetable proposed by the Secretariat as set out in the annotated provisional agenda contained in document UNEP(OCA)/MED WG. 146/2.

Agenda item 5: Review of national and regional activities carried out within the framework of the implementation of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea

17. Introducing the item, the representative of the Secretariat presented document UNEP (OCA)/MED WG 146/3, prepared by the Secretariat in order to provide information on the main achievements in the implementation of the Action Plan, the problems faced and the gaps to be filled. Annex 1 of that report contained a synthesis of recommendations for the consideration of the Meeting. In addition, three information documents had been prepared: on cetacean populations in the Mediterranean Sea: evaluation and knowledge of the species (UNEP(OCA)/MED WG 146/Inf.3); on interaction of fishing activities with cetacean populations in the Mediterranean Sea (UNEP(OCA)/MED WG. 146/Inf.4); and on cetacean stranding studies in the Mediterranean (UNEP(OCA)/MED WG 146/Inf.5). He stressed that the information in those documents was not intended to be exhaustive, and welcomed any comments or updates.

18. The Chairperson invited the delegations to report on the activities carried out in their respective countries within the framework of implementing the Action Plan.

National Action Plans

19. A number of countries reported that, although they had no national plan for the conservation of cetaceans, they had the intention to elaborate such a plan or strategy in the near future.

Legislation to protect cetaceans

20. Most Contracting Parties had enacted or were preparing to enact legislation of relevance to the protection and conservation of cetaceans, with designated authorities and penalties to ensure its enforcement. However, one country reported that its authorities levied no fines for contravention of such regulations.

21. A number of Contracting Parties had also established, or were in the process of establishing, national parks, marine reserves, sanctuaries and other specially protected areas, which included among their objectives the conservation of cetacean habitats.

22. Several Contracting Parties reported that species of cetaceans were also protected by their fishery regulations, which proscribed deliberate taking and controlled the types of fishing gear and practices.

23. Many Contracting Parties had ratified the international environmental conventions of relevance to the protection of cetaceans, particularly the Barcelona Convention and its Protocols, the Bonn Convention on Conservation of Migratory Species of Wild Animals, the Bern Convention on the Conservation of European Wildlife and Natural Habitats, and CITES. In a number of countries, the respective administrations were in the process of preparing to ratify the Agreement on Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS).

24. Three countries had no national legislation for the protection of cetaceans, although one of them reported that, as a signatory to international environmental agreements, it was, in the interim period, translating the provisions of those agreements into national provisions to protect cetaceans.

25. The four Mediterranean countries members of the European Union said that they had incorporated the "Habitats" directive into their national legislation, with specific provisions applicable to cetaceans. The enforcement of the existing legislation at local level was closely monitored, in order to overcome possible difficulties. Other countries, not members of the European Union, had noted with interest the possibilities of financing made available to them under EC instruments such as LIFE/Third countries or MEDA.

Interaction with fishing activities

26. Many Contracting Parties reported evidence of the impact of fishing activities on the populations of cetaceans, with by-catches resulting in injury and mortality. Deterrent measures that attempted to reduce such by-catches had proved to be effective in some areas and useless in others, and it was noted that further methods needed to be developed. It was expected that the European Union ban on use of driftnets by its members' fleets, which would be in force by the year 2002, would reduce the impact on by-catch of cetaceans in the Mediterranean.

27. With respect to competition/conflict with fisheries, one country noted a putative increase in dolphin occurrences that seemed to coincide with the introduction of nearshore fish farms. That same country reported that in 1997 it had paid US$500,000 in compensation to fishermen for net damage. An earlier net insurance scheme in the country had been abandoned after proving too costly and cumbersome to administer.

Research and monitoring

28. Some Contracting Parties had data on populations, distribution, genetics, toxicology and behaviour, sometimes based on a national survey of their cetacean populations. Others reported a general lack of data about cetacean populations and movements in their waters, and had no formal scientific programme or structure for monitoring or studying them. In a number of countries, data were based on records reported by volunteers, often from NGOs. In some cases, data on populations and activity existed for certain species, but were incomplete for others.

29. Several countries observed that teams working in the field faced legal and administrative constraints, often deriving from unclear or overlapping competences among their responsible national authorities.

Public awareness

30. While a number of Contracting Parties reported ongoing public awareness activities in the field, particularly by or in co-operation with NGOs, it was considered that more needed to be done to provide educational and information materials. The suggestion was made that informative video materials on cetaceans in the Mediterranean were needed, perhaps in the different languages of the countries of the region, targeted at the wide public.

Training

31. Several countries reported that they had no trained specialists in the field of cetaceans and, in that connection, the importance of the training activities carried out by RAC/SPA was emphasized. Some countries held their own training courses for cetologists, and one organized practical courses to allow trainees to participate in research.

Activities of RAC/SPA

32. The representative of the Secretariat, reporting on the activities of RAC/SPA, referred to section 4 of document UNEP (OCA)/MED WG 146/3, which described them. He said that RAC/SPA had had insufficient resources to carry out all the activities listed on its own, and he wished to offer his profound gratitude to all the government departments and NGOs that had provided indispensable assistance to allow the activities to go forward. RAC/SPA, he said, always kept in mind the need to co-ordinate its activities with relevant bodies, and in that context he stressed that countries themselves should endeavour to pursue the utmost co-operation with others, and help avoid overlap and duplication.

Recommendations

33. Following its discussion of the synthesis of recommendations contained in annex 1 to document UNEP (OCA)/MED WG 146/3, the Meeting approved a set of recommendations for the further implementation of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea, for submission to the Contracting Parties. The list of recommendations is contained in annex 3 to the present report.

Agenda item 6 **Establishment of a Mediterranean network for the monitoring of cetacean strandings**

34. The chairperson recalled that a workshop on strandings had been held the previous days as an overture to the current meeting, and it had comprised three sessions covering, respectively, country studies on strandings; development, at the national level, of scientific follow-up to strandings; and the timeliness/feasibility of Mediterranean co-ordination in that field. The three chairs of the sessions took the floor in turn to present the recommendations resulting from their work.

35. The meeting took up the two relevant recommendations on strandings contained in annex I of document UNEP(OCA)/WG.146/3. One representative considered that they were too generalized and that the recommendations produced by the workshop would allow them to be formulated in more explicit and concrete terms. Other participants considered that the question of live strandings had not been touched upon, and that it gave rise to problems of a practical nature. On that subject, the representative of an NGO pointed out that a document outlining the approach to follow in such a case would be shortly available in a Web-site prepared by his organization.

36. Following a brief exchange of views, the meeting agreed to reformulate one of the recommendations and to incorporate into it the proposals emanating from the workshop. These latter are contained in recommendations 6,7,8,9 listed in annex 3 to the present report.

Agenda item 7 **Co-ordination and collaboration with ACCOBAMS and other international and regional treaties and initiatives**

37. The representative of CMS drew attention to the small number of countries that had ratified the ACCOBAMS Agreement, and said he was encouraged by the announcements made by several countries at the current meeting that they were in the process of preparing their ratification procedures. He pointed to the close co-operation between his organization and RAC/SPA.

38. The Secretariat recalled that the ACCOBAMS Agreement, concluded at Monaco in November 1996, envisioned the establishment of two subregional units - one for the Black Sea, and the other for the Mediterranean - using the existing structures in the region in order to avoid duplication and waste. The Interim Secretariat of ACCOBAMS had contacted the MAP Co-ordinating Unit to see if it would be possible to entrust RAC/SPA with the functions of the Mediterranean subregional unit. On the occasion of their Tenth Ordinary Meeting, held in Tunis in November 1997, the Contracting Parties to the Barcelona Convention had invited the Secretariat, in collaboration with ACCOBAMS, to define practical modalities which would enable it to assume these functions.

39. Since the representative of the Interim Secretariat of ACCOBAMS was unable to attend the current meeting, the Director of RAC/SPA read out a message addressed to him from ACCOBAMS. The message stated that the Interim Secretariat considered that it was now opportune to study the way in which the plans of MAP and of ACCOBAMS could be fused together, and believed that the current meeting could propose to the Contracting Parties to the Barcelona Convention that they supplement and update the MAP plan to make it similar to that of ACCOBAMS. That would help the Parties to avoid putting two parallel plans into operation. The meeting was invited to give its view on the question.

40. The participants generally welcomed the above-mentioned fusion of the plans, which they saw as a simplification and rationalization. However, discussion arose on a legal point raised by some representatives, who believed that the envisaged solution first called for a careful legal consultation to provide clarity for the Parties to take a decision. One representative considered the point minor, and said it could be dealt with by the Secretariat. The important thing for the moment was to speed up the ratification process of ACCOBAMS.

41. Following the exchange of views, the meeting noted that it was judicious to reach the harmonization of the two action plans of MAP and ACCOBAMS and, to that end, invited RAC/SPA to study the legal aspects in order to bring about the above-mentioned harmonization.

Agenda item 8 Current status of Mediterranean monk seal populations

42. Introducing the item, the representative of the Secretariat drew attention to document UNEP(OCA)/MED WG.146/4, entitled "Current status of Mediterranean Monk Seal (*Monachus monachus*) populations", which had been prepared for RAC/SPA under a consultancy. The terms of reference of the report also covered areas of the Black Sea and Atlantic Ocean, because the Secretariat believed that, given the extreme status of the monk seal population, the issue should not be addressed only at the subregional level. The document was not meant to be exhaustive and it was expected that it would be re-edited in light of the comments made at the meeting.

43. The RAC/SPA consultant gave a presentation of the report he had prepared, concluding that the situation of the monk seal seemed to worsen from year to year and the species seemed to be still in decline.

44. The Meeting expressed its appreciation to the Secretariat and the consultant for the quality of the report. The comments made on its content covered the following general subjects: the inclusion of additional data on numbers and recent sightings; the uncertainty over whether populations were fragmented or whether animals had greater mobility than suspected; the inclusion of data on recent reported sightings of one or two animals in the waters of the Cape Verde Islands, and the need to draw them to the attention of the Government of that country; the uncertainty over precise causes of decline in certain areas; and the need to consider whether the report had focused on the most important areas of a country that contained habitats.

45. A number of countries provided written submissions to the Secretariat for inclusion in the amended report.

Agenda item 9 Assessment of the implementation of the Action Plan for the Management of the Mediterranean Monk Seal

46. The representative of the Secretariat asked the experts to report on their countries' activities for the implementation of the Action Plan. He pointed out that, as countries had already had an opportunity to make progress reports at the last meeting on the Mediterranean monk seal, held in Rabat (Morocco), from 7-9 October 1994, at the current meeting they should limit themselves to describing activities which had taken place since that time.

National Action Plans

47. Two countries reported in great detail on the activities under their national plans for the long-term protection and conservation of monk seals, which were already in effect. In one of them, the plan targeted both the known sites that were considered of importance for the species, as well as the rest of the country. In the other, special pilot projects for the implementation of the national strategy were underway at sites of importance for the monk seal.

Legislation to protect *Monachus monachus*

48. Most Contracting Parties had enacted or were preparing to enact legislation of relevance to the protection and conservation of the monk seal, even though the animal was not necessarily found on their territories. Designated authorities and penalties ensured the enforcement of such legislation. Several countries which had no populations of the monk seal and no legislation for its conservation expressed a willingness to join in multilateral efforts to safeguard the species.

49. A number of Contracting Parties had also established, or were in the process of establishing, national parks, marine reserves, sanctuaries and other specially protected areas, some of them specifically for the conservation of monk seal habitats. Countries with no current incidence of monk seal activity also reported the actual or planned establishment of protected areas to safeguard habitats that could be or had been of importance to the monk seal, especially with respect to recolonization of the species.

50. A number of Contracting Parties reported that the monk seal was protected by their fishery legislation which, *inter alia*, prohibited the deliberate taking of monk seals and outlawed destructive fishing techniques. In one country, NGOs were assisting the authorities in preparing an updated draft fishing law.

51. Many Contracting Parties had ratified the international environmental conventions of relevance to the protection of the monk seal, particularly the Barcelona Convention and its Protocols, the Bonn Convention on Conservation of Migratory Species of Wild Animals, the Bern Convention on the Conservation of European Wildlife and Natural Habitats, and CITES.

52. The Mediterranean monk seal was also protected under the "Habitats" diective which was binding for the four Mediterranean countries members of the European Union.

Conservation management

53. One country had adopted a national conservation strategy for the species and a national action plan was being implemented. Another country had a management strategy to conserve the most important monk seal populations and their habitat. Measures were applied to actively manage the established protected sites and areas, including regulating tourist and other human activities, and prohibiting such activities at breeding sites. Another country had set up a National monk seal Committee, whose members were drawn from academia, the Ministries concerned and NGO.

54. In one country, through cooperation between two NGOs, a rehabilitation programme had been in existence since 1990 to increase the possibility of survival of animals needing aid and

to release them into the environment when their health had returned. The programme operated with all the necessary official permits from appropriate state authorities, following strict operational protocols. In addition, the rehabilitation programme permitted the acquisition of important knowledge on a number of aspects of the biology and behaviour of the species.

Interaction with humans/fisheries

55. It was generally considered that perceived competition with fisheries and conflict with fishermen, though less drastic than in earlier times, were still the major threat to the species, and further targeted awareness campaigns were required.

56. The view was also held that intensified fishing activity and overfishing, rather than by-catch or injury through contact with gear, represented a threat to the monk seal. One expert believed that fishing activity was not the main threat to the species but, rather, human disturbance and pressure on the habitats.

Research and monitoring

57. Some countries had extensive research programmes in place and had data on populations, genetics, toxicology, veterinary aspects, and wild and captive behaviour. In some cases, data were based on a intensive study of a particular group of animals at an isolated site.

58. Several countries had undertaken national surveys of their coastlines, in one case with assistance from RAC/SPA, to inventory possible monk seal habitats and breeding sites. One country had already planned coastal monitoring work as a follow-up to such surveys. Many countries reported a lack of data about populations and movements in their waters, and had no formal scientific programme or structure for monitoring or studying the species. In a number of countries, data on movements were based on sightings reported by volunteers, often NGOs.

59. The view was expressed that parts of the extensive data recorded from research on the Atlantic population at Cabo Blanco may be extrapolated to the Mediterranean populations.

Awareness

60. A number of Contracting Parties reported ongoing public awareness activities in the field, often on a large scale, particularly by or in cooperation with NGOs. Such activities included production and distribution of leaflets and brochures for all users of the sea, information posters in different languages targeted at tourists, and environmental education programmes. One country reported that it had not yet introduced any measures to increase awareness of the need to conserve the monk seal.

Comments by Observers

61. The representative of the Seal Rehabilitation and Research Centre considered that projects for the monk seal should only be considered for funding if they contained the following elements: rehabilitation; public awareness; scientific research; conservation of the natural habitat; and attention to the quality of life of the people who lived in the natural habitat of the monk seal. In addition, she said, any subsidies for such projects should go only to the groups that would be working in the countries concerned.

62. The representative of Euronatura/European Natural Heritage Fund considered that the situation of monk seal conservation in the Northern Sporades had improved and no more killings had been recorded. Public awareness activities had been very successful and he considered the area to be a model for other Mediterranean conservation areas. However, a management body for the park needed to be set up as a matter of urgency and tourism needed to be controlled. Money was available and a body was needed to decide how to spend it wisely. On Zakynthos there was strong pressure from tourism, especially around breeding caves. He welcomed the development wherby the European Court was to intervene on the question of conservation of marine turtles, and believed that a decision from the Court would also benefit the monk seal.

63. In answer to his question on law enforcement, seeking information on developments in the prosecution of a fisherman accused of shooting at a monk seal, the representative of Greece said that legal proceedings had taken place in March 1998.

64. In answer to a question on genetic differences between Atlantic and Mediterranean populations posed by the representative of RIMMO, the consultant said that the main problem was the obtaining of samples of material. The viable populations were so low, it was difficult to test for genetic differences and no conclusive data was available.

65. The representative of the World Wide Fund for Nature (WWF), addressing the problem of increasing boat traffic, said that only on the basis of sound scientific data to prove an increase in levels of disturbance to animals could action be taken. A study was underway for the western part of Zakynthos.In the meantime, there was an attempt to meet an agreement with the boat owners not to approach the critical breeding caves of the monk seals.

66. The representative of the Hellenic Society for the Study and Protection of the Monk Seal (MOM/HSPPMS) said that NGOs played a significant role in the implementation of the Action Plan, and he drew attention to a poster display at the Meeting, which illustrated some of their activities.

67. The representative of the Environmental Research Buraeu took issue with aspects of the report made by the representative of Greece on its implementation of the Action Plan. He believed that the sites and areas singled out for protection measures were not in fact the most important ones for the monk seal. His organization had provided the authorities with data on the important sites, and he wondered why account had not been taken of such data in the national implementation of the Action Plan.

Agenda item 10 Conservation policies for the Mediterranean monk seal and priorities for action

68. To give a coherent framework to the debate initiated on this agenda item, the RAC/SPA consultant gave a slide presentation, listing those areas of the Action Plan where - in light of the reports made by delegates, on which he made brief comments - implementation had proved to be deficient. The Director of RAC/SPA told participants that, taking into account the deficiencies in the implementation of the Action Plan that had been brought to light, they were now expected to come up with recommendations on the most urgent initiatives to be applied to halt the decline of the species, which would be submitted to the Contracting Parties.

69. On the question of improving the coexistence of monk seals and fisheries, some participants noted the lack of studies on damage caused to fishing gear by the animals. In addition, an evaluation of fishing activities, together with an inventory of the most commonly used gear, was a prerequisite for a realistic approach to the situation. Other representatives considered that an awareness programme for fishermen should be given high priority, since it would result in a halt, or at least a spectacular reduction, in the number of cases of deliberate slaughter. Well-targeted awareness programmes had already given concrete results in certain zones, such as the Northern Sporades Marine Park (Greece), and that solution should be applied at the regional level, notably for all sites where new colonies of animals had been observed. There was a special way of communicating and holding a dialogue with fishermen, and it was necessary to obtain their good will.

70. Participants then discussed the priority to be given to the question of devices to prevent monk seals becoming entangled in nets. There were two distinct aspects to the problem: to avoid damage to the animals; and to avoid damage to the fishing gear. No serious studies had been made for the monk seal, as had occasionally been made for cetaceans, with some success, and even taking account of the best hypothesis, things were at a very experimental and uncertain stage. Considering the sensitiveness of the species, it was necessary to take into account the disturbance caused by acoustic systems. Other representatives considered that seals attacked nets out of lack of food due to overfishing, and the latter problem needed to be resolved. It was postulated that all these factors had to be taken into account together and efforts needed to be made to develop a type of net that was resistant to seal attacks for pilot studies in certain zones. As for compensation, for fishermen for net damage, great prudence was called for, as experience had shown that it could be counterproductive.

71. One representative considered that the question of setting up a network of marine reserves deserved the highest priority, as it was still far from being realized. Other representatives considered that the identification process was still ongoing and, as it progressed, an integrated approach would perhaps show the most promise. Seal colonies were very dispersed and, in order to have an impact on the whole of the population, this integration needed to be replaced by a more strategic vision on a regional scale.

72. In that respect, the representative of WWF enquired about the timeliness of a regional approach and the aid which the EU could provide to support a Mediterranean cooperation in this field. The representative of the EC said that he could not commit his organization, but the existence of Community instruments to that end could be explored. It was up to the Mediterranean countries, if they so wished, to get together and mobilize themselves and work for a regional project - following common guidelines - which they could submit for funding to the European Commission. The representative of Bern Convention also underlined the importance of strengthening the cooperation in a regional framework, considering the very critical situation that had been presented. In this regard the Council of Europe and the instruments of the Bern Convention could constitute an appropriate framework as well.

73. On the question of research, exchange of data and information, several representatives noted that work had been approved to set up an information network between countries, but for various reasons the work had not borne fruit. Working groups had little contacts among themselves and publications were confined to a limited circle. However, the new communications technologies such as e-mail, were a boon which had to be used to the best possible advantage. With regard to basic parameters, enough data were available to draw up conservation measures. However, with regard to the still unknown aspects of the biology and ecology of the species, it was considered that the time was ripe to put in place an intensive

research programme. In conclusion, the meeting invited RAC/SPA to compile available information on the biology and ecology of the species and to dessiminate it throughout the countries of the region. A further suggestion was made that one traditional way to improve exchange of information was to bring together the relevant experts in a symposium, which could bring together its results in a publication.

74. The meeting turned to the subject of rehabilitation of wounded, orphaned and distressed animals which, in the opinion of several participants, could be both a means of conservation of the species and a potentially counterproductive measure as a result of mistakes in handling and treatment or by transmission of disease to the wild population. Several representatives agreed on the need to follow rigorous and agreed scientific protocols.

75. With regard to other conservation measures, two representatives mentioned translocation (relocation to other habitats) and captive breeding. Translocation had not been attempted so far and the rare number of projects initiated had not progressed beyond the stage of feasibility studies. For the time being, captive breeding seemed to be abandoned by the scietific community and by the country that had prioritized it. However, the question perhaps deserved to be re-examined one day in greater depth. It was suggested that relevant guidelines from the World Conservation Union (IUCN) be applied for any reintroduction or captive-breeding programmes.

76. Concerning the massive die-off among the Cabo Blanco colony of monk seals in 1997, questions were raised on possible ways and means of intervening in the case of new and similar critical situations. It was recalled that, within the framework of the Global Marine Mammal Action Plan, for which UNEP provided the Secretariat, a special fund had been set up which, in the case of the Cabo Blanco die-off, had allowed a steering committee to be quickly set up. However, that fund was presently exhausted. It was proposed that an emergency plan be drawn up to coordinate action in case of massive die-off.

77. Following the debate, the meeting examined the question of information and public awareness programmes and underlined their importance, since a favourable opinion was indispensable for the effectiveness of measures and would also make it easier to mobilize the necessary financial resources. Such information also had to stress the regulations in force for the protection of animals and their habitats, since lively public interest - beginning with tourists - in the presence of monk seals at various sites could give rise to other problems.

78. At the suggestion of the Chairperson, the meeting agreed to entrust a small working group, comprising the representatives of Cyprus, Greece, Italy, Turkey and the Secretariat, with the task of drawing up draft recommendations on priorities for the future implementation of the Action Plan, on the basis of the debate which had been held.

79. The working group drafted a set of proposed recommendations, which were subsequently put before the meeting of experts for examination and possible amendment.

80. Following the debate, the meeting approved the recommendations, which are contained in annex 4 to the present report.

Agenda item 11 Any other matters

81. No other matters were raised under this item

Agenda item 12 Adoption of the report of the meeting

82. The meeting adopted its report on Saturday, 31 October 1998

Agenda item 13 Closure of the meeting

83. After the customary exchange of courtesies, the Chairman declared the meeting closed on Saturday, 31 October 1998 at 19h45.

ANNEX 1:
LIST OF PARTICIPANTS

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DELEGATIONS OF THE CONTRACTING PARTIES
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ALBANIA
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ANNEX 2:
AGENDA OF THE MEETING

Annex 2:

AGENDA OF THE MEETING

1. Opening of the Meeting
2. Rules of procedure
3. Election of officers
4. Adoption of the Agenda and organization of work
5. Review of national and regional activities carried out within the framework of the implementation of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea
6. Establishment of a Mediterranean network for the monitoring of cetacean strandings
7. Coordination and collaboration with ACCOBAMS and other international and regional treaties and initiatives
8. Current status of Mediterranean monk seal populations
9. Assessment of the implementation of the Action Plan for the Management of the Mediterranean Monk Seal
10. Conservation policies for the Mediterranean monk seal and priorities for action
11. Any other matters
12. Adoption of the report of the meeting
13. Closure of the meeting

ANNEX 3:
Recommendations for further implementation of the Action Plan for the conservation of cetaceans in the Mediterranean sea

ANNEX 3: RECOMMENDATIONS FOR FURTHER IMPLEMENTATION OF THE ACTION PLAN FOR THE CONSERVATION OF CETACEANS IN THE MEDITERRANEAN SEA

1. To elaborate guidelines for improving national legislation and where necessary, making them conform to the provisions of the relevant international Agreements in the field of cetacean conservation.

2. To invite the Contracting Parties to the Barcelona Convention to ratify, if they have not done so, the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean and the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.

3. Noting that the Ministries of Environment of France and of Italy have relaunched the procedure for signing an agreement with the Principality of Monaco for the purpose of establishing a sanctuary in the Sardinia-Corsica-Liguria-Provence Basin, the Meeting recommends that the Contracting Parties undertake all necessary action to conclude the signing of the said international agreement as soon as possible.

4. The experts recommend that countries and organizations take into account and develop the work related to the effects of chemical pollution on health and reproductive cycles of marine mammals and of the species on which they feed.

5. To define and implement co-ordinated survey programmes aiming at identifying the status and distribution of cetaceans in the Mediterranean. This work should include organization of a workshop on the most appropriate methodologies to be applied in the common interest, taking into account the need for information about the eastern and southern part of the basin.

6. To promote the establishment of national plans and networks for the study of cetacean strandings, using standardized methods for the collection of data. It is necessary to collect data on cetacean strandings in the Mediterranean in a common file including basic data on the reported strandings. The keeping of this common file shall be entrusted to a body belonging to one of Mediterranean intergovernmental organizations. The file must be continuously updated.

7. Co-ordination at the Mediterranean level in the field of study of cetacean strandings should be established on the basis of existing national networks and, where they are absent, on the institutions and researchers carrying out monitoring of cetacean strandings. Bilateral Cupertino should be encouraged in order to facilitate the exchange of experience between countries having experience in the study of cetacean strandings and those countries willing to develop this activity.

8. To entrust the Secretariat with the elaboration of a feasibility study (including a financial evaluation) on a Mediterranean network for the study of cetacean strandings. This feasibility study will be submitted to the Contracting Parties to the Barcelona Convention.

9. To organize a Mediterranean workshop on methods and techniques related to the monitoring and t study of cetacean strandings.

10. Interactions between fisheries and cetaceans should be investigated by designing and implementing appropriate research and awareness initiatives. The experts invite the countries, not members of the European Union, to consider the banning of driftnet use.

11. To elaborate a code of conduct for whale-watching in the Mediterranean, to be included in the conditions to be respected by every boat that practises whale-watching for either commercial or non-commercial ends; and to investigate the possibilities of the integration of the code of conduct in the national legislation.

12. The use of powerful noise sources – such as low-frequency active sonar – should be avoided in those areas known to be highly frequented by cetaceans.

13. Elaborate a Directory of organizations (NGOs, laboratories, etc.) active in the field of study and conservation of cetaceans in the Mediterranean.

14. To develop, in co-ordination with the relevant intergovernmental organizations and interested NGOs, informative and educational tools on Mediterranean cetaceans, to be used in all the Mediterranean countries to support awareness and public participation.

ANNEX 4:
Recommendations of the Meeting on topics to be addressed as a matter of priority in the further implementation of the Action Plan for the Management of the Mediterranean Monk Seal

ANNEX 4

Recommendations of the Meeting on topics to be addressed as a matter of priority in the further implementation of the Action Plan for the Management of the Mediterranean Monk Seal

Items 7,8,9,11 and 12: Reduction in adult mortality

An integrated approach combining awareness campaigns for fishermen and enforcement of appropriate legislation and regulations, on the model of what has been done in the National Marine Park of Alonissos-Northern Sporades (Greece) should be applied in areas where monk seals interact negatively with fishing activity.

The economic impact of seal damage to coastal fisheries and fish farms, and the ways to prevent or mitigate such impact, should be assessed.

Item 10: Development of systems to avoid entanglement in nets

Pilot research studies to assess the effectiveness and consequences of systems to avoid entanglement of seals in nets which are to be carried out in appropriate locations and/or seasons are considered useful.

Items 13-16: Establishment of a network of marine reserves

Already identified sites important for the conservation of the species should be urgently protected and appropriately managed.

Protected sites should be extended to include all valuable habitats for monk seals, aiming at the creation of a network of protected areas.

Items: 17-19: Monitoring, collection of data and exchange of information

E-mail regional networks should be established to facilitate ready exchange of information. RAC/SPA should encourage further contacts between conservation projects for monk seals.

Whenever appropriate, the range of seal movements should be studied as a matter of priority, using suitable techniques (e.g. telemetry). Relevant protocols should be elaborated according to the available experience.

RAC/SPA is invited to hold workshops and to promote expertise to synthesize available information on the biology, ecology and behaviour of Mediterranean monk seals that is critical for conservation. The output of these workshops should be published and be made the subject of a symposium.

Item 20: Rehabilitation of seals

A workshop to develop agreed protocols for the rehabilitation of Mediterranean monk seals should be urgently undertaken and appropriate guidelines put in place.

Items 21-22: Other conservation measures

An Emergency Action Plan should be developed to coordinate all action if a mass mortality or other emergency event occurs.

Items 23-26: Information programmes

Awareness programmes for the public should be developed and should be carefully designed in order to avoid dissemination of information that might adversely affect the conservation of the monk seals (e.g. the location of seal caves).

Special attention should be paid to increasing awareness of decision makers.

Item 27: Training programmes

Emphasis should be placed on the organization of training courses, specific workshops and training grants to address practical aspects which are relevant to the research, conservation and management of monk seals.

ANNEX 5:
Texts of the presentations made by the Contracting Party delegations concening the Agnda items 5 and 9

Quelques données sur les mammifères marins en Albanie

par

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1. REMARQUES GENERALES

L'Albanie a une côte de 470 km baignée par la mer Adriatique et la mer Ionienne. Il est à noter que la plus grande partie du littoral Albanie a été une zone de frontière interdite. Par conséquent il n'a pas été possible d'effectuer le contrôle et la surveillance du littoral pour relever la présence des mammifères marins en général et du phoque en particulier. L'information a été recueillie principalement par les pêcheurs qui opèrent dans la zone côtière et en pleine mer.

2. LISTE DES ESPECES DE LA ZONE

Ordre des Cétacés
Sous-ordre des Odontocetes
Famille des Delphinides
Delphinus delplhis (Linnaeus, 1758)

Famille Physeteridae
Physeter macrocephalus (Linnaeus, 1758)

Famillle des Ziphiidae
Ziphius cavirostris (Cuvier, 1823)

Ordre des Pinnipèdes
Famille Phocidae
Monachus monachus (Hermann 1779)

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1. *Delphinus delphis*

En comparaison avec les autres mammifères cette espèce est la plus répandue dans nos eaux marines surtout dans les zones propres et tranquilles.

Elle se trouve en groupe ou en couple ou aussi solitaire dans les zones ou l'on trouve plus de sardines ou d'anchois. Leur nourriture principale sont la sardine, l'anchois et quelques céphalopodes.
Pendant la pêche des sardines quand elles se rassemblent autour des sources de lumière, ce dauphin arrive à déchirer le filet de pêche qui l'entoure et d'en être victime. Parce que les pêcheurs aiment le dauphin ils le laissent libre. Un exemplaire se trouve exposé au Musée des Sciences Naturelles.

2. *Physeter macrocephalus*

On l'a rencontré pour la première fois en groupe de six animaux en 1966 dans la baie de Lalezi. On a tiré sur ces cachalots (les gardes de frontière) et quelques uns sont resté sur la cote. Un exemplaire se trouve au Musée des Sciences Naturelles. Longueur 9m. L'auteur de la prise et des déterminations est M..N.Rakaj.

3. *Ziphius cavirostris*

On l'a trouvé mort a Spidhe en 1976. La détermination, les mesures et la préparation d'une information dans le Bulletin des Sciences Naturelles n.1 en 1976 ont été réalisées par les auteurs : E.Lamani, E.Ruka, N.Peja.
Longueur 5.75m, longueur de la tête 0,75m, hauteur 1 m. Poids 2 tonnes.

4. *Monachus monachus*

Pour la première fois a fait son apparition dans les années 1948 - 1951 dans la zone côtière de Karavasta, l'embouchure du fleuve Seman. En juin 1963 à Butrint (près de l'embouchure du fleuve Pavel) on a trouvé dans les filets de pêche un exemplaire, femelle (Longueur 1m). Cet exemplaire se trouve aujourd'hui exposé au Musée des Sciences Naturelles (N.Rakaj). D'après les observateurs et les pêcheurs il est possible que le phoque - moine affectionne notre littoral, surtout a Butrint, Seman. Il serait intéressant d'organiser une expédition pour recenser les zones de présence possible ou de reproduction du Phoque - moine le long de notre littoral.

16.10.1998

PLAN D'ACTION POUR LA CONSERVATION DES CETACES EN ALGERIE

par
Zitouni BOUTIBA

La faune des Cétacés qui fréquente les eaux baignant les côtes algériennes était mal connue. Les publications traitant des mammifères marins sont généralement anciennes, peu nombreuses, et très éparses. Ce sont de simples notes mentionnant la présence d'espèces près du littoral ou sur celui-ci. L'unique liste de Cétacés fréquentant les eaux algériennes a été publiée par Lloze (1980).

Depuis 1974, un programme de recherche sur les Cétacés a été mené par l'équipe du laboratoire de biologie marine (Institut des Sciences de la Nature) de l'Université d'Oran. Les premiers résultats obtenus ont permis de rendre compte de la fréquentation régulière du littoral algérien par une faune cétologique nombreuse et diversifiée (Boutiba 1989, 1992 ; El Bouali 1987 ; Deheina et Mokhtar 1989). De janvier 1974 à décembre 1992, grâce à un réseau d'observateurs bénévoles, 246 échouages ou captures ont pu être recensés ; seuls ont été retenus les échouages pour lesquels la détermination de l'espèce avait été confirmée, soit un total de 140 Cétacés. En outre, nous avons personnellement recueilli 106 échouages ou captures qui sont pour leur majorité (67 %) concentrés sur la portion occidentale du littoral algérien.

Les observations à la mer ont été facilitées par une large diffusion des feuilles d'observation standard éditées par la CIESM ; au nombre de 331, elles se répartissent dans une zone comprise entre la longitude de Ghazaouet (à quelques kilomètres de la frontière algéro-marocaine) et celle d'El Kala (à quelques kilomètres de la frontière algéro-tunisienne), des côtes algériennes au 38^{e} parallèle (Boutiba 1992). Ces informations nous ont été fournies par les différents bateaux de recherche (ISMAL d'Alger ; CERP de Bou Ismaïl, d'Oran et de Béni Saf). Nous y avons ajouté nos observations personnelles faites soit à partir des sites d'observation situés sur la côte et dominant la mer, soit en mer. Les données les plus nombreuses sont localisées dans l'ouest algérien en raison de l'importance de la campagne de prospection de cette portion côtière par rapport au reste du littoral moins exploré.

Au total, huit espèces de Cétacés (sept Odontocètes et un Mysticète) ont pu être répertoriées dans les eaux algériennes (tableau 1).

TABLEAU 1. - Nombre d'animaux échoués, capturés et observés en mer en Algérie, de 1974 à 1992.

Espèces	Echouages et captures		Observations en mer		Total	
	n	%	n	%	n	%
Delphinus delphis	115	46.7	146	44	261	45.3
Tursiops truncatus	61	25	97	29	158	27
Stenella coeruleoalba	39	16	53	16	92	16
Globicephala melaena	9	3.6	12	3.6	21	3.6
Grampus griseus	4	1.6	7	2	11	1.8
Ziphius cavirostris	6	2.4	2	0.6	8	1.5
Physeter macrocephalus	4	1.6	5	1.5	9	1.5
Balaenoptera physalus	8	3.2	9	2.7	17	2.9
Total	246	100	331	100	577	100

Les grands Cétacés : cachalot *(Physeter macrocephalus),* rorqual commun *(Balaenoptera physalus)* et Ziphius *(Ziphius cavirostris)* sont très rares (ils ne représentent respectivement que 1,6 %, 3 % et 1,3 % des échouages et observations) par rapport aux Delphinidés qui constituent plus des 3/4 de l'ensemble des échouages et observations. Parmi les espèces de cette famille, on peut estimer que trois sont communes : *Delphinus delphis, Tursiops truncatus, Stenella coeruleoalba* et que deux sont peu fréquentes: *Globicephala melaena, Grampus griseus.*

Avec 46,7 % d'échouages et 44 % d'observations à la mer, *D. delphis* apparaît comme l'espèce la plus commune dans les zones prospectées. Une étude comparative des échouages de *D. delphis* entre les côtes méditerranéennes de France et d'Espagne et les côtes d'Algérie, sur une période de onze années (1977-1987) confirme l'abondance relative de cette espèce dans la région sud méditerranéenne par rapport à celle du nord, où l'espèce semble plus rare (Aguilar 1985 ; Duguy *et al.* 1988).

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PLAN D'ACTION SUR LA CONSERVATION DU PHOQUE MOINE EN ALGERIE

Par

Z. BOUTIBA

INTRODUCTION

L'Algérie fût englobée dans l'aire de répartition de l'espèce *Monachus monachus* dans les toutes premières études sur le statut général de l'espèce, par KING (1956). Cinq années plus tard, SANTA (1961) signale de nouveau la présence du phoque et le localise sur le littoral oranais. ce n'est qu'à partir des années 70 que la répartition de l'espèce sur les côtes algériennes commence à être un peu connue avec les études de BOULVA et CYRUS (1974), CHEBAB et BOUABDELLI (1978), BOUGAZELLI (1979) et LLOZE (1979); ces auteurs ont fourni quelques précisions sur la distribution de la population de phoques moines entre Béni- Saf (wilaya de Tlemcen) et Cap Ténès (wilaya de Chlef). Cette population a été estimée à 100 individus par BOULVA (1979) et LLOZE (1979).

A la même époque (année 70), l'évidence d'une raréfaction des phoques est apparue; elle a conduit certains auteurs à soulever le problème de la survie de l'espèce, et d'autres à entreprendre des recherches pour tenter de préciser l'évolution des populations.

C'est ainsi que BAHRI (1974) et JACQUIN (1974) dénoncent le massacre délibéré dont a été l'objet ce mammifère marin de la part des pêcheurs locaux; alors que BOULVA (1979) et BOUGAZELLI (1979) mettent en évidence la menace de disparition qui pèse sur l'espèce, très abondante dans les années 60 sur l'ensemble du littoral algérien. A cette époque le phoque ne s'observe plus que sur le littoral ouest (BOUGAZELLI, 1979; BOULVA, 1979). Sur le littoral est algérien, l'espèce a été signalée de façon épisodique (BOUGAZELLI, 1979; AVELLA, 1987) et la dernière observation date de 1974 (MARCHESSAUX, 1987). Des travaux récents ont permis de rendre compte de la fréquentation régulière de la côte (ouest et centre) algérienne par ces animaux, et depuis plus de dix années, les recherches ont été régulièrement poursuivies pour connaître l'évolution des effectifs et pour recenser les observations sur l'ensemble du

littoral algérien (BOUTIBA et al, 1988; LEFEVRE et al, 1989; BOUTIBA, 1990 ;1995 a,b,c).

1. Recueil des données.

1.1. Enquêtes.

De septembre 1986 à septembre 1994, plusieurs enquêtes sur le phoque moine de Méditerranée ont été menés dans différentes localités, le long du littoral oranais et algérois (de Mersat Ben M'hidi, à l'ouest jusqu'à Dellys plage, à l'est) (cf. fig. n° 1). Une seul mission a été effectuée sur le littoral constantinois, en raison d'un certain nombre de problèmes rencontrés (éloignement, manque de moyens de déplacements, hébergement, etc...).

Nous avons eu des entretiens avec plus de 800 pêcheurs (professionnels et amateurs), sortant régulièrement en mer et avec une soixantaine de navigateurs de plaisance qui nous ont fait part de leurs observations. Ces témoignages des autorités maritimes (Inspections maritimes, gardes-côtes, capitainerie des ports, services des pêches), des gendarmerie, de la protection civile et des communes côtières.

Au cours de nos enquêtes, qui ont duré 90 jours sur plus de 900 km de côtes (la mission sur le littoral constantinois n'est pas pris en compte dans ce présent travail), une campagne de sensibilisation au problème de la survie de l'espèce, a été entreprise en direction du monde maritime, de nos collègues enseignants des différentes Universités, des lycéens et écoliers. Des entretiens sur le même thème ont eu lieu également avec nos collègues chercheurs océanographes de l'Institut des Sciences de la Mer d'Alger et avec ceux du Centre d'Etudes et de Recherche sur la Pêche de Bou Ismaïl (Alger), d'Oran et de Béni Saf (wilaya de Tlemcen).

Lors de nos contacts avec « les gens de mer », nous avons explicité et distribué plus de 4000 exemplaires d'un prospectus d'information et de sensibilisation « Sauvons le Phoque Moine » (cf. annexe n°2); ces prospectus, peuvent leur permettre lors d'une éventuelle observation de phoque, de nous joindre directement ou de nous communiquer les principaux renseignements recueillis. Un réseau de correspondances bénévoles à pu être mis en place.

1.2. Patrouilles sur le terrain.

Les portions côtières accessibles par voie de terre ont été patrouillées irrégulièrement à plusieurs reprises.

Au total 150 jours, soit 720 heures de prospection systématique (à raison de 5 à 6 heures en moyenne par jour) ont été entièrement consacrés à l'exploration de la côte.

Les secteurs littoraux de la région ouest et celle du centre ont été parcourus au moyen d'un véhicule (4x4) tout terrain (Niva ou toyota) ou, à défaut, avec notre propre véhicule. Des arrêts successifs (de 10 à 20mn chacun) ont été pratiqués le long des plage, sur les bords des falaises et des corniches, environ tous les 200 -250 mètres. Parfois et autant que cela était possible, les pentes les moins abruptes et à faible déclivité sont, soit escaladées en quête de positions stratégiques pour une bonne observation (des jumelles: marque DILLUX, 7x50: champs d'observation = 124m x 1000m ont été utilisées), soit descendus jusqu'à leur base pour mieux explorer les lieux (grottes, abris, criques, petites baies, etc...).

1.3. Sorties en mer.

Vingt quatre missions en mer ont été effectuées le long des zones continentales et insulaires non accessibles par voie terrestre et difficilement accessible par voie marine.

Toutes les missions ont été menée à bien grâce à l'appui logistique de la Marine nationale (gardes- côtes) ou avec l'aide sans limite de certains pêcheurs de plaisanciers qui nous ont permis de monter à bord de leur embarcation, pour mieux explorer les secteurs difficilement accostables. Ces missions en mer duraient chacune entre 3 et 6 heures et se déroulaient toutes par mer calme et en toute saison: (2 en 1986, 4 en 1987, 7 en 1989, 3 en 1990, 8 entre 1991 et 1994).

2. OBJECTIF.

L'objectif de ces enquêtes et de ces prospections systématiques du littoral (patrouilles et sorties en mer) est, d'une part, de rencontrer et converser avec le maximum de personnes ayant des connaissances précises sur le phoque moine de la Méditerranée et ses habitudes, et d'autre part, de noter la présence éventuelle de phoques en mer le long du littoral, ou à terre. Ces sorties permettent également de recenser et d'autopsier d'éventuels cadavres rejetés par la mer. de recenser les grottes et les abris utilisés comme habitat par ce mammifère marin, de mettre en place un réseau d'observateurs fiables tout le long de la côte algérienne et enfin d'accumuler le maximum de données sur la biologie, l'écologie et l'éthologie de l'espèce.

3. RESULTATS.

Les résultats obtenus lors de nos enquêtes, de nos patrouilles sur le terrain et de nos sorties en mer se trouvent dans les tableaux I, II et III. Il nous a semblé pratique, pour exposer clairement nos résultats, de diviser les côtes algériennes en trois grands secteurs qui correspondent aux trois grandes régions géographiques de l'Algérie du Nord: littoral ouest (Oranais), littoral centre (Algérois) et littoral est (Constantinois) (cf. fig. 1).

a) Bilan des recherches.

La portion littoral ouest et celle du centre, (dè Cap Milonia, à l'ouest, à Azzefoun, à l'est) (cf.fig. 1) sont les deux secteurs le long desquels nous avons effectué une prospection systématique et minutieuse (cf. tableau I et II) également, pour lesquels les résultats et les témoignages sont suffisamment nombreux.

Sur la côte ouest, nous avons recensé, en moyenne, 56 individus répartis dans 20 localités en 1987; et 25 individus dans 17 localités en 1988; 18 individus en 1989 ; 15 individus en 1990 dans 11 localités, et 2 seulement entre 1993 et 1994 sur l'ensemble du littoral occidental, alors que LLOZE dénombrait en 1978 sur la même portion littorale, 102 individus présents dans une trentaine de localités (cf. tableau I). En une quinzaine d'années, on note donc une diminution brutale du nombre d'individus et surtout du nombre de localités fréquentées par l'espèce.

Sur le littoral centre, les données publiées par BAHRI (1974 a et b), BOUGAZELLI (1979), les informations complémentaires fournies par ces deux auteurs (comm.personn.) et les résultats obtenus lors de notre propre enquête (cf.tableau II), nous ont permis de dénombrer, il y a une dizaine d'années, 14 observations réparties dans 11 localités. Or ces deux dernières années (1988-1989), nous avons compté 5 individus seulement réparties dans 3 localités (BOUTIBA, 1990) et un seul et unique phoque en 1990, dans la localité de Bou Haroun (wilaya de Tipaza). Cette situation est donc analogue à celle qui est constatée sur le littoral ouest. En dix ans , on note un effondrement spectaculaire du nombre de phoques et aussi du nombre de sites fréquentés, jadis, par l'espèce.

La comparaison de nos données avec celles de LLOZE (1979) pour le littoral ouest d'une part et avec celles de BOUGAZELLI (1979; comm. person.) pour le littoral centre, d'autre part, doivent cependant être effectuées avec prudence; en effet si les méthodes d'investigations paraissent analogue dans les trois cas, les enquêtes (collecte des informations, prospection du littoral, sorties

en mer) ont été menées avec un écart de plusieurs années par des personnes différentes et dans des conditions dissemblables. D'autre part, la méthode de recueil des données ne fournit pas un véritable dénombrement scientifique de la population, en raison des moeurs retirés du phoque moine et la dispersion actuelle des groupes et d'individus sur près de 900 km de côtes

Ces restrictions étant faites, nous pouvons toutefois admettre que les chiffres cités précédemment nous fournissent une image globale relativement fidèle de la situation très critique de l'espèce dans ces deux grandes régions côtières et des faits notables peuvent être mis en évidence.

Sur le littoral ouest et sur celui du centre, la population de phoques est fragmentée en petits groupes ou individus isolés.

Nos données, comparées aux données antérieures (LLOZE, 1979; BOUGAZELLI, 1979) montrent, bien entendu, qu'un certain nombre de localités fréquentées autrefois par le phoque moine sont maintenant désertées. Dans la parties occidentale du littoral ouest, des localités fréquentées très récemment (1986-1987) par des groupes assez importants (8-10 individus) à Draz Illes (ou Ras Tarsa) dans la wilaya de Tlemcen, sont aujourd'hui complètement désertées. de la même façon, le groupe de six individus du Cap Falcon mentionnés par BOUTIBA et *al* (1988) a disparu depuis 1989 (cette date marque le début des travaux d'aménagement dans ce secteur). Dans la partie orientale de ce même littoral, l'espèce a notamment disparu de la vaste zone comprise entre le Cap Falcon (à l'ouest d'Oran) et Achachaâ (au nord-est de Mostaganem); le phoque ne s'observe plus également sur toute la portion côtière de la wilaya de Chlef et sur presque la totalité du littoral algérois. Mais d'autre part, on note l'établissement de petits groupes ou individus isolés dan des localités où l'espèce n'était pas (ou rarement) signalée auparavant. Ainsi, dans la wilaya de Mostaganem, la colonie de Sidi El Adjel (au nord-est de Mostaganem) est, semble-t-il, nouvelle. Le phoque moine, vraisemblablement chassé de ses anciens sites par l'activité humaine, s'est établi dans des endroits isolés et moins fréquentés. dans le cas de Sidi El Adjel, les individus pourraient provenir des abords immédiats de ce site (Cap Ivi, Oullis, Kef El Asfer. à l'ouest; Cap Khemis, Béni Houa, Kef Kalaâ, à l'est).

Les résultats présentés dans les tableaux montrent clairement que le déclin mis en évidence sur le littoral ouest (de Ghazaouet à Cap Ivi) par BOUTIBA et *al.* (1988) , puis par BOUTIBA (1995 a,b,c) se poursuit et même s'accélère.

Durant ces quinze dernières années, le rythme annuel de disparition apparente présente une moyenne de 18% sur les deux grandes régions côtières. Nous pensons que le rythme de disparition réel est de l'ordre de 15% par an . En effet, il est probable que 3 à 4% des phoques apparemment disparus ont en fait émigré vers des lieux où des conditions de vie sont plus favorables, soit sur les îles Chaffarines, au Maroc; soit l'Archipel de Galite, en Tunisie.

Le tableau IV reflète aussi la réduction dramatique de la population. Le phoque moine est observé toute l'année avec un pic de fréquence en saison estivale. Le nombre relativement faible d'individus observés durant les trois autres saisons est sans doute lié aux conditions météorologiques qui réduisent la fréquentation du littoral et limitent le nombre de sorties en mer.

b) Causes de la disparition de l'espèce.

Selon les indications de LOCHE (1840) qui mentionne le phoque moine dans sa « Classification des Oiseaux et Mammifères d'Algérie », il est permis de supposer que ce pinnipède fréquentait au XIX^{e} siècle, une grande partie de nos côtes, mais qu'il etait plus rare sur le littoral constantinois que sur le littoral oranais et sur celui de l'Algérois. La présence de colonies dans ces deux dernières régions côtières est d'ailleurs confirmée, au début du XX^{e} siècle, par les observations rapportées par TROUESSART (1905), DOUMERGUE (1919), GAVARD (1927), DIEUZEIDE (1927) et SEURAT (1930).

Aujourd'hui, le phoque moine se trouve principalement confiné sur le littoral ouest, le long duquel une quinzaine d'individus subsistent encore sous forme de petits groupes ou d'individus isolés. La présence de cette minuscule population survivante s'explique, à notre avis, par la configuration de cette côte, longue de 500 km, qui semble, à priori, plus favorable à l'espèce que les deux autres régions littorales, pour les raisons exposées ci-dessous.

- La côte ouest est très accidentée et d'accès difficile par voie de terre sur de nombreux points du littoral; par ailleurs, elle est bordée à plus de 75% par des falaises assez hautes, au pied desquelles s'observent plusieurs grottes, abris et petites criques représentant un refuge idéal pour la survie de l'espèce.

- Les eaux bordant cette côte sont sous l'influence du courant atlantique qui favorise une forte production trophique du milieu marin, assurant à l'espèce des ressources alimentaires suffisantes durant toute l'année.

- La présence le long de la frange côtière ouest de nombreuses îles et îlots (île de Rechgoune, îlot de Laïlla, îles Habibas, île des Fourmis, île Plane, îlots du

Cap Falcon et d'Arzew,...) favorise la permanence d'une population de phoques. En effet ces zones insulaires, éloignées des régions continentales peuplées ont des ressources marines abondantes et offrent des grottes profondes et bien abritées propices à l'installation de l'espèce

- A quelques exceptions près, les pêcheurs du littoral ouest ne tuent pas le phoque moine: ile le considère comme un véritable compagnon, un animal ami de l'homme, qu'ils respectent et craignent à la fois: une légende locale dit: « quiconque tue la phoque aura le malheur un jour ». Effectivement, on cite plusieurs cas où cette légende s'est vérifiée: celui d'un marin-pêcheur ayant fait naufrage en 1962, quelques jours après avoir abattu un phoque, celui d'un autre pêcheur, ayant tué délibérément, à coup de harpon, un jeune phoque venu manger du poisson dans ses filets, à Bou Zadjar en 1966; et qui, disparu en mer, fût retrouvé mort noyé, 48h après. Vers le début des années 1970, un phoque ayant été capturé accidentellement dans les filets et remmené à Ain-El Turk, dans un bassin, pour y être exhibé au public; les pêcheurs locaux exigèrent sa remise en liberté immédiate.

Toutes ces observations concordent avec celles d'AVELLA (1987) qui estime que 90ù des pêcheurs maghrébins ne montrent aucune animosité envers ce mammifère et ne le considère pas réellement comme un véritable concurrent vis-à-vis de leur « gagne pain »quotidien.

Si dans sa grande majorité, la population des pêcheurs respecte le phoque moine malgré les dégâts occasionnés aux filets, il existe néanmoins certains pêcheurs qui ont leur part de responsabilités dans son déclin. Ces pêcheurs, mal intentionnés, n'hésitent pas à tuer ce mammifère en qui ils voient un redoutable concurrent, qui, à l'occasion, est capable de déchirer leurs filets pour se nourrir de poissons maillés. De nombreux témoignage concernant la région étudiée existent et tous indiquent que des phoques ont été délibérément éliminés au moyen d'une arme à feu et /ou par l'emploi d'explosifs (JAQUIN, 1974; BAHRI, 1974; BOUTIBA et *al* .;1988). En outre, les techniques de pêche utilisées (palangre, filets maillants, filets dérivants,...) représentent un danger permanent pour le phoque moine; ce dernier meurt souvent noyé dans des engins de pêche. A ce titre, 38 décès ont été recensés entre 1987 à 1994 pour l'ensemble des côtes algériennes.

L'effondrement brutal des populations peut aussi s'expliquer par plusieurs autres facteurs:

- La pollution marine des eaux algériennes est de plus en plus importante, comme dans toute la Méditerranée. Les effets de cette pollution sur *Monachus*

monachus sont très peu connus (MARCHESSAUX et DUGUY, 1977). Il est probable que la pollution du littoral par les hydrocarbures contribue à faire disparaître les phoques du rivage qu'ils occupaient jadis (IUCN, NEWSLATTER n°1,1976). Ainsi, la pollution du golfe d'Arzew (BAKALEM, 1980) pourrait être en grande partie responsable de la disparition de l'espèce du littoral oriental, à l'est d'Oran. De même façon, la pollution du littoral Algérois est probablement la cause principale de l'extinction de la population locale.

- Le tourisme étant une ressource importante de l'économie algérienne, la création d'infrastructures touristiques se développe considérablement, en particulier le long du littoral, entraînant ainsi, une fréquentation accrue de cette zone presque toute l'année. La prolifération des bateaux de plaisance, dont les déplacements sont totalement incontrôlés fait peser de lourdes menaces sur l'espèce en dérangeant les individus dans leur habitat. Le phoque moine est, en effet, particulièrement sensible aux dérangements et l'on peut estimer que des perturbations incessantes ont pu arriver à faire disparaître certaines colonies, ou à les disperser, ce qui est, bien sûr, néfaste pour la reproduction. Les dérangements continuels peuvent, en outre, être à l'origine d'un fort taux de mortalité des juvéniles (abandon des jeunes par leur mère).

- L'installation de complexes industriels, la construction de nouveau ports, l'extension d'anciens, l'ouverture de routes ou de chemins le long de littoral venant désenclaver des plages ou criques, jusque-la difficilement accessibles, contribuent fortement à la modification de tout l'environnement côtier; et suite à cet aménagement de grande envergure du littoral, il s'ensuit une réduction très sensible des portions côtières demeurées à l'état sauvage. Ainsi, l'habitat potentiel de ce pinnipède se trouve sensiblement réduit. On ne peut guère lutter contre tous ces projet d'aménagements sauf par la création de réserves dans lesquelles l'espèce sera protégée d'une part, et qui serviraient à mieux cerner sont statut, sa biologie et les secteurs précis où elle serait susceptible de se maintenir, d'autre part.

- La pêche ne semble pas, encore, un facteur limitant fondamental, en effet, les captures réalisées par les bateaux de pêche (sardiniers, palangriers, petits métiers,...) d'une part, et les estimations des ressources halieutiques globales sur le plateau continental algérien, d'autre part, montrent plutôt que l'ichtyofaune est en quantité notable durant toute l'année.

c) Mesures de protection.

La comparaison entre nos observations de ces dernières années et les estimations numériques faites antérieurement indiquent une diminution dramatique des populations de phoques à partir de l'année 1978: le nombre de phoques recensés en 1990 et de l'ordre de 16 individus, puis 2 seulement entre 1991 et 1994 ; alors qu'en 1978, il était de 102; d'où un taux moyen de régression de 18% par an sur les côtes ouest et centre algériennes.

La diminution des effectifs des groupes existants sur les côtes d'Algérie, amorcée de longue date, est actuellement très importante, bien que l'espèce soit protégée officiellement depuis 1983 (décret présidentiel n° 83-509; août 1983). cette protection légale, venue un peu tardivement, n'est pas suffisamment efficace pour empêcher la destruction de phoques (38 décès recensés entre 1978 et 1994). L'Homme apparaît comme l'unique responsable de la disparition des phoques, soit par prédation directe (destruction par balles et explosifs), soit par dérangement (tourisme, aménagement accéléré du littoral), soit par action indirecte (capture accidentelle dans les filets de pêche, pollutions).

Il apparait indispensable de renforcer les mesures de protections et de veiller à leur application stricte dans les secteurs où l'espèce survie encore.
Il importe aussi de sensibiliser le public, en particulier les populations riveraines et plus spécialement les pêcheurs et les plaisanciers, au problème de la disparition du phoque moine.

En outre, des propositions ont été faites pour essayer de sauver les derniers phoques d'Algérie: une demande de création de réserves naturelles a été présentée aux autorités compétentes (Présidence, Gouvernement, Ministères de l'Intérieur, de l'Environnement, et de l'Enseignement supérieure et de la Recherche, et aux différentes wilayas concernées). Deux réserves sont proposées: l'une (réserve de l'île de Rachgoun) autour de Béni Saf (wilaya d'Ain Témouchent), l'autre (réserve des îles Habibas) au sud-ouest d'Oran. dans ces réserves le phoque moine serait strictement protégé; de telles réserves seraient, bien entendu, aussi bénéfiques pour toute la flore et la faune marines des secteurs concernés.

Un dédommagement des pêcheurs pour les dégâts occasionnés aux filets par les phoques moines pourrait être proposés aux intéressés.

L'urgence de la situation exige une décision rapide, faute de quoi il faudra se résigner à la disparition àbrève échéance du phoque moine d'Algérie et par conséquent du bassin méditerranéen occidental.

CONCLUSION.

Le phoque moine, espèce la plus menacée de la Méditerranéen est devenue dans beaucoup de pays, le symbole de lutte que mènent les associations de protection de la nature pour sauver cette mer de la pollution et des nuisances variées qui l'affectent.

La sauvegarde de ce pinnipède dépend de beaucoup de facteurs. Le premier point, essentiel, et le respect de cet animal; sa non-agréssivité envers l'Homme en fait une cible facile, et la meilleur façon de le protéger est encore de ne pas le déranger.

Si le phoque moine arrive à être sauvé, la preuve sera faite qu'un pas dans le sens d'une prise de conscience collective a été franchi. Par contre, si ce paisible mammifère venait à disparaître un jour, notre société apparaîtrait alors très coupable.

TABLEAU I : Répartition du phoque moine sur le littoral ouest algérien (Oranie) entre cap Milonia et la baie des Souahlia. Les données de 1978 sont celles publiées par LLOZE (1979, tableau 1).
L'astérisque indique que de jeunes individus ont été signalés.

Localités (ouest->est)	Nombre d'individus					Habitat
	1978	1987	1988	1989	1990	
Wilaya de Tlemcen						
- Cap Milonia (Ras E. Chareye	15*	1	-	-	-	grotte 2*
- Ras Kala (plage des Sels	1	1-2	--	1	1	grotte
- Ilot de Palomas	2	--	--	--	--	grotte
- Port de Ghazaouet	2	1	1	-	--	port
- Nell	1	-			--	abri
- Cap Tarsa (Oran Illes	1	10*	1	-	—	abri (2
- Plat Duchaï	1	1	1-2	1	1	grotte
- Port de Honaine -El Mohrane		3	1	1		grotte
Wilaya d'Ain Témouchent						plage crique - plage
- Ouardania- Bachgoun	-	1-2	1-2	1-2	1	grotte 2* - abri
- Ile Bachgoun		2	1	-	1	grottes 3 - abris 3
- Port de Beni Saf	3	1	-	2		port
- Cap Carlassea-Canerraca	-		-	2	1	criques - falaises
- Cap Figalo	2	5-6	--	—	—	grottes (3)
- Bou Zadjar	10*	1	—	—	—	grottes (3)
Wilaya d'Oran						
- Maddagh	6	6*	2-3	—	—	grottes (4) - crique
- Cap Blanc	3	2	2	—	-	grottes (3)
- Iles Habibas	1	2	1	1	1	grottes (3)
- Iles des Fourmis	—	—	--	--	—	rochers
- Ile Plane	1	—	1	—	-	rochers
- Cap Falcon	3	2	—	—	--	grottes (2) + abris
- Oran - 'Rocher de la "Vieille"	1	--	--	—	—	grotte
- Pointe de l'Aiguille	6	1	1	1	1	grottes (2)
- Cap Ferrat	2	—	1	1	—	grottes (2)
- Cap Carbon	1	—	—	--	1	grottes (2)

TABLEAU I :(suite).

Wilaya de Mostaganem

- Cap Rouge	1	—	—	—	—	grotte - plage
- Solidia	4	—	—	—	—	plage
- Port de Mostaganem	—	—	—	—	—	port
- Cap Ivi	1	6'	1	—	—	grottes ,3
- Salidia (plage)	2	1	—	—	—	plage
- Achachaâ (ex: Picard)	15	—	—	—	—	plage
- Pef El Asfer	3	—	2	2	2	grotte - crique
- Petit Port - Sidi El Adjel (ex: port Mesnard)	—	4-5	3-4	3-5	2-5	grottes ,3

Wilaya de Chlef

- Cap Khrenis	3	—	1	—	—	grotte.
- Ile Colombi (plage)	3	—	—	—	—	grotte.
- El Marsa	1	—	—	—	—	grotte
- Pef Malaâ	1	—	—	—	—	grotte.
- Pointe Rouge	1	—	—	—	—	grotte.
- Beni Haoua	1	1		—	—	grotte
- Cap Tenès	3	—	1	—	—	grottes ,2
- Tenès	1	—		—	—	
- Baie des- Stahlia	—	1	1-2	—	1	grotte
	132	54-59	22-28	17-19	14-16	

TABLEAU II : Répartition du phoque moine sur le littoral centre algérien (Algérois) entre Damous et Azzefoun. Les données de 1979 sont celles de BOUGAZELLI (1979); et comm. person.). L'astérisque indique que de jeunes individus ont été signalés.

Localités (ouest->est)	Nombre d'individus			Habitat
	1979	1989	1990	
Wilaya de Tipaza				
- Damous (Seiche')	1	—	—	grotte
- Gouraya (plage	2	—	—	grotte
- Cherchell	1	—	—	grotte
- Bou Haroun (port et Grotte des Veaux Marins	2-6*	1	1	grotte ?
- Bou Ismail	1	—	—	
Wilaya d'Alger				
- Bhenil plage	1	—	—	plage
- Baie d'Alger	1	-	—	crique - plage
- Pointe Pescade	—	2	—	
- Cap Matifou	1	—	—	
Wilaya de Boumerdes	—	—	—	
Wilaya de Tizi Ouzou				
- Dellys (plage)	1	1	—	plage
- Azzefoun	—	—	—	crique
	11 - 17	5	1	

TABLEAU III: Observations du phoque moine sur le littoral est algérien (Constantinois) de Béjaia (port) à la frontière algéro-tunisienne, durant l'été 1988.

Localités (ouest→est)	Nombre d'individus
	1988
Wilaya de Béjaia.	
- Bejaia port .	—
- Tichi	—
- Djama Mansouria	1
Wilaya de Jijel.	
- Ras Aroua	3
Wilaya de Skikda.	
- Baie de Collo	2
- La Marsa	—
- Cap de Fer	—
Wilaya d'Annaba.	
- Chetaïbi	1
Wilaya d'EL Tarf	
- El Kala	2
- Frontière algero-tunisienne	—
	8

TABLEAU IV : Fréquence saisonnière et annuelle des observations de Monachus monachus sur les côtes ouest et centre algériennes de 1987 à 1990.

	1987	1988	1989	1990	Total
Hiver	13	11	3	3	30
Printemps	13	9	3	3	28
Eté	30	17	15	9	71
Automne	19	14	1	5	41
Total	86	51	22	20	174

N.b. Tout décès est comptabilisé comme étant une observation.

Short statement of the delegate of Croatia
on Agenda item 5

Even Cetaceans are not very common in the Croatian Adriatic waters, there is a population of *T. truncatus* living in the Northern Adriatic and occasionally *D. delphis* can be observed in the southern parts.

Nevertheless all Cetaceans are strictly protected under the Law on nature protection since 1996 while being in the Croatian waters. It is forbidden to kill, to posses even any part of it, to buy or to sell it or to export any animal or a part of it. According to the legal document based on the mentioned Law one can be fined to pay for the killing of the cetacean approximately 8,000 US$.

Croatia had signed ACCOBAMS Agreement and ratification is in process.

CYPRUS

Progress in the implementation of the Action Plan on Cetaceans

Dolphins along with Monk Seals and turtles have been protected in Cyprus since 1971. The relevant regulations were made under the Fisheries Law (CAP 135). The various Fisheries Regulations passed, up to 1990, were consolidated into the 1990 Fisheries Regulations (Reg.273/90). The relevant regulation (Reg 13.(1)) foresees that:

« Without a special written permit from the Director of the Fisheries Service, it is prohibited:-

(a) to kill, pursue, take, buy, sell or possess any aquatic turtle, seal, dolphin, freshwater crab or sand crab of the species *Ocypode cursor*;
(b) to attempt to kill, pursue, take, buy or sell any of the above species; or
(c) to buy, sell or possess turtle eggs or any part of a turtle, seal, or dolphin.»

The basic law provides for a fine of up to £5000 (about $10000) or for imprisonment for up to 6 months or both penalties, for any contraventions of the regulations. This legislation is strictly enforced though some problems have been faced in the last 5 or so years in the case of dolphins.

These regulations also provide for the regulation of many fishing parameters, prohibiting interalia trawling below 30 fathoms and during the closed season (1 June to the 8 november). They also limit fishing effort by limiting numbers of licences etc.

Dolphins

Though no formal monitoring programme exists records of strandings etc are kept. No specialized expertise exists and advantage was taken of one RAC/SPA sponsored training course to train one person.

In recent years there has been an increase in the number of dolphins in the coastal waters of Cyprus. Fishermen claim that dolphins have increased spectacularly as a result of the development of aquaculture in Cyprus, causing serious damages to their nets. Marine aquaculture has been rapidly expanding in the last 6-7 years. In 1997 it produced about 900 tons of sea bass and sea bream. Farming is in offshore cages located at 1-1.5 km. from the shore at 20-40 m. depth. Since aquaculture started dolphins have also appeared. Fishermen blame the fish farms for the large numbers and for the dolphins staying in Cyprus waters throughout the year. They claim that dolphins are attracted primarily to the large shoals of fish, mainly Boque (Boops boops) that have appeared in the vicinity of fish farms and which are maintained by waste matter etc originating in the farms. Damages to fishermen nets have been compensated by Government in 1997 for the first time. About $0.5 m was given for this purpose. On avarage about $1300 was given as compensation to each fisherman. An insurance scheme that was implemented earlier had to be abandoned as it was too costly to Government. Claims for compensation and demonstrations were also made in 1998. Damages are mainly to low trammel nets. Attempts at scaring the dolphins away with several devices have failed so far.

About 10 dolphins were reported washed up dead on the beaches so far in 1998 and a similar number was reported for 1997. They were mainly Bottlenose dolphins with some Common dolphins.

CYPRUS

Progress in the implementation of the Action Plan on Monk Seals

Legislation

Monk Seals along with dolphins and turtles have been protected in Cyprus since 1971. The relevant regulations were made under the Fisheries Law (CAP 135). The various Fisheries Regulations passed up to 1990 were consolidated into the 1990 Fisheries Regulations (Reg.273/90). The relevant regulation (Reg 13.(1)) foresees that:

« Without a special written permit from the Director of the Fisheries Service, it is prohibited:-

(a) to kill, pursue, take, buy, sell or possess any aquatic turtle, seal, dolphin, freshwater crab or sand crab of the species *Ocypode cursor*;
(b) to attempt to kill, pursue, take, buy or sell any of the above species; or
© to buy, sell or possess turtle eggs or any part of a turtle, seal, or dolphin.»

The basic law provides for a fine of up to £5000 (about $10000) or for imprisonment for up to 6 months or both penalties, for any contravention of the regulations. This legislation is strictly enforced though some problems have been faced in the last 5 or so years in the case of dolphins.

These regulations also provide for the regulation of many fishing parameters, prohibiting interalia trawling below 30 fathoms and during the closed season (1 June to the 8 november). They also limit fishing effort by limiting numbers of licences etc.

Monk Seals

Historically, ie., within this century, there were several colonies of monk seals on the coast of the island. To clarify the present situation RAC/SPA's assistance was requested.

In May 1997, a field survey was conducted along the western and southern coasts of Cyprus. More specifically the survey covered the total length of the coastline from Khrysokhou Bay, in the west part of the island, to Cape Greco, in the southeast. The survey was carried out by the Cyprus Wildlife Society, in collaboration with Cypriot authorities (Ministry of Agriculture and Natural Resources and Environment, Department of Fisheries), and MOm-Hellenic Society for the Study and Protection of the Monk Seal, which provided one of its senior field experts Mr Panayiotis Dendrinos. The whole expedition was financially supported by SPA/RAC of the UNEP/MAP. The final report of this survey is now ready and will be transmitted to RAC/SPA soon.

It is clear that though there has been a very serious decline in the monk seal population on the coast of Cyprus these seals cannot be considered as being extinct on the island. The evidence is that a very small number of animals are still surviving mainly on the west and north-west coast of the island in the Akamas area. Recent records also indicate to the possibility of the use of the caves at Akrotiri at least by a single animal that has been regularly feeding near a fish farm in Limassol Bay.

We are intending to continue with a follow up to this survey and to monitor the situation. Pending political decisions on the fate of Akamas peninsula, in which a number of these caves are located, will hopefully help with the protection of some at least of these cave areas.

Ministère de l'Aménagement du Territoire et de l'Environnement
Direction de la Nature et des Paysages
20 avenue de Ségur ; F-75302 PARIS 07 SP (France)
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Réunion d'experts pour la mise en œuvre des plans d'action pour les Mammifères marins (Phoque moine et Cétacés) adoptés dans le cadre du Plan d'Action pour la Méditerranée
Arta, 29-31 octobre 1998

Rapport national d'activités
Cétacés

Le Ministère (Direction de la nature et des paysages) a attribué quelques contrats ponctuels et, depuis 1994, le Parc national de Port-Cros a été chargé de coordonner les recherches sur les Cétacés des côtes françaises de Méditerranée. Plusieurs contrats d'étude ont été attribués à divers organismes ou associations. Les résultats ont été récemment utilisés pour réaliser un ouvrage collectif de vulgarisation : *Demain un sanctuaire pour baleines et dauphins en Méditerranée* (Beaubrun et coll., 1998).

Enseignement

Depuis 1994, le laboratoire d'Écologie et de Biogéographie des Vertébrés de l'École Pratique des Hautes Études de Montpellier, organise chaque année un stage, *Formation en Cétologie Méditerranéenne*, avec l'aide du Ministère chargé de l'Environnement et du Centre Régional d'Activités pour les Aires Spécialement protégées (Tunis). Cet enseignement spécifique d'une semaine aborde la plupart des grands domaines de la Cétologie et fait le point sur l'état d'avancement des connaissances en Méditerranée. Ce Stage théorique peut être complété par une formation pratique en participant aux campagnes de recherches.

En 1994, le GECEM a réalisé un stage destiné aux membres de la Commission "Échouages" afin de leur donner une formation leur permettant d'exploiter au mieux les Cétacés échoués. En 1996 et en 1998 des réunions d'information et de sensibilisation ont été réalisée à la demande de l'état major des Services de Secours de l'Hérault, en présence des représentants des administrations concernées (Direction Régionale de l'Environnement, Affaires maritimes, Office National de la Chasse, Gendarmerie maritime, etc.).

Cétacés du bassin Corso-Liguro-Provençal

Le secteur d'étude des Cétacés des côtes françaises de Méditerranée concerne plus particulièrement le bassin Corso-Liguro-Provençal avec le périmètre du projet de Sanctuaire. Ces travaux ont été réalisés par le Laboratoire d'Écologie de l'Université de Corse (Corté) (Viale, 1991 et 1995 ; Terris, 1990), le Laboratoire d'Écologie et de Biogéographie des Vertébrés de l'École Pratique des Hautes Études (Montpellier) (Gannier, 1995-1997 ; Gannier

et David, 1997), le GREC (Groupe de Recherches sur les Cétacés, Antibes) (Gannier, 1997 et 1998a-c ; Gannier & Gannier, 1997a-c), le GECEM (Groupe d'Étude des Cétacés de Méditerranée, Montpellier) (Ripoll, 1996), l'association RIMMO (Réserve internationale marine de Méditerranée occidentale).

L'EPHE a retenu comme thème majeur la *Distribution des espèces en fonction de la productivité des milieux et/ou des phénomènes hydrologiques.* Deux aspects sont plus particulièrement développés : 1) distribution comparée des populations de Cétacés et d'Oiseaux marins (David et coll., 1998), 2) distribution estivale des Cétacés sur les marges du plateau continental. La prospection aérienne du secteur vient d'être initiée (Beaubrun et coll., 1997). Un autre aspect concerne les *Nuisances et mesures de protection* (Beaubrun et coll., 1997).

L'abondance et l'activité des Cétacés au large du littoral continental français a été suivie par le GREC au moyen d'un bateau de 12 m équipé d'hydrophones. Les affinités bathymétriques détectées ont été mises en relation avec le régime alimentaire pour les espèces les plus fréquentes (Gannier, 1998). La technique d'échantillonnage utilisée a fourni des résultats fiables et complémentaires par rapport à des campagnes classiques, plus lourdes et plus coûteuses.

En 1994 et 1995, le GECEM s'est attaché à l'étude des Cétacés présents au large des côtes dans une zone à forte rupture de pente (Ripoll, 1996). La zone étudiée semble extrêmement riche. Le Dauphin bleu et blanc, *Stenella coeruleoalba*, est présent toute l'année et particulièrement abondant au printemps et en été. Sa zone de prédilection se situe entre 5 et 10 milles de la côte. Le Rorqual commun, *Balaenoptera physalus*, est particulièrement abondant en été et en automne. Il n'est pas noté en plein hiver mais il réapparaît dès le mois d'avril. Sa zone de prédilection se situe entre 15 et 19 milles de la côte. Le Globicéphale, *Globicephala melas*, est présent irrégulièrement mais il peut être ponctuellement très abondant. Les importantes variations annuelles mises en évidence devraient conduire à une grande prudence quant aux généralisations réalisées à partir d'études portant sur un ou deux ans seulement.

Ces recherches d'ensemble ont été complétées par des études plus localisées au point de vue géographique et plus ciblées en ce qui concerne les espèces.

Suivi de populations

Le suivi de la population de Dauphins de Risso, *Grampus griseus*, du secteur des îles d'Hyères a permis de préciser la répartition spatio-temporelle de cette espèce et d'identifier une partie des individus par photo-identification (Bompar, 1996).

Après 30 ans d'absence, le Grand dauphin, *Tursiops truncatus*, est de retour sur les côtes de Provence. Les 62 données collectées de 1992 à 1996, permettent une analyse de la répartition des observations dans l'espace et dans le temps. Des groupes de Tursiops ont été signalés tout au long de la côte, en

général sur des fonds inférieurs à 200 m (85 % des observations). Les observations sont réparties tout au long de l'année mais les conditions météorologiques et la fréquentation touristique fournissent un plus grand nombre d'observations pendant la saison estivale. Pour l'instant, il n'y a pas de preuve de l'existence de groupes résidents, y compris dans l'archipel des îles d'Hyères, qui demeure une zone d'un grand intérêt pour cette espèce. L'étude du statut du Grand dauphin sur les côtes provençales offre une possibilité exceptionnelle d'étude de la recolonisation d'une région par un mammifère marin côtier, elle demande à être poursuivie et amplifiée (Dhermain, 1996-1997).

La population de Grands Dauphins a été suivie en Corse depuis 1993 (Baril et coll., 1993 , Ripoll, 1995 et 1998). Le premier recensement a permis d'estimer cette population à 102 individus au moins, répartis en 7 groupes sur la côte ouest et à 25 individus répartis en 3 groupes sur la côte est (cette population a certainement été sous-estimée en raison des conditions météorologiques). Des études comportementales (1995-1998), étayées par la technique de photo-identification, ont permis d'enrichir la compréhension du statut de cette espèce en Corse. Le fichier de photo-identification comprend 46 individus et s'accroît à chaque campagne suggérant, soit l'existence d'une importante population, soit un nomadisme marqué. Le taux de recontact d'une année sur l'autre est de 15 % et le taux de recontact lors d'une même campagne (sur 2 semaines d'intervalle) est de 68 %. Au moins une partie de la population serait sédentaire.

Photo-identification

La photo-identification est de plus en plus utilisée pour l'étude des Cétacés des côtes françaises de Méditerranée (Bompar, 1996 ; Dhermain, 1996-1998 ; Gannier et Gannier, 1997a ; Ripoll, 1998).

Le fichier du Rorqual commun a été initié et plusieurs individus ont déjà été identifiés (Gannier et Gannier, 1997a).

La population de Dauphins de Risso du secteur des îles d'Hyères a fait l'objet d'un important recensement par photo-identification. Cette population comprend de 159 à 229 individus identifiés par cette technique (Bompar, 1996). L'un d'eux a également été identifié par les cétologues italiens dans la région de Gênes.

Le fichier de photo-identification de Grands Dauphins des côtes de Provence compte 74 profils, correspondant vraisemblablement à 56 individus (Dhermain, 1998). À noter deux observations intéressantes :

- un individu photographié le 19 septembre 1995 dans la grande passe de Porquerolles et recontacté le 5 septembre 1997 à l'est de l'île du Levant ;

- un individu du groupe photographié le 5 septembre 1997 avait été contacté en Corse au large du golfe de Saint-Florent le 17 juillet 1997. C'est la première preuve du déplacement d'un Grand Dauphin entre la Corse et le continent.

Il ne fait aucun doute que la comparaison ou la mise en commun des fichiers existants, éventuellement dans les pays voisins, apportera des résultats intéressants.

Comportement

La Laboratoire de Biologie marine et appliquée (Université d'Aix-Marseille) a entrepris une étude socio-écologique sur les Grands Dauphins (*Tursiops truncatus*) solitaires et familiers qui a fait l'objet d'une thèse d'université (Muller, 1998). Fanny à Fos sur Mer (Bouches-du-Rhône) et Dolphy à Collioure (Pyrénées-Orientales) ont fait l'objet d'un suivi particulier.

L'approche comparative choisie a permis d'évaluer les résultats concernant les dauphins solitaires en les comparant aux connaissances actuelles sur les Grands dauphins "typiques" vivant en groupe. Une synthèse à l'échelle mondiale sur les connaissances acquises sur ce type de comportement a été proposée. Il a été montré que ces dauphins sauvages et familiers étaient, au début, des individus solitaires qui se sont habitués progressivement au contact avec les humains. Les résultats indiquent que la vie en solitaire est temporaire.

Bioacoustique

L'utilisation d'hydrophones a déjà apporté un résultat très intéressant et inattendu puisqu'elle a permis de montrer que le Dauphin bleu et blanc, réputé être une espèce pélagique, s'approche de la côte pour se nourrir pendant la nuit (Gannier, 1996 ; Gannier et David, 1997). Le développement de cette technique d'investigation devrait fournir des résultats nouveaux et intéressants.

Recensement des échouages de Cétacés sur les côtes françaises de Méditerranée

Le recensement annuel des échouages de cétacés sur les côtes françaises de Méditerranée a mis en évidence la présence de 10 espèces (Oliver, 1994-1995 ; Oliver et coll., 1996-1997). De 1993 à 1996, l'augmentation du nombre d'échouages (34 en 1993, 34 en 1994, 26 en 1995, 48 en 1996) pourrait être attribuée à l'amélioration du réseau mis en place et des relations nouées avec les partenaires (Sapeurs Pompiers, Affaires Maritimes, Gendarmerie, etc.). Toutefois, d'autres causes sont probablement intervenues, au moins en 1997, année au cours de laquelle 67 échouages ont été recensés, soit une augmentation de 40 %.

Lorsque l'état de conservation des animaux le permet, des prélèvements sont effectués en vue de procéder à des analyses réalisées par plusieurs laboratoires intéressés par ce matériel d'étude.

L'année 1998 a été marquée par des échouages multiples fin janvier-début février. Tous les Dauphins bleu et blanc portaient 1 ou 2 blessures arrondies, dont l'origine n'a pas été déterminée avec certitude, situées près de l'articulation des mâchoires ou sous la gorge. En 7 jours (du 29 janvier au 4 février), 12 Stenella avec ces blessures particulières ont été recueillis entre

Leucate (Aude, France) et Saint-Cyprien (Pyrénées-Orientales, France) sur 40 km de côte seulement. Le recensement des échouages sur les côtes du Languedoc-Roussillon (golfe du Lion, France) en janvier et février 1998 concerne 24 animaux alors que 15 seulement ont été recensés pendant la même période sur la même côte de 1993 à 1997, soit en 5 ans (Rigollet et coll., 1998a-b). À la demande du Ministère, une enquête a été confiée à la Direction Régionale de l'Environnement du Languedoc-Roussillon afin d'élucider cette énigme.

Toxicité et pathologie

La contamination des Cétacés par les métaux lourds et les PCB est étudiée par le Laboratoire de Biologie Marine fondamentale et appliquée de l'université d'Aix-Marseille et le Laboratoire d'Écologie de l'université de Corté. Ce dernier, recherche également les causes de mortalité par le suivi des échouages et l'analyse histopathologique des tissus prélevés.

La voie digestive est la principale porte d'entrée des éléments étudiés chez les Cétacés. Compte tenu du phénomène de concentration de ces éléments dans les chaînes alimentaires, les taux en métaux et métalloïdes trouvés chez les Cétacés sont parmi les plus élevés détectés chez un être vivant. La respiration aérienne et la pénétration transcutanée pourraient également jouer un rôle (Augier et coll., 1993a). Les plus fortes concentrations sont presque toujours trouvées dans le foie, ce qui est certainement en rapport avec son rôle d'organe barrière vis à vis des produits toxiques (Hg : 4 770 µg/g dans le foie, 833 µg/g dans les poumons, 716 µg/g dans les reins, 259 µg/g dans l'encéphale) (Augier et coll., 1993a-b).

L'origine des métaux et métalloïdes est essentiellement d'origine anthropique, mais il faut également prendre en compte les émissions naturelles (volcanisme en Méditerranée par exemple). Des quantités importantes de cuivre sont libérées en mer par lixiviation des peintures anti-salissures (Augier et coll., 1996a) et de zinc provenant des anodes de protection des bateaux (Augier et coll., 1966b).

Les PCB ont été révélés dans le lard, le foie et les reins du Dauphin bleu et blanc. Il a été constaté que de fortes concentrations étaient souvent liées aux mortalités en masse lors de l'épidémie à *Morbillivirus*.

Les altérations histologiques observées sont concomitantes de fortes charges en Pb, Cd et Hg. L'atteinte du rein se traduit par des modifications du cortex, des corpuscules de Malpighi et de l'espace de la capsule de Bowman ; la région médullaire montre souvent des signes de protéinurie. Le rein présente un aspect de vieillissement même chez des animaux jeunes. Le mauvais état du rein se répercute sur la régulation de l'eau, donc sur le volume sanguin et la pression artérielle. Il en résulte encore des altérations du foie, des poumons, puis du cœur (Isetti, 1992 ; Bariteaud, 1993 ; Verneau, 1993 ; Frodello, 1994 ; Vaillon, 1993 ; Frodello et coll. 1995-1996 ; Viale et coll., 1997).

L'analyse des causes de mortalité montre un effet des captures dans des engins de pêche pour plus de 50 % des cas. En plus de l'épizootie à

Morbillivirus chez *Stenella coeruleoalba* en 1990-1992, les autres causes sont difficiles à déterminer sauf quelques cas d'occlusion gastrique occasionnées par des plastiques : présence d'une bâche en plastique de 10 m^2 chez un Cachalot (Viale et coll., 1992).

Les Cétacés sont susceptibles de servir d'indicateurs d'une dégradation progressive de la Méditerranée (Viale, 1994) et de jouer un rôle d'alerte à la pollution de la mer indécelable par la seule analyse de l'eau (Oliver et coll., 1998). Ils pourraient servir à mettre en place un réseau de surveillance complémentaire des réseaux de surveillance de la qualité des eaux déjà en place (RNO, REMI, REPHY).

Réglementation

Toutes les espèces de Cétacés sont protégées par l'arrêté du 27 juillet 1995, publié au journal Officiel du 1 octobre 1995, applicable en France, y compris dans la zone économique, dans la collectivité territoriale de Mayotte et dans le territoire des terres australes antarctiques françaises.

Le "whale-watching" constitue également une préoccupation. Une réunion de travail est prévue afin de faire le point sur ce problème et réfléchir sur une législation à mettre en place. Toutes les informations disponibles sur ce sujet, et tout particulièrement celles concernant la Méditerranée, seront les bienvenues.

En ce qui concerne le Sanctuaire de mer Ligure, les Ministres italien et français chargés de l'Environnement, ont relancé la procédure, avec l'intention de signer un accord avec la Principauté de Monaco avant la fin de l'année.

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Réunion d'experts pour la mise en œuvre des plans d'action pour les Mammifères marins (Phoque moine et Cétacés) adoptés dans le cadre du Plan d'Action pour la Méditerranée
Arta, 29-31 octobre 1998

Rapport national d'activités
Phoque moine de Méditerranée

En 1994, dans l'impossibilité de justifier la prolongation des efforts financiers et humains consentis depuis 10 ans, le Ministère chargé de l'Environnement a décidé de mettre fin à l'expérience de reproduction en captivité du Phoque Moine de Méditerranée. Ainsi ce projet devait s'arrêter à la production d'une méthodologie.

Ce programme correspondait aux normes établies par l'UICN qui recommande la mise en place de la reproduction en captivité lorsque la population d'une espèce menacée est inférieure à 1 000 individus.

Une note de 1994 (Anonyme, 1994) indiquait que le projet de reproduction en captivité, outil de la dernière chance, pourrait connaître deux issues possibles :

- ne pas servir, si des mesures efficaces et effectives étaient prises et appliquées et assuraient l'arrêt des destructions ;

- devenir urgent si la population continuait à régresser, de façon progressive (comme les chiffres l'indiquaient depuis une quinzaine d'années) ou de façon brutale (marée noire ou épizootie).

On peut noter le ton prémonitoire de cette note puisque la population du Sahara occidental vient de passer de 300 individus à une centaine seulement, vraisemblablement à la suite d'une intoxication par des phytotoxines (Aguilar, 1998)

Même si la France n'envisage pas de reprendre un projet de reproduction en captivité, il semble que cette expérience aurait pu éventuellement permettre d'être en mesure de pouvoir faire face au pire, comme nous le connaissons aujourd'hui.

Réglementation

La protection des Pinnipèdes est assurée par l'arrêté du 27 juillet 1995, publié au journal Officiel du 1 octobre 1995, applicable en France, y compris dans la zone économique, dans la collectivité territoriale de Mayotte et dans le territoire des terres australes antarctiques françaises.

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National Report on the implementation of the Action Plan for Cetaceans

GREECE

presented by the Greek delegation during the Meetings for the Evaluation of the Action Plans for endangered Marine Species, Arta, 29 - 31/10/98

1. Greece has ratified the International Conventions of Barcelona, Bern, CITES which hold relevant provisions for the conservation of cetaceans. The ratification of Bonn Convention is underway, nevertheless, the provisions of this Convention are implemented by Greece as a member State of the European Communities, by means of an E.C. Regulation. Furthermore, Greece has signed the ACCOBAMS agreement and it is in process of enacting it through the Greek House of Parliament.

2. At the national level, deliberate killing of cetaceans is prohibited and the competence for issuing licenses for handling stranded animals and carrying out non- lethal research, as well as implementation of the CITES provisions lies with the Ministry of Agriculture. The use of drift nets is not allowed in the country.

3. Co-ordination meetings by the Ministry of Environment were carried out during the epizootic of dolphins in the Mediterranean (1991-92), which allowed the collection of data of stranded animals, through reports of the Port Police Authorities and the involvement of the Veterinary Service and local authorities in coastal areas and islands, and the collaboration of scientific groups which carried out necropsies and tissue sampling for further investigations. The National Marine Research Centre in Athens, the Marine Biology Institute of Crete, NGOs such as MoM (Hellenic Society for the Protection and Study of the Monk seal) and the Greek office of Greenpeace, as well as other interested scientists and individuals took part in this effort and have, since, published their results.

4. Occasional strandings of cetaceans have continued to be reported in the following years and relevant data have been published as well. Surveys on the distribution of species have been conducted by means of questionnaires and identification guides have been issued and circulated in coastal areas and islands by interested parties. Handling of alive stranded animals has been carried out by individuals holding the necessary permits.

5. During the last 4 years, more systematic surveys have been carried out in some parts of the country, including the Ionian Sea, the Gulf of Corinth and other areas, by TETHYS institute, the DELPHIS Society, the University of Athens and others.

6. Awareness and education efforts by NGOs have been conducted to a certain extent and it seems that they will continue in the future.

7. The organisation of a nation-wide survey with the most appropriate methods is the most outstanding of the priorities with regard to cetacean conservation. Following this, there is a need to establish a system of collaboration between interested groups and individuals concerning exchange of data on strandings, and handling of alive animals. The third issue of priority is identifying conservation actions in the most important areas for cetaceans.

STATUS OF THE POPULATIONS AND IMPLEMENTATION OF THE ACTION PLAN FOR THE MANAGEMENT OF THE MEDITERRANEAN MONK SEAL (*Monachus monachus)* IN GREECE

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INTRODUCTION

This document, is an assessment of the status of the populations and of the up to date implementation of the UNEP/MAP Action Plan for the Management of the Mediterranean Monk Seal (*Monachus monachus)* in Greece. It consists of two parts: The first contains recent available information on the status of the highly endangered species *Monachus monachus*, in Greece, as well as, the initiatives undertaken for its conservation throughout the country; the second part is an assessment of the implementation of the MAP/UNEP Action Plan for the Management of the Mediterranean monk seal in Greece.

STATUS AND CONSERVATION OF THE MEDITERRANEAN MONK SEAL IN GREECE

A. Legal protection

The Mediterranean monk seal *(Monachus monachus)* is under strict legal protection in Greece. By ratifying international conventions and by putting in force national legislation Greece is protecting not only the species itself, but its habitat as well. In particular with:

- Law 1335/14-3-1983 the Bern Convention is ratified.
- Laws 855/78 and 1634/18-7-1986 Barcelona Convention and all related protocols are ratified.
- Law 2055/30-6-1992 the CITES (Washington Convention) is ratified and it was put into force on 6-1-1993.
- Law 2204/15-4-1994 ratifies the Rio Convention on biological diversity.
- Presidential Decree 67/81/29-11-1980 monk seal is considered as a protected species and its capture or killing is forbidden.
- Law 1650/16-10-1986 introduces legislation constituting the protection of the environment in Greece.
- Law 743/77 introduces legislation for the protection of the marine environment.
- Presidential Decree 519/16-5-1992 the National Marine Park of Alonnissos Northern Sporades (NMPANS) was established with special mention to the conservation of the largest breeding Monk Seal population in the Mediterranean.
- Presidential Decree 100/27-2-1995 monk seal habitats at the NW part of the coasts of Samos island are under strict protection.

In addition it should be mentioned that through:

- Law 1337/14-3-1983 coastal areas are under special protection regulations.
- Law 420/26/1970 (fisheries' code) governs fisheries' activities and through prohibiting illegal activities conserves fish stocks.

B. Status of the species

Currently and especially after the severe die-off, which affected the large monk seal colony of Cabo Blanco in May 1997 (Aguilar et al. 1998; Forcada et al. 1998), the largest remaining Mediterranean monk seal population or group of populations occur in Greece (Reijnders et al. 1993, 1997).

The species remains widely distributed throughout the country as it is shown in Figure 1. This conclusion is based on the results obtained through an extensive and long-term study, which is part of a Rescue and Information Network (RINT). RINT, established in 1991 by MOm/Hellenic Society for the Study and Protection of the Monk Seal, consists of a network of more than 1000 contacts in coastal Greece, with which there is a continuous communication through questionnaires received by mail and direct interviews of observers contacted during expeditions to coastal areas. Further more, the sightings of new-born pups, recorded through RINT in a number of different areas (Figure 2), which are indeed closely matched with the areas with high frequency of seal sightings, and the consistency of such observations during the last 7 years, provide evidence that several breeding populations are found within the species range in Greece (Adamantopoulou. et al., 1996, 1998).

The geomorphology of the country (approx. 15000 Km of coasts, large number of isolated rocky islands, large number of sea-caves many of them with underwater entrances), the fact that monk seals in Greece are found on isolated locations and seek refuge in coastal caves, as well as, the limited knowledge on parameters like the movements of the animals, make the study of the species and the determination of particular populations logistically difficult. The above factors prevented the up to date accurate estimation of the total size of the seal population in Greece. Estimates based on the size of particular populations from specific parts of the country, give a total number of individuals that varies between 200 to 300 (Reijnders et al. 1993, 1997; Cebrian et al. 1998).

In contrast to the above situation, the status of the species in specific areas of the country has been monitored consistently for a number of years. In particular, the best studied breeding populations are in the Northern Sporades islands, in the Aegean Sea and the islands of Zakynthos, Kefallonia, Ithaca and Lefkada in the Ionian Sea.

In the Ionian Sea, field work has been conducted separately by different researchers on the island of Zakynthos and the island complex of Kefallonia-Ithaca-Lefkada. The current estimates for the above two study areas provide a minimum population of 12 different individuals, recorded during the last four years, for the island complex of Kefallonia-Ithaca-Lefkada, and a minimum population of 9 different individuals for the island of Zakynthos(Karavellas, et al., 1996; Panou, et al., 1996). In addition, births have been recorded every year in both areas (2 per year on the island of Zakynthos and 1-4 per year on the islands of Kefallonia and Ithaca). Furthermore, a fact that must be taken under consideration is that these two study areas are in close geographic proximity. Thus, there may be significant amount of interchange between the two sub-populations or they may even form a single interbreeding population.

In the N. Sporades and especially in the protected area of the National Marine Park of Alonnissos N. Sporades (NMPANS), through the up to date analysis of the data collected from 1990 until 1997, at least 43 different adult and 8 juvenile individuals have been identified. The oldest animal recorded in the area was determined to be a 44 years old male (MOm/HSSPMS, 1995). It is further significant to note that for the last five years an average of 7 births per year has been recorded in the NMPANS area. In total, 48 different new-born pups, of equal sex ratio, have been identified (Dendrinos et al., 1996, 1998; MOm/HSSPMS, unpubl. data). In addition to the population

parameters recorded the monitoring work conducted in the area has allowed for the collection of previously unavailable data on the basic biology of the species. Births recorded in the area are distributed between July and December with a peak in October. The average total length (nose to flipper) in individuals of ages between 2 and 25 days was found to be 108,5 cm, while the average weight was 16 kg. The moulting of the pups was observed to start at the earliest at the age of 30-40 days and to last at least for 15 days. During the first two months of their development, pups have been observed to spend considerable time with their mothers. They were observed to enter the sea in the first week of life, even in the absence of their mothers and to change shelters and travel distances of several hundred meters even at an early age (Dendrinos et al., 1996, 1998; Tounta, pers. comm.).

In terms of the seasonal pattern of activity of the seals, the results from the analysis of data collected in the NMPANS area, indicate that the animals visit caves and stay there for longer periods during winter. In terms of the seals' daily activity patterns, the data collected indicate activity during the day and cave usage during the night (Dendrinos et al., 1994). Similar results were obtained for the seals in Ionian sea (Hiby et al., 1987; Jakobs & Panou, 1988; Karavellas et al., 1995).

In terms of the species movements, no direct study has been conducted up to date. However, data collected through recent monitoring work indicate that adult seals are able to cover distances of 50 nautical miles within a few days period (MOm/HSSPMS, unpubl. data).

Apart from the results obtained in the above areas, it should be mentioned that monitoring work has been initiated in 1997, in 3 more areas within the Aegean Sea, and in particular the Eastern Aegean (the islands of Samos, Ikaria and Fourni), the Dodecanese (the islands of Karpathos and Kassos) the Cyclades (the islands of Milos, Antimilos, and Polyaigos). Up to date, a significant number of suitable habitats have been identified within each of these areas. Furthermore, during the last breeding season, 8 newborn pups were recorded in these areas, while reports for 2 additional pups were collected. These recent results indicate that the above three areas may host important breeding monk seal populations (MOm/HSSPMS, 1998).

C. Threats to the species

The two factors that still remain important threats for the monk seal populations in Greece are:

1. Mortality, mainly due to deliberate killings (primarily caused by fishermen). Results obtained from a recent study on the causes of mortality indicate clearly that deliberate killing is the most frequent death cause in adults and juveniles monk seals (Androukaki et al 1996,1998).

2. Continuous loss of available habitats due to a variety of increasing human activities like industry, boat activity and uncontrolled tourism development.

Other factors, such accidental deaths of seals due to entanglements in fishing gear, pollution, shortage of available food due to overfishing, disease and intrinsic biological factors do not appear to play a significant role at present for the survival of the species, but may prove to be important for the future (Archipelagos-MOm/HSSPMS 1996).

D. Initiatives for the conservation of the monk seal in Greece

National authorities considering that within the country the one of the largest remaining monk seal population is found, has taken and supported several initiatives for the protection of the species, in close collaboration with non govermental organisations. These initiatives were based on guidelines and recommendations set forth by national and international and experties.

In 1996, two non govermental organisations with long experience on the study and conservation of the species in Greece, elaborate a proposal in order to form a long term national strategy binding both national and EU-authorities (Archipelagos-MOm/HSSPMS 1996). The above strategy proposal was favourably received by the National authorities and was welcomed by the relevant private bodies. Based on this strategy, means, "tools", for the effective conservation of the species, are:

- The establishment and effective management of "special areas of conservation" (in accordance with the EU Habitat Directive terminology)
- The reduction of human caused mortality related to fisheries
- The information to and education of the public
- The research on the biology and ecology of the Mediterranean monk seal
- The rescue and rehabilitation of sick, wounded or orphan animals
- The reduction of pollution
- The reduction of overfishing
- The improvement and enforcement of the existing legislation
- The breeding in captivity and the introduction to/establishment of colonies, as a last solution

From the above means, the establishment and effective management of special areas of conservation and the reduction of human caused mortality, always accompanied by public awareness campaigns, are considered to be of highest priority.

Recently, at the end of 1997, the Greek Ministry of Environment Physical Planning and Public Works, taking into consideration the above strategy, has formulated the National Action Plan for the Protection of the Monk Seal in Greece, in order to ensure through specific activities the long term conservation of the species. The plan of actions, targeting both the known important for the species sites and the rest of the country, is already in effect and several of the activities included within it are already in progress. It should be mentioned that non govermental organisations (MOm/Hellenic Society for the Study and Protection of the Monk Seal, and others) play a key role in the implementation of the above plan of actions.

During the last years a number of initiatives have been taken, the main of which can be summarised as follows:

- The establishment and effective management of "Special Areas Conservation"

In terms of the creation of conservation areas, Greece established the first National Marine Park of the country in Alonnissos - N. Sporades, on May 1992. Within its area of approx. 2200 km^2 human activities are regulated, in order to conserve the most important monk seal population in the country and its habitat. Tourist activities or other human activities are regulated, and especially in areas where breeding sites exist human activities are prohibited. In the last six years the regulations of the Park are enforced through active guarding of the NMPANS.

The case of the NMPANS, where legal regulations are established, and enforced through continuous monitoring and surveillance activities, co-financed by EU and National authorities, (MOm/HSSPMS, 1995) and where extensive long term sensitisation campaigns have been

conducted, is a good example in achieving the above objective. In this area, the species is effectively protected, while at the same time provisions for the sustainable development of the area provide opportunities to local fishermen communities. This is done by regulating industrial fisheries and thus reducing over fishing to the advantage of local coastal fishermen. Even though, up to date a formal management body for the NMPANS has not been formally established, the Ministry of Environment has recently initiated the procedures that are expected to lead to its establishment. The long-term conservation of the area will be ensured by the formation and effective operation of such a body.

In 1995, within the framework of the Physical Planning of the island of Samos (eastern Aegean Sea), a strict reserve was created (Presidential Decree 100/27-2-1995), with emphasis on the protection of monk seal habitats. The protected area includes part of the NW coasts of the island.

Furthermore, Greece proposed 35 different sites within the country, as important for the species, to be included in the network of Special Areas of Conservation (SAC), following the implementation of Directive 92/43/EEC for the conservation of natural habitats and the creation of the European NATURA 2000 network.

Lastly, a project was initiated in 1997 that will promote the establishment of additional conservation areas for the species. The project entitled "The Mediterranean Monk Seal in Greece: Conservation in Action" that will be completed by the year 2000, is co-financed by the European Commission (D.G. XI) in the context of the LIFE-Nature Program, the Greek Ministry of Environment and MOm/HSSPMS and is conducted by MOm/HSSPMS (at three areas of the Aegean sea) and by WWF-Greece (at the Ionian sea). The project consists of a series of interdependent actions at four (4) key geographic areas, where information has shown that they host monk seal populations: the Eastern Aegean (the islands of Samos, Ikaria and Fourni), the Dodecanese (the islands of Karpathos and Kassos) the Cyclades (the islands of Milos, Antimilos, and Polyaigos) and the Ionian islands (the north-western coasts of Zakynthos). The activities that will be conducted in the framework of this project can be grouped into the following three categories:

◊ Field Work

The field work conducted in the areas targeted in the project, will concentrate in three different fields, namely, monitoring of monk seals and their habitat, monitoring of the abiotic and biotic environment in collaboration with the University of Athens, and recording of human activities.

◊ Management Plans

A team of experts on management of protected areas, taking into consideration all available bibliographic data and the data collected during field work, will design specific management plans in accordance to the relevant legislation for each of the areas of interest. The management plans will include conservation measures for each area, and proposals for their future sustainable development. In the process of preparing the management plans, the proposals for the different conservation measures for each area will be developed in collaboration with the relevant national and local authorities. This collaboration, will promote the acceptance and future implementation of realistic conservation measures at the local scale, and will ensure the approval of the management plans for legislation by the relevant national authorities. Furthermore, the future implementation of the protection measures, will be through specific proposals for the structure and operation of the administrative/management bodies.

◊ Public Awareness

Since sensitisation of the public is an essential element of any conservation effort, a series of public awareness campaigns will be conducted during the project. The campaigns will be based on the national and local mass media, the distribution of printed material, the use of mobile exhibits, and the operation of information centres in each region targeted. In addition, special events and presentations

will be held for the public, and most importantly, a program for environmental education at the schools of these areas will by conducted for the duration of the project.

Thus, through this project, in these areas and specifically in the sites proposed to be included in the NATURA 2000 network, the establishment of Special Conservation Areas will be promoted, so as to conserve their coastal and marine environment and especially the highly endangered Mediterranean monk seal.

- The reduction of human caused mortality related to fisheries

In terms of reducing monk seals' mortality, apart from the existing legal protection of the species (see above), legislation also exists prohibiting the use of destructive fishing techniques (dynamite, chemicals, etc.), as well as, scuba diving, thus further decreasing the disturbance to the animals. Continuous communication and collaboration with the Port Police authorities throughout the country has in many cases promoted the enforcement of the legislation. This is especially true in the case of the NMPANS, where regulations are actively enforced and where for almost a decade no deliberate killing has been recorded (MOm/HSSPMS, 1995; Androukaki, et al., 1998)

An important factor towards the reduction of deliberate killing of animals is the sensitization of the general public and of specific target groups. Up to date, a number of sensitization campaigns have been established at a local level, especially in the Northern Sporades islands, in the Aegean Sea and the islands of Zakynthos, Kefallonia, Ithaca and Lefkada in the Ionian Sea. Furthermore, at the national level, the Rescue and Information Network operating throughout Greece has established a good working relationship with fishermen and authorities, thus contributing to the collection of information on the species and the rescue of wounded animals and in parallel altering fishermen's attitude towards the monk seal.

- The information to and education of the public

In terms of information/education programs, apart from the already mentioned information network, almost all the organisations involved in the protection of the monk seal conducted large scale information and public awareness campaigns. An array of informative material addressing the problem of the monk seal conservation has being published and distributed not only to the Greek general public, but to tourists as well, especially in areas important for the species. The above effort has been greatly assisted by the mass media, which have covered these efforts to a great extent during the last few years.

Special attention has been given to the sensitization of the children by conducting environmental education programs to schools throughout Greece. Educational programs have been conducted for a number of years at the local level especially in coastal areas (Archipelagos, 1996; MOm/HSSPMS, 1995; 1996), and a large scale environmental education program has been in operation by MOm/HSSPMS in Athens for the last 7 years. It is estimated that up to date, approximately 120,000 students have participated in these programmes (MOm/HSSPMS, 1991; 1992; 1993; 1994; 1995; 1996; 1997)

- The research on the biology and ecology of the Mediterranean monk seal

With respect to research on the biology and ecology of the Mediterranean monk seal, the teams that have conducted monitoring work on specific populations within Greece had the opportunity to advance the existing knowledge on the species biology. In particular the research teams working tin the areas of the Northern Sporades and in the Ionian islands have collected in the field data, not previously available, on the basic seal biology, ecology, behaviour, habitat choice, identification techniques, genetics, infectious diseases, pollution, diet choice and interaction with fisheries (Dendrinos et al., 1994, 1996, 1998; Karavellas, 1994; Karavellas et al., 1995; Panou et al., 1993, 1996)

In addition, advances have been made in the methods for collecting and analysing data from observations from non-specialists in order to monitor the status of the species through the operation of the Information Network (RINT) mentioned above.

Furthermore, apart from work conducted in the field, data on the species has been collected with respect to the development and behaviour in captive condition, handling, rehabilitation and veterinary care of seals through the operation of the Rescue and Rehabilitation Centre (SRRC) in Alonnissos (MOm/HSSPMS, 1997).

- The rescue and rehabilitation of sick, wounded or orphan animals

MOm, the Hellenic Society for the Study and Protection of the Monk Seal, considering the status of the Mediterranean monk seal as precarious and recognising the fact that rescue and rehabilitation of sick, wounded or orphan animals is a priority action for the conservation of the species, initiated, in collaboration with the Seal Treatment and Research Centre of Pieterburen, the Netherlands, a rehabilitation programme for the Mediterranean monk seal in Greece in 1990. The aim of the Programme is to increase the survival possibilities of animals needing aid and to release them healthy to their natural environment. The Centre operates with specialised personnel from the above two bodies and recently, with the collaboration of expert veterinarians from the Veterinary School of the University of Thessaloniki. During the animals' rehabilitation period, apart from the veterinary care provided, the animals are also prepared for their reintroduction to the wild life (HSSPMS and SRRC, 1991; MOm/HSSPMS, 1995; MOm/HSSPMS, 1996a). The Centre operates with all necessary official permits from the appropriate State authorities following specific operational protocols.

Apart from the main goal of the project, the following further objectives are also achieved during the operation of the rehabilitation programme:

◊ The study of certain aspects of the species biology, relative to the development, physiology, parasitology, immunology, virology, bacteriology, behaviour, veterinary care. The data collected for these animals in captivity are of considerable importance, since similar information is difficult, if not impossible, to collect from animals in the wild.

◊ The creation of a bank of samples from the animals treated. These samples, may prove to be of considerable importance in studies of the species biology (e.g. genetic determination and relationships between populations).

◊ The acquisition of further knowledge and experience related to the species in captivity. This will be essential for the effective conservation of the species in cases of emergency (epidemics, catastrophes, breeding in captivity).

◊ The rehabilitation project itself and the awareness material produced from the project, provide a powerful tool in the overall public awareness campaign for the conservation of the monk seal at the local, national and international level.

During the operation of this programme and up to present (1987-1996), eleven monk seal pups have been treated in the facilities of the Seal Treatment and Rehabilitation Centre (STRC), and the Seal Rehabilitation and Research Centre (SRRC). Six animals completed the treatment successfully and were released in their natural environment within the only actively protected area of Greece, the National Marine Park of Alonnissos - N. Sporades (Reijnders at al. 1989; 't Hart et al., 1990; MOm/HSSPMS and SRRC, 1991; MOm/HSSPMS, 1995; MOm/HSSPMS, 1996). The release of these animals and their successful reintroduction to the natural environment provide a further incentive for the continuation of the efforts to protect the species and its habitat.

- The reduction of overfishing

Even though specific initiatives have not been taken towards this issue in the context of specific monk seal projects, steps taken on a local scale for the establishment of marine conservation areas and the enforcement of special fishing regulations has been a tool towards the reduction of overfishing. The case of the NMPANS is a good example, where within a conservation area for the monk seal, fishing activities are regulated in such a way that fishing grounds are also protected from overfishing. The same rational may be followed in the design of future conservation areas for the species (see LIFE project above).

- The breeding in captivity and the introduction to/establishment of colonies, as a last solution

Captive breeding and translocation programmes have made significant contributions to the conservation of some endangered species and should be considered as a potential conservation measure for the monk seal in Greece. However, such programmes are expensive and the establishment of a captive population is likely to involve significant human intervention in the wild population. In addition, some information which is crucial for evaluating the probability that a programme will be successful, such as the survival to first breeding of monk seals in captivity, is not available at present. The costs and benefits of any captive breeding programme will have to be carefully evaluated before it is initiated. This evaluation will require detailed information on: the numbers, origin, age, sex and genetic structure of the initial population; the location, history, facilities and financing of the place where captive breeding will take place; and the expected contribution of the programme to the long term conservation of the species. The release of animals from a captive breeding programme will not make a significant contribution to the conservation of the species unless all the other measures outlined in this proposal are also implemented. Thus, up to date no such initiatives have been initiated. It should be mentioned that the results obtained at the Workshop on the Population and Habitat Viability Assessment for the Greek Population of the Mediterranean Monk Seal (IUCN, 1994) indicated that at present such a project is not necessary and sould not be considered as of priority.

ASSESSMENT OF THE IMPLEMENTATION OF THE ACTION PLAN FOR THE MANAGEMENT OF THE MEDITERRANEAN MONK SEAL IN GREECE.

In assessing the up to date implementation of the Action Plan for the management of the Mediterranean Monk Seal in Greece, the current conservation status and the initiatives taken towards the species conservation were evaluated on the basis of how they are advancing the specific action points of the Plan. In particular:

Points 1-6
It is evident from the above section that Greece (both State authorities and private bodies) do consider the Mediterranean monk seal as a priority within their overall conservation policy. Advances on the conservation of the species have been made through specific initiatives both at a local and at a national level. It should be noted that the above initiatives follow a holistic conservation approach and indeed form a concrete conservation program which is currently actively implemented.

Lastly, the fact that the Greek Ministry of Environment has recently formulated a specific plan, the National Action Plan for the Protection of the Monk Seal in Greece, in order to ensure through specific activities the long term conservation of the species, is a clear indication of the intentions of the Greek State.

Points 7-12: Reduction in Adult Mortality

As it was presented above, several initiatives have been taken towards this objective. These initiatives have taken into consideration and have followed all the relevant action points (with the exception of point 10) and have been successful when they were implemented at the local scale (e.g. NPMANS). Effort is being made, using the experience already acquired, to extent such initiatives to additional areas (see LIFE project).

At the national scale, the operation of RINT is contributing greatly to the sensitisation of fishermen and of coastal inhabitants and should be continued. Additional effort should also be put into extending the enforcement of the existing relevant to fisheries legislation to the whole of coastal Greece so as to further reduce this threat.

Points 13-16: Establishment of a Network of Marine Reserves

As it is evident from the above, Greece has taken a considerable step towards this goal through the establishment of the National Marine Park of Alonnissos Northern Sporades. In fact this marine reserve ensures the conservation of the most important population of the species in the Mediterranean.

Furthermore, the work conducted up to date in surveying the Greek coastline and in monitoring the status of the species in the whole of Greece and in particular areas, have allowed for the creation of an inventory of the areas important for the species. These areas were promoted and the vast majority were included in the sites proposed for the EU NATURA 2000 Network, thus ensuring their future designation as Special Areas of Conservation (SAC). Already a number of these sites are being investigated and monitored, through the LIFE project mentioned above and they will be proposed to become SACs in the near future. These areas, which are strategically distributed within the species range in Greece, in conjunction with the NMPANS, will form the first Network of reserves

specifically designed for the conservation of the monk seal, thus ensuring the protection of a significant number of important breeding populations and their habitats.

Points 17-22: Research, Data Collection and Rehabilitation.
In terms of these objectives, as it was presented above, in Greece considerable advance has been made. In particular, the operation of long-term monitoring programs, using appropriate non-intrusive techniques, proved to be effective in the research and data collection with respect to the monk seal. Additional effort should be made to tackle issues, where knowledge is still limited, especially in terms of seal-fisheries interaction, food availability and movements of animals.

Furthermore, considering the extensive coastline of the country, the existing operation of a network of observers, RINT, has proven to be an effective approach in monitoring the general status of the species throughout the country.

The establishment and operation of the STRC, the only such centre in the Mediterranean, has up to date adequately covered the needs for treatment and rehabilitation of animals for the whole country. The recent mass mortality in the Atlantic population of the species showed the necessity for the existence of such facilities and for the preparation of facilities, infrastructures and specialised personnel to face such cases that could affect large segments of the seal populations in the Eastern Mediterranean.

Lastly, as it was elaborated in the previous section, taking into consideration the advances in the *in situ* protection in Greece, the status of the species does not at present warrant the initiation of programmes related to points 21 and 22.

Points 23-27: Information Programmes

The up to date initiatives relevant this issue have contributed considerably in the sensitisation of particular target groups (fishermen, port policemen, tourists, children, etc.) and of the general public both at the local and the national level. These efforts should be continued and should be a parallel activity to any other conservation initiative.

Points 28-32: Co-ordination, Review and Finance

Greece, being in agreement to these points, has participated either by state authority delegates or by private organisation representatives to initiatives related to these objectives and has promoted both nationally and internationally the concept of co-ordinated action for the conservation of the species throughout its range. In addition, over the last years, Greece has been willing to offer technical assistance (participation to relevant expeditions, exchange of experiences, training of delegates from other member states) to any of the other countries within the species range.

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REPORT ON THE IMPLEMENTATION OF THE ACTION PLAN FOR THE CONSERVATION OF CETACEANS IN THE MEDITERRANEAN SEA AND OF THE ACTION PLAN FOR THE MANAGEMENT OF THE MEDITERRANEAN MONK SEAL IN ISRAEL

1. LEGISLATION:

a. Wildlife Protection Law, 1955: All vertebrates, apart from fish and a small number of species defined as pets, are protected in Israel, by this law. A copy of the English translation of this law is enclosed. This law was updated in 1990 to include CITES regulations. All the marine mammals in Israel are fully protected by this law.

b. The National Parks, Nature Reserves, National Monuments and Memorial Sites Law, 1992: This law provides the legal basis of protected areas in Israel and also defines protected natural assets. All organisms are fully protected within nature reserves. A list of coastal and marine reserves is enclosed.

c. The Fishery Ordinance, 1937 and Fishery Regulations: This ordinance includes restrictions of the use of trawls in the Mediterranean Sea at a depth of less then 15 m. Trawl net mesh size will be at least 40 mm. The use of purse seine (lampara) is restricted when lights are used, to be used at no less than 15 fathoms depth. Mesh size of purse seine will be at least 20 mm. Mesh size of fish traps is set at a minimum of 30 mm. Use of explosives or poison in fishing is prohibited. There is restriction of minimum fish length for commercial fishing. Spear gun fishing is restricted around Haifa. Fishing is restricted in certain areas (near Shiqmona, Haifa Port and Jaffa Port). Fishing in rivers and river mouths is restricted. Fishing of sponges is restricted. Fishing of sea turtles is prohibited.

Proposed new regulations will prohibit the use of beach seines and will prohibit fishing with spear guns while using pressurised breathing equipment. Maximal length of fishing will also be restricted.

d. Israel has signed and ratified the SPA Protocol. ACCOBAMS is in the internal process for being ratified.

2. LAW ENFORCEMENT:

Nature protections laws are enforced by the Israel Nature and National Parks Protection Authority (the Ministry of Environment). Fishing regulations are enforced by the Fishery Authority (the Ministry of Agriculture).

No case of intentional killing of cetaceans or enforcement is reported.

3. STATUS OF CETACEAN POPULATIONS AND STUDIES:

Monitoring of stranded cetaceans and observations along the coasts of Israel are conducted by the Israeli Marine Mammal Research and Assistance Center (IMMRAC), headed by Oz Goffman. There are reports of dozens of cetaceans that are being observed along the Israeli coast (about 200 km). in the territorial waters (12 miles, depth 3-500m). Most common is *Tursiops truncatus*. There are also stable small populations of *Stenella coreuleoalba and Delphinus delphis.* Rarely observed: *Pseudorca crassidens, Balaenoptera physalus, Grampus griseus, Physeter catodon, and Ziphius cavirostris.* Since 1993 about 6-15 dead cetaceans are reported per year, usually due to stranding or accidental entangling in fishing gear.

Dr. Itamar Tsur of The Hebrew University of Jerusalem, studies the pathology of stranded cetaceans. Morbillivirus infection was detected in one *Tursiops truncatus, in* 1994. A copy of the publication is enclosed.

4. STATUS OF MONK SEAL POPULATIONS:

The monk seal is extinct in Israel for some decades. Suitable habitat for monk seals is available at the north of Israel (Rosh Hanikra).

5. PROPSED SURVEY OF CETACEANS IN THE EAST OF THE MEDITERRANEAN SEA:

The status of cetacean populations is little known in the east of the Mediterranean. It I seems to be generally agreed that there is need for further data collection. It is proposed to conduct a comprehensive survey from Turkey to Egypt and east to Cyprus. It will be conducted during about one month, preferably in the autumn, on board of a steady ship (30m). The co-ordination should be done by RAC/SPA, the survey conducted by a neutral party and researchers of each country will board the boat along the coastline of the respective country.

Activities carried out in Italy
within the framework of the implementation
of the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea

Giuseppe Notarbartolo di Sciara
I C R A M

1. Legislation

Cetaceans are protected in Italy by national law since 1980. Italy has ratified the Bonn, Bern, and Washington Conventions; has signed the Barcelona Protocol for Special Protected Areas and Biodiversity (1996 - to be ratified) and the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) (1996 - to be ratified). Also, Italy joined the International Whaling Commission (1998); introduced the idea of the Ligurian Sea Cetacean Sanctuary (March 1992), and presented a formal agreement proposal (October 1998). Finally, as part of the European Union, driftnets will be outlawed from Italy starting 1 Jan 2002; a decommissioning process of the fleet is in progress. Legislation priorities can be considered at present the ratification of the Barcelona SPAMI Protocol and ACCOBAMS, and the finalisation of the Agreement with France and Monaco for the creation of the International Sanctuary for Mediterranean Cetaceans in the Ligurian Sea.

2. Status of species and populations

A. Studies on populations

- ***fin whales***. *Studies carried out in the Ligurian Sea include: population estimates*, photoidentification, population identity, toxicology, distribution and abundance, behaviour, and acoustics. Distribution and relative abundance were also studied in the central Tyrrhenian Sea.
- **striped dolphins**. Distribution and relative abundance, population estimates, population identity, toxicology, acoustics in the Ligurian Sea. Distribution and relative abundance also in the central Tyrrhenian Sea and NW Sardinia.
- **sperm whales**. Distribution, relative abundance and acoustics in the Ligurian and Tyrrhenian Seas.
- **common dolphins**. Distribution and relative abundance in NW Sardinia, central Tyrrhenian Sea.
- **bottlenose dolphins**. Distribution and relative abundance in Sardinia, central Tyrrhenian Sea, N Adriatic Sea.
- **pilot whales**. Distribution and relative abundance in the Ligurian, central Tyrrhenian Seas. Acoustics in the Ligurian Sea.
- **Risso's dolphins**. Distribution and relative abundance in the Ligurian and central Tyrrhenian Seas. Population identity, photoidentification and acoustics in the Ligurian Sea.
- **Cuvier's beaked whales**. Distribution and relative abundance in the Ligurian and central Tyrrhenian Seas; photoidentification in the Ligurian Sea.

Proposed status of regular cetaceans populations:

Endangered: sperm whale, common dolphin.
Vulnerable: fin whale, bottlenose dolphin.
Low risk: pilot whale, Risso's dolphin, striped dolphin.
Data deficient: Cuvier's beaked whale.

Suggested priorities for studies of populations include: increase in both geographic and seasonal coverage of monitoring, endangered populations monitoring, and vulnerable populations monitoring.

B. Studies on strandings

All activities on strandings in Italy are carried out by the Centro Studi Cetacei (Società Italiana di Scienze Naturali, Milan) since 1986. A total of 2,147 specimens, belonging to 11 species, where recorded along the national coasts in 11 years of operation (1986-1996). Data were provided on major conservation problems (epizootics and fishery by-catch); over 376 specimens were secured to museum collections during the same period; necropsy, tissue collection, mortality studies were also implemented.

Priorities for the stranding programme should include: increase of the geographic homogeneity, improve promptness of interventions, increase governmental involvement and obtain public support, increase ability to determine mortality causes, and finally, improve procedures to face problems posed by live strandings.

3. Interaction with human activities

Interaction with human activities, to be properly addressed to solve existing and potential problems, include:

- Interaction with fishing: by-catch in pelagic fisheries and competition between small-scale, artisanal coastal fisheries and coastal odontocetes.
- Whale watching. It should be recommended that: whale watching must have a strong educational element; guidelines be adopted to minimise disturbance; a national registry of commercial whale watching operators be established; activities be regularly monitored; and scientific data be collected on all cruises.
- Noise. It should be recommended that effects be assessed, and when possible regulated, of human-produced noise in the marine environment, including noise deriving from industrial, military, research, and shipping sources.
- Traffic. Impact of maritime traffic on cetaceans should be assessed, and if possible mitigated, deriving both from traditional vessels and high-speed craft.

" Mediterranean Monk Seal status in Italy with regard to the RAC/SPA Mediterranean Monk Seal Action Plan"

Giulia Mo
ICRAM

PREMISE

The Mediterranean monk seal, *Monachus monachus*, first received legal protection in Italy in 1939 under the auspices of article 38 of the hunting code and in 1992 was included in the list of particularly protected wildlife.

The absence of a reproductively active monk seal population is linked to increasing human interference resulting in habitat degradation, direct and accidental killing through fishing gear, and disturbance of breeding sites by recreational activities. During the last ten years monk seal sightings have thinned out in frequency but are still perceivable. Since 1994 sightings have been reported nearly every year and pertain to the smaller islands situated off northeastern and southwestern Sardinia, eastern Sardinia, southwestern Sicily and the island of Pantelleria. Noticeable attention in this regard must also be given to a recent sighting in a neighbouring country (Malta) which is quite indicative due to its close proximity to the Sicilian coasts (Gruppo Foca Monaca WWF- Italy, *unpub. data*).

IMPLEMENTATION OF THE ACTION PLAN

Reduction in Adult Mortality

Evidence of direct killing was reported until the late 1980's after which the animal's presence has been so scarce that no more deliberate killings have been declared (Marchessaux, 1989). Information campaigns aimed at reducing potential antagonism between seals and fishermen have not occurred because the species has no current known breeding sites and as such is theoretically considered extinct in Italian waters, a view shared by most academia and public officials.

Establishment of a Network of Marine Reserves

-Inventory of caves for inclusion in a network of protected areas for monk seals-

Coastal cave surveys aimed at identifying breeding and resting sites for the species have been carried out by a few research expeditions on restricted portions of coastline. The most recent survey of this type was conducted in 1994 by WWF-Italy along the eastern Sardinian coastline, in an area extending from Cala Gonone to Capo Monte Santu. The survey, which consisted in swimming along the thirty kilometers of coast, resulted in the identification and mapping of 27 caves, 8 of which designated suitable for use by several individuals and for eventual births and another 8 suitable only for single individual use. Classification was based on the physical characteristics of the site and its protection against rough sea conditions. No evidence of seal presence was reported and the identified caves have not been checked again (WWF-Italy, 1995).

- Marine reserves covering both existing and potential monk seal habitats-
Italy has established 15 Marine Protected Areas many of which have certain habitat characteristics that are suitable for monk seals (the Tuscan Archipelago, Asinara, Maddalena Archipelago, Tavolara, etc.). A second set of areas is currently in the process of being given similar protection. Although many of these sites momentarily still lack a full-fledged managing scheme because of their recent institution, it can be anticipated that Italy may, in the future, be able to provide a network of MPAs useful for monk seal conservation.

Research, Data Collection
Direct research on the species is difficult on national territory. A collaboration with foreign research groups was undertaken in 1997 between Gruppo Foca Monaca (a WWF-Italy affiliated taskforce) and SAD/AFAG (the Turkish Underwater Research Society). The project was conducted in Turkey as a feasibility study. It involved the use of an infrared illuminated videocamera placed inside a frequently used monk seal cave. The equipment has the non-invasive capacity of accurately monitoring a potential monk seal shelter and breeding site (SAD AFAG/ Gruppo Foca Monaca, *unpub. data*).

Information Programmes
Special information activities, geared to increase awareness in the sites where seals have been historically present, have been carried out in eastern Sardinia with the implementation of a monk seal visitors' center, established by WWF-Italy between 1994 and 1996. Information campaigns were also organized by the latter group between July and September 1994 on several ferry connections between Italy and Greece as well as those connecting the mainland to Sardinia.

PRIORITIES AND CONCLUSIONS
The general misconception that the Mediterranean monk seal is extinct in Italy, because of the lack of a stable reproductive nucleus, has resulted in the absence of a national coordinated programme for research and data collection on the species' presence. Although the Italian coastal habitat no longer supports a known breeding group of monk seals, the reported sightings of individuals observed between 1995 and 1998 in northeastern and southwestern Sardinia, southwestern Sicily, and the island of Pantelleria, point to the effective presence of seals in these waters. Howevér, the arbitrary nature of collection of such information may exclude observations of other sightings and therefore provide incorrect estimates of the actual presence of single individuals in Italian waters. The technical difficulties associated with monitoring single individuals and the limited information on the specific home range and extension of habitat use by the Mediterranean monk seal hinder further actions regarding site surveying and eventual establishment of protected areas.
It is general consensus that monk seal individuals are capable of conducting movements of up to 50 nautical miles over a few days (Dendrinos,1998). In light of this and the relatively short distances between the Italian coasts and foreign locations hosting a stable or questionable nucleus of seal individuals, an Italian plan of action with regards to this species may represent an important component for the survival of the

remaining nuclei in the western Mediterranean. It would therefore seem advisable to support a national, coordinated, and long-lasting plan of action encompassing:

1) Coordinated campaign for the retrieval and validation of information on sightings
2) Concurrent information campaigns in areas of sightings as well as in those with historical presence of monk seals
3) Survey of coastal habitat characteristics in areas with sightings and in proximity to foreign monk seal nuclei
4) Collaboration with research groups working abroad on stable or questionable nuclei of seals, aimed at advancing the necessary biological and ecological knowledge of the species
5) Implementation of protection measures and areas

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Meeting of experts on the implementation of the Action Plans for marine mammals (monk seal and cetaceans) adopted within MAP/ Report of Lebanon

29-31 October 1998 Arta/ Greece

Dr. Ghassan RAMADAN-JARADI*

All aspects of status, biology and behaviour of Monk Seal and Cetaceans in Lebanon are too poorly known owing to absence of studies related to these species. Subsequently, there are no existing direct programmes or plans to protect them in this country.

During the two decades of turmoil, chaos, and destruction (civil war: 1975-1991) every aspect of Lebanon's social, natural and economic fabric was severely affected including the main components of human development, health, education, social services and natural resources. This fact highlights the need for great efforts in order to help the process of development, to make up for lost time and to catch up with the international community. With this in mind, Lebanon adopted several policies to repair what the war has done and consequently, the Ministry of Environment developed strategies to meet with some of the governmental policies. Among these strategies, the creation by parliament decrees of three protected areas. Of these, one is an IBA and SPA Marine Protected Area, the Palm Islands Reserve. Thus, another area, Tyre, is now in parliament and expected to be declared very soon a nature coastal/ marine reserve.

Though, in the absence of clear and updated legislation to protect marine life, the Palm Islands Reserve (PIR) is deeply concerned and will play an important role in the few coming years to extend legal protection to the marine mammals among others.

The Monk Seal

When I was a young boy living in Beirut, I remember, in early 1960s, the view of monk seals in the clear water surrounding the Grotte aux Pigeons "Raouché". Today this animal is an extreme rarety and according to a recent report published by the Ministry of Agriculture and UNEP in 1996, the last couples of Monk Seal were recorded in 1968 at Raouché and Amchit cliffs (c.40 km north to Beirut). While Kumerloeve (1976) states that this seal was

* Manager of Palm Islands Reserve

still frequent in 1970 at Raouché.
The occurrence of Monk Seal south to Beirut was also mentioned, only from January to March (IUCN, 1987).
Palm Islands Reserve (5.5 km off El Mina at Tripoli of north Lebanon) constitutes an appropriate breeding habitat for the Mediterranean Seal, especially the Ramkine island which is highly relieved with rocks and provided with convenient caves. But unfortunately there is no past or present breeding evidence of the species in the area. According to the local community of El Mina, the Monk Seal was not uncommon visitor prior to the civil war, but because during the time of chaos and destruction, the PIR was heavily bombarded and fishermen were using all kind of illegal methods of fishing, the population of seals and its food stock were severely affected. However, the Management Team of PIR had the chance to observe one single individual at mid-way to the PIR on 17 May 1997.

Other marine mammals

The following animals are recorded in Lebanon (as per the report which was published by the Ministry of Agriculture and UNEP in 1996):

Balaenoptera acutorostrata, Min Wale: Status uncertain.
Balaenoptera musculus, Blue Wale: Status uncertain and endangered
Balaenoptera physalus, Fin Wale: Status uncertain and endangered
Delphinus delphis, Common Dolphin: Common
Gobicephala melaena, Pilot Wale: Status uncertain
Grampus griseus, Risso's Dolphin: Status uncertain
Hyperodon rostratus, : Status uncertain
Mesoplodon densirostris, : Status uncertain
Phocoena phocoena, Harbour Popoise: Status uncertain
Stenella coeruleoalba, Striped Dolphin: Common, occasionally captured
Tursiops truncatus, Bottlenosed Dolphin: Common, occasionally captured
Ziphius cavirostris, Cuvier's beaked Wale: Status uncertain
Physeter macrocephalus, : Status uncertain

It is obvious that there is lack of information on marine mammals and serious degradation of their population in Lebanon. Using the available information from Lebanon, within a Mediterranean context, it is possible to update and enforce the law of fishing in the country and contribute in the conservation and protection programmes for the area.

The established PIR and (very soon) Tyre reserve will play an important role to ensure the survival and help the reconstitution of degraded populations of marine mammals. Why they should be, together with the Ministry of Environment and Ministry of Agriculture, involved in all Mediterranean conservation activities and efforts; especially, training programmes, documentary information material, co-ordination, and dissemination and exchange of information.

At present, the Environment Protection Committee (EPC) which is managing PIR through a Management Team is developing an awareness programme for fishermen and local population, and an educational programme for school students to encourage them to support conservation and protection of Monk Seal.

Within the framework of Protected Areas Project in Lebanon, the EPC is currently encouraging marine scientific research to gather data concerning relevant aspects of the biology and ecology of marine mammals.

Finally, one should mention that the EPC contributed with efficacy in eliminating one of the most important sea pollution source, the coastal municipal rubbish dump o Tripoli which was closed in early 1998 as a result of efforts and co-operation between the EPC and decision-makers.

Report on the implementation at national level of the action plan for the conservation of cetaceans in Malta

A number of cetaceans species are recorded in the Maltese territorial waters, the most common seems to be *Stenella coeruleoalba.* All the cetaceans species recorded are legally protected and it is illegal to catch or try to catch, sell, buy, exchange, or be in possession any cetaceans, dead or alive.

Malta, besides being a party to the Mediterranean Action Plan, is also a Party to the Convention on International Trade in Endangered Species of flora and fauna (CITES) and also of the Council of Europe Convention on the conservation of European Wildlife and natural habitats (Bern convention).

The obligations arising out of these conventions for the protection of cetaceans are faithfully reflected in the local regulations for the protection of cetaceans.

More observation and studies need to be carried out on cetaceans in the Maltese territorial waters, more public awareness is needed and also more collaboration with fishermen, although the latter have already started to help in some way the accumulation of data, and are also showing more interest.

However, more and more locally and regionally audio visual material is needed to help create a stronger awareness and to show the responsibility and obligation in contributing toward the further appreciation and protection of cetaceans.

Since the publication of the regulations for the protection of cetaceans, a poster depicting the cetaceans recorded in the Maltese territorial waters was published and is in great demand in schools and other government departments and agencies.

A Seminar on stranded cetaceans was organised in collaboration with a local NGO. The proceedings of this seminar will shortly be published.

Recently a policy was formulated with regards to cetaceans strandings and following discussions with interested NG0s and several Government Departments an action plan was approved with regards to such strandings. Following the publication of the local regulations, all stranded cetaceans are being reported to the Environment Protection Department and during the last couple of years four strandings was brought to the attention of the Department; namely one *Grampus griseus*; one *Ziphius cavirostris*; one *Tursiops truncatus*; one *Stenella coeruleoalba.* Research on such stranded dolphins is being carried out at the Biology Department of the University Malta.

Through the help of RAC/SPA, four environment officials from the Environment Protection Department and a researcher from the University attended two training courses on the observation and identification of cetaceans.

As is the case with marine turtles, more work, observations and public awareness are needed for the better appreciation and protection of cetaceans. Audio visual material is urgently needed and perhaps this meeting can consider the production of such audio visual, based on the Mediterranean region, highlighting problems, research being done, data accumulated; and translated into popular jargon, which can be adapted in the language of the respective countries, so as to being to the attention of all the citizens of the Mediterranean the joint responsibility needed to protect cetaceans.

Alfred E. Baldacchino, Environment Protection Departtment. Malta.

RAPPORT SUR LA MISE EN OEUVRE AU NIVEAU NATIONAL DU PLAN D'ACTION POUR LA CONSERVATION DU PHOQUE MOINE AU MAROC

Compte tenu du fait que la côte atlantique sud du Maroc abrite une colonie importante de phoques moines, il était urgent de veiller à la préservation de ce patrimoine biologique, culturel et historique en mettant en œuvre un certain nombre de mesures visant à stopper le déclin de cette population et à préserver son habitat.

Protection légale

L'intérêt a été porté au phoque moine depuis 1986, dès lors des efforts considérables ont été déployés pour la protection de cette espèce dont les actions les plus déterminantes ont été la mise en place d'un Comité National de Sauvegarde de cette espèce sous l'égide du Ministère des Pêches Maritimes et comprenant toutes les administrations et organismes concernés par la sauvegarde du phoque moine. Dans ce cadre, un arrêté ministériel a été promulgué stipulant l'interdiction temporaire de pêche dans la zone d'habitat de cette espèce protégeant ainsi le phoque moine et son environnement.

Un arrêté ministériel a été également élaboré par l'Administration des Eaux et Forêts stipulant l'interdiction de la chasse du phoque moine entre autres.

En outre, l'Office National des Pêches (ONP) avait signé une convention avec le Parc National de Port-Cros (PNPC) en 1987, relative à une collaboration technique et scientifique entre les deux organismes respectifs pour la réalisation d'un programme pilote visant la sauvegarde du phoque moine.

A noter qu'en dépit de l'existence d'instruments légaux, la survie du phoque moine est compromise en raison de l'intensification de l'activité de pêche dans la péninsule du Cap Blanc.

Actions entreprises

Dans le cadre de la convention, plusieurs missions de prospection et d'études démographiques ont été effectuées par voie de mer conjointement par les chercheurs de l'Institut National de Recherche Halieutique (INRH), de l'Institut Scientifique (IS), de la Direction des Eaux et Forêts (DEF) et du PNPC. Ces missions ont eu lieu dans la zone comprise entre Cap Barbas et Cap Corveiro ont permis de réaliser des recensements par le biais d'observations directes à l'aide de canots pneumatiques ou par l'inspection à la nage dans les zones non accessibles par bateau.

Protection et gestion des habitats

Pour assurer une bonne gestion et protection de l'espèce et de son habitat, deux projets pilotes ont été élaborés :

- La création d'un espace protégé sur la côte atlantique du Maroc (réserve ou parc national) englobant non seulement l'habitat du phoque moine mais aussi une zone limitrophe garantissant la survie de cette espèce ;

- La création d'un centre de soins à proximité de la côte des phoques, ayant pour tâche d'assurer les soins nécessaires et la réhabilitation des phoques malades ou abandonnés.

Programme de sensibilisation

Une mission de sensibilisation a également été organisée par l'INRH et le PNPC, dans les provinces du Sud, pour sensibiliser les populations riveraines et en particulier les pêcheurs de la région Sud du Maroc, au problème de la disparition du phoque moine. Du matériel de sensibilisation a été distribué notamment, des dépliants rédigés en arabe et en français et destinés aux pêcheurs. D'autres brochures, des posters, autocollants, ainsi que des "Tee Shirts" sur lesquels figure une photo de phoque moine ont été également distribués aux écoliers et élèves de Dakhla.

Recherche et suivi

Dans le cadre du Comité national de sauvegarde du phoque moine, un programme national de recherche a été élaboré pour l'étude du phoque moine. Ce programme vise :

- La prospection des zones susceptibles d'abriter le phoque moine de Méditerranée;
- L'étude des zones fréquentées par le phoque moine ;
- Le suivi des populations sur la côte atlantique sud en vue d'obtenir des données relatives à la biologie et l'écologie de l'espèce.

UNITED NATIONS ENVIRONMENT PROGRAMME - MEDITERRANEAN ACTION PLAN

MEETING OF EXPERTS ON THE IMPLEMENTATION OF THE
ACTION PLANS FOR MARINE MAMMALS
(MONK SEALS AND CETACEANS) ADOPTED WITH MAP,
Arta, Greece, 29-31 October 1998

REPORT ON THE IMPLEMENTATION OF THE ACTION PLANS IN SLOVENIA

Vanja Svetina, Benjamin Izmajlov
October, 1998

STATUS OF SPECIES AND POPULATION

Resent initiative that took place in Slovenia has a great deal of gratitude to miss Caterina Fortuna, chief of ADP, Institute Tethys, and her great work.

Present efforts

In Slovinia by now there is no existing complex study that could give us a whole picture for the present situation of cetacean. Following report is result of pilot research no more than a year old. We have organized a surveillance network for sightings of dolphins in our territorial waters. In order to gain a more global picture of the population status we took effort in collecting surveillance data from the neutral waters of North Adriatic. This give us also the opportunity to collect a variety of different information like species of caught fish, fishing gear, photo ID

Photo ID and cooperation with ADP (Adriatic dolphin project, Tethys Institute)

From this year's October we began with the photo ID in the area of the North Adriatic (Rovinj). If individuals recognized around ADP researching area could not be found elsewhere except in Kvarneri , this particular population would be a very untypical one.

Studies on strandings

Dr. Lovrenc Lipej, National Institute for Biology, 6330 Piran, SI, is collecting strandings data for some years.

Initiated projects

In collaboration with the National Institute of Biology, Marine Research Dept., we have the opportunity to develop a different surveillance mode. As a part of the new research

platform placed in our coastal waters we attend to set hydrophones in order to monitor migrations of cetacean passing through Trieste bay.

In order to anticipate the size of North Adriatic population(s) we started with aerial surveillance. Thaw we menage to get first results, for the moment we abundant this transect method and we'll proceed with it in future if we find it convenient.

At the moment we are talking with the University of Veterinary of Ljubljana for a complete and detailed post mortem examination of cetacean carcasses. Hopefully we'll achieve some agreement with a flit of fish industry (Delamaris) in order to leave over to us by-catch cetacean.

LEGISLATION

1. Present status

Present legislation is from year 1993. All species of cetacean are anatural heritage and therefore protected by the low. That also concerns dead animals, including all of their development stages and all of their body parts. Migratory species are included.

Present ratified or notified declarations. Convention on the Protection of the Mediterranean Sea Against Pollution together with the Protocol concerning Mediterranean Specially Protected Areas (1993), the convention on Biological Diversity (1996) and the Convention on Conservation on Migratory Species of Wild Animals (1998). The convention on the Protection of European Wildlife and Natural Habitats is supposed to be ratified by the end of 1998 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora should be ratified in the first half of the year 1999.

2. Suggestions for legislation changes, further directions

Present efforts should be directed in formulating an action plan for addressing the following problems:

- physical habitat destruction and degradation,
- insufficient effort on education (children and fishermen),
- including public awareness,
- non-existing complex study for any aspect of cetacean biology.

Also the existing legislation is inadequate to address the full range of threats that include:

- prey depletion caused by over-fishing
- accidental take by commercial fishery
- noise pollution
- disturbance from human activities

Recommendations include the following:

1. straightening the Slovenian response to the already existing European legislation,
2. introducing new legislation on a national level.

That means,
produce action plans with clear conservation objectives with audible timetable for achievement

identify a lead authority for fulfiliation of action plans with responsibility for implementation and enforcement.

Also to provide adequate financial resources to support the whole.

CONCLUSIONS

Dissipate of the size of our sea we must not forget the importance of cetacean research in Slovenia. All this activities are in the objective of a future thorough and extensive study which will be presented to our authorities in aim at better management of natural resources.

ACKNOWLEDGMENTS

Miss Caterina Maria Fortuna, mentor

Mr. Valter, director of Piran's aquarium; Mr. Rajko Jakomin, captain of the flit-Delamaris ship; Mr. Du an Mi kovi , government adviser in Ministry for environment; Mr. Arne Hodalie, biologist and distinguished photoreporter; Mr. Boris Mo ina, pilot; Mr. Luca Riva, ADP; Mr. Toma Snoj, University for Veterinary; Nata a Terbovc, Iskraemeco; Daniela Miokovi, Oceanographic Institute, Rovinj, Croatia;

Thanks to Mr. Luca Riva, Institute Tethys for lending us the photo camera.

Special thanks to our sponsor GUMAR (inflatable boats).

SPANISH REPORT OF THE MAIN NATIONAL ACTIVITIES CONCERNING THE ACTION PLAN FOR THE CONSERVATION OF CETACEANS AND MONK SEAL IN THE MEDITERRANEAN SEA

CETACEANS

LEGISLATION

- All the species of marine mammals(cetaceans and pinnipeds) are protected by the national Spanish law (Law 4/89 of 1989 and Royal Decree 1997/1995 of 1995). Additionally regional laws of the Autonomous Communities have incorporate cetaceans: Basque country (Law 16/1994), Cataluña (Law 3/1988), Andalucía (Decree 4/1986) and Valencia country (Decree 265/1994)

- Establishment of a protected fisheries area in the Spanish economic exclusive zone in the Mediterranean coast, between the Cabo de Gata and French frontier (Royal Decree 1315/1997)

- The incorporation of the European Union Regulation CE 1626/94 of 1994 for the establishment of specific measures to protect fisheries resources in the Mediterranean. The Regulation forbids the use of trawlers within 3 miles from the coast and "purseine" nets within 300 meters from the coast.

- The ACCOBAMS it passed in the Senate in last september and now is pending ratification by the Spanish Parliament.

- The establishment of a Regulation of whale watching in the Canary island waters (Decree 320/1995), in order to formulate and regulate the whale watching industry in these waters. A similar regulation for all the national waters is foreseen for the Mediterranean waters.

PROTECTED AREAS

Marine Protected Areas

In Spain there are 13 Marine Protected Areas according to different legislation: Marine and Fisheries Reserves are under the jurisdiction of the Fisheries Department of the Central Government, Natural Parks are under Regional Governments and National Parks and Game Reserves under the Ministry of Environment.

There are 11 in the Mediterranean waters that hold important population of cetaceans

1. Archipiélago de Cabrera, Baleares (National Park)
2. Bahía de Palma, Baleares (Fisheries Reserve)
3. Islas Columbretes, País Valenciano (Natural Park-Marine Reserve)
4. Isla de Tabarca, País Valenciano (Marine Reserve)
5. Cabo de San Antonio, País Valenciano (Marine Reserve)
6. Cabo de Palos-Islas Hormigas, Murcia (Marine Reserve)
7. Cabo de Gata, Andalucía (Natural Park-Marine Reserve)
8. Isla de Alboran, Andalucía (Marine Reserve-Fisheries Reserve)
9. Islas Medas, Cataluña (Marine Reserve)
10. Cabo de Creus, Cataluña (Natural Park)
11. Chafarinas Islands, Melilla (Game Reserve)

RESEARCH AND MONITORING

1. Cetaceans National Survey

The Ministry of Environment launched the National Cetacean Survey six years ago (1992-1997). It was developped in three phases corresponding to three areas: Mediterranean and Atlantic peninsular waters (carried out by Barcelona University) and the Canary islands (carried out by Las Palmas University). 27 species were found including some endangered. In general the mediterranean populations of cetaceans waters present more problems than the atlantic ones. It was proposed 6 conservation areas, 4 in the mediterranean.

The common dolphin is the species more seriously depleted in the spanish mediterranean waters.

Moreover, the Cetacean national survey in coordination with complementary projects very often funded by the Spanish Administration, but also by the European Commission and some NGOs like Greenpeace and Alnitak, have together allowed the development of a number of studies on the population biology and ecology of the most important cetacean populations in Mediterranean waters. The range of this research has been wide and included in-depth studies on: distribution, population identity, growth, reproduction, feeding, parasites and pathology.

Many of these studies focused on the stripped dolphin, which suffered a severe mass-mortality in 1990, but other species, such as the fin whale or the common dolphin have also received substantial attention and our knowledge about their conservation status has considerably improved in the last years.

2. Mitigation of the mortality of cetaceans by fisheries interactions

With the aim of establishing a methodology to avoid the conflict between fisheries and cetaceans we are developing with the Barcelona University a research to test the use of deterrents (pingers and other disuasory methods) in order to develop a methodology to mitigate the incidental catches of cetaceans in nets.

MEDITERANEAN MONK SEAL

1. Legislation.
   The monk seal is a protected species since 1973 and the situation has not changed.

2. Protected areas

   In the last years it has been identified three potential and interesting habitats for monk seals that have been declared protected areas.These sites are located in the Natural Park of Columbretes island , the National Park of Cabrera and the Marine reserve of Alborán.

3. Monitoring

Surveillance of monk seal in Chafarinas Islands. The waters and caves of the island are frequented by one individual, belonging to the Morroccan monk seal population, which is in frequent contact. The identification of individuals through the marks in the skin have enabled to distinguish four different individuals in the last eight years.

2. Awarness

We worked in collaboration with the NGO "Fondo Foca Mediterraneo" (FFM) from Palma de Mallorca. The FFM has carried out a divulgation and sensibilization campaign in the coast of mediterranean Morrocco and in the Chafarinas island area.

3. Research.

In the Atlantic waters, specially in the Cabo Blanco peninsule, Spain participate in collaboration with the European Commission and the Maurithanian Authorities, the National Park of Banc d' Arguin (PNBA) and the National Center of Oceanographic Research (CNROP) a research study on the biology and ecology of the Cabo Blanco colony. The range of this research has been wide and included in depth studies. The results have provided new and interesting information about the biology of the species, some of them could be extrapolated for the mediterranean monk seal populations.

4. Coordination.

In the framework of the Bonn Convention, Spain recently is coordinating the development of an Action Plan for the Atlantic populations, involving the signatary members of the Bonn Convention in the atlantic range area. The objective is to prepare a Memoradum of understanding for the conservation of the atlantic population.

RAPPORT SUR LES MAMMIFERES MARINS EN SYRIE

PRESENTE PAR ISSA ALASSAFIN

Les phoques moines n'ont jamais l'objet d'une étude sérieuse dans les côtes syriennes, mais Gruvelle 1931 a mentionné la fréquentation des phoques moines (*Monachus* albiventer, Bodd.) dans les côtes syriennes à cette époque.

Le dernier phoque moine capturé le long des côtes syriennes a été dans des filets à Jebleh (au sud de Lattaquié) en 1973, naturalisé ensuite et conservé dans la direction de pêche de Jebleh. Des observations ultérieures (1987) faites par un collègue syrien de l'Université de Lattaquié prétend avoir vu trois individus de phoque moine sur les roches côtières au sud de Lattaquié. Mais ces observations n'ont pas été constaté. Jusqu'à présent nous n'avons pas aucun programme de suivi pour les phoques moines.

Les cétacés également n'ont jamais fait l'objet d'une étude approfondie en Syrie, la signalisation de présence des espèces de cétacés suivantes a été faite par Gruvelle, 1931:

1. Delphinus delphis, L.
2. Tursiops tursio, Fabr.
3. Grampus griseus, Cuv.
4. Globicephalus melas, Flower
5. Phocoena communis, Cuv.
6. Physeter macrocephalus, L.
7. Hyperoodon rostratus, Müler
8. Baloenoptera musculus, Comp.
9. Baloenoptera rostrata, Fabr.
10. Zyphius cavirostris, Cuv.

Le statut actuel des mammifères marins sur la côte syrienne est mal connu à cause du manque d'études et de spécialistes de mammifères marins.

Nous suggérons un projet de suivi de mammifères, et surtout l'échouage accidentel des cétacés pour évaluer l'importance de ces mammifères et de mettre en place un plan d'action.

RAPPORT DE LA TUNISIE - MAMMIFERES MARINS - ETAT DE LA QUESTION SELON LES CONNAISSANCES ACTUELLES

par

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1. APERÇU SUR LA STRATEGIE TUNISIENNE POUR LA PROTECTION DES CETACES

Parmi les cétacés considérés comme menacés (en danger ou vulnérables) et qui sont régulièrement observés dans les eaux territoriales tunisiennes, il convient de mentionner le souffleur *Tursiops truncatus* et le rorqual commun *Balaenoptera physalus.* On peut y ajouter des espèces observées de façon plus occasionnelle : le dauphin commun *Delphinus delphis*, le petit rorqual *Balaenoptera acutorostrata,* le rorqual de Rudolf *B. borealis,* la baleine à bosse *Megaptera navaeangliae,* le dauphin blanc et bleu *Stenella coeruleoalba* et le cachalot *Physeter catodon* (=P*macrocephalus)*, ce dernier principalement sur les côtes Nord.

Les dauphins sont rencontrés un peu partout, en particulier, autour des îles Kerkennah où ils sont attirés par les pêcheries fixes. Les grands cétacés, eux, sont fréquents dans les eaux septentrionales, où on note de nombreux échouages.

Les signalements d'échouages et de prises accidentelles demeurent malheureusement épars, l'information n'est pas centralisée et est rarement publiée. Les données disponibles ne permettent pas de savoir si ces espèces de mammifères marins sont aujourd'hui plus rares qu'autrefois en Tunisie.

Des captures accidentelles de cétacés ont été rapportées dans les engins de pêche. Celle-ci touchent principalement les filets maillant ainsi que les sennes tournantes dans lesquelles les dauphins peuvent causer des dégâts. A titre expérimental, des moyens acoustiques (tube dauphin) ont été utilisés pour éloigner les dauphins des filets.

Consciente de l'importance des enjeux en matière de protection de l'environnement et de préservation des ressources naturelles, la Tunisie à effectivement déployé des efforts importants, notamment ces dix dernières années, pour développer son cadre institutionnel et législatif permettant la conservation et l'utilisation durable de la diversité biologique marine. Sur le plan international, la Tunisie est signataire de la plupart des conventions relatives à la protection de la flore et de la faune marines, notamment des mammifères marins.

Convention	adoption	ratification	Loi
Ramsar[1]	1971	1980	80-09 du 03/03/80
Paris[2]	1972	1974	74-89du 11/12/74
Washington[3]	1973	1974	74-12 du 11/05/74
Alger[4]	1975	1976	76-91 du 04/11/76
Barcelone[5]	1976	1977	77-29 du 25/05/77
Bonn[6]	1979	1986	86-63 du 16/07/86
Berne[7]	1979	1995	95-75 du 07/08/95
Genève[8]	1982	1983	83-44 du -22/04/83
New York[9]	1992	1993	93-45 du 03/05/93
Rio[10]	1992	1993	
Alghero[11]	1995		
ACCOBAMS[12]	1996	En cours	

1. Convention relative aux zones humides d'importance internationale,
2. Convention relative à la protection du patrimoine mondial culturel et naturel
3. Convention sur le commerce international des espèces de faune et de flore menacées d'extinction.
4. Convention africaine pour la conservation de la nature et des ressources naturelles.
5. Convention pour la protection de la mer Méditerranée contre la pollution
6. Convention sur la conservation des espèces migratrices de la faune sauvage,
7. Convention relative à la conservation de la vie sauvage et des milieux naturels d'Europe
8. *Protocole relatif aux Aires Spécialement Protégées de la Méditerranée.*

9, 10 et 11 : Conventions sur la biodiversité.

12 . Accord pour la conservation des cétacés en Atlantique, en Méditerranée et en mer Noire.

Bien que nous ne disposions pas. à l'état actuel, d'un Plan d'action effectif, sur le plan législatif, la Tunisie à traduit les directives et recommandations des conventions internationales en termes de droit tunisien. A titre d'exemple, l'arrêté du Ministère de l'Agriculture du 28/09/95 délimite les espaces maritimes des zones de pêche. Il interdit la capture du phoque moine, des cétacés et la pêche des tortues marines dans les eaux territoriales ainsi que leur commerce et leur détention.

Il persiste, toutefois, un vide juridique concernant le domaine maritime. En effet, par manque de textes applicables à la faune et à la flore de ce milieu, il y a souvent recours aux textes du domaine terrestre, ce qui ne répond généralement pas aux mêmes objectifs.

D'un autre Coté, les mesures inscrites dans le Code Forestier relatives aux Parcs Nationaux et aux Réserves Naturelles semblent très rigides et sans nuances et sont, en définitive, assez peu compatibles avec une gestion durable de l'environnement, d'autant plus que, dans de nombreux cas, elles ont été prises sans étude globale préalable des écosystèmes et sans appréciation de leur degrés de sensibilité et de vulnérabilité (zonage écologique),

Des mesures sont à l'étude pour compléter et améliorer le cadre juridique, à la fois dans le sens d'une couverture de tous les aspects liés à la biodiversité marine et dans

le sens d'une réorganisation et d'un réaménagement des instruments et des mécanismes de protection existant et qui sont peu ou pas adaptés aux nouvelles règles et aux nouveaux concepts des principes d'action, des techniques d'intervention et des systèmes de protection des ressources naturelles et de l'environnement pour répondre aux impératifs de mise en œuvre d'un modèle de développement durable et d'un environnement de qualité.

Il y a aussi le manque d'application de certains textes existants. En effet, bien que parfois nombreux, les textes manquent de cohérence ou d'harmonie et ne sont pas toujours appliqués en raison de l'absence de moyens ou de dispositions d'application, mais aussi parfois en raison de leur impact négatif sur les ressources biologiques. En outre, ces textes et/ou mesures, souvent, n'intègrent pas les considérations d'ordre écologique et socio-économique particulièrement dans le domaine marin.

Bien que la Tunisie ait ratifié les Conventions de Bonn, de Washington, de Berne, de Barcelone, il est important que les taxons qui figurent dans leurs Annexes bénéficient d'une protection spécifique en Droit tunisien (sous forme d'arrêté, au même titre que les tortues marines (arrêté du MA du 11/08/92 prohibant la capture, la destruction, la vente, l'achat, le colportage et la détention), et tout particulièrement les espèces suivantes , *Balaenoptera acutorostrata, B. physalus, Delphinus delphis, Megaptera novaeangliae, Physeter catodon, Stenella coeruleoalba et Tursiops truncatus.*

Il faut dire aussi que les situations foncières sont, dans Plusieurs cas, à l'origine de conflits et constituent l'un des principaux freins à l'action des institutions publiques, y compris au niveau des aires protégées.

Quoi qu'il en soit, la protection durable des mammifères marins ne peut se situer qu'au niveau régional. Il est indispensable de faire circuler l'information et de coordonner les actions entre tous les pays riverains.

II. APERÇU SUR LA STRATEGIE TUNISIENNE POUR LA CONSERVATION DU PHOQUE MOINE

Le phoque moine fréquentait autrefois les Côtes Nord ainsi que le Cap Bon. Une première régression conséquente de son aire de distribution est observée avec la disparition des populations continentales, probablement au début des années 70. Le phoque moine subsiste alors au niveau de deux archipels dans les eaux septentrionales : les îles de Zembra et Zembretta et l'archipel de la Galite.

En 1973. a été décidée la création d'une zone de protection biologique autour des îles de Zembra et Zembretta sur 1,5 miles. Elles deviennent Parc National puis Réserve de la Biosphère en 1977.

En 1980, l'îlot du Galiton, dans l'archipel de la Galite, acquiert le statut de Réserve Naturelle avec sa zone marine de protection intégrale. Cette réserve a été créée spécialement pour la protection du phoque moine,
Les deux aires protégées sont sous la responsabilité administrative de la Direction Générale des Forêts au Ministère de l'Agriculture. Elles constituent aussi des zones militaires surveillées par la Marine Nationale. La chasse, la pêche ainsi que toute autre activité y sont interdites.

Sur les îles de Zembra et Zembretta, le phoque moine a été signalé pour la dernière fois en 1975; au niveau de l'archipel de la Galite, une petite colonie de 8 individus a été observée en 1978. En 1986, celle-ci n'en comptait plus que 3.
Durant la dernière décennie, quelques spécimens échoués ont été recensés. De même que quelques phoques isolés auraient été observés.
Il est difficile de savoir s'il s'agit des survivants de la population initiale ou d'animaux errants provenants d'autres régions.

Bien que certaines zones côtières constituent encore un habitat approprié pour les phoques, et en dépit de l'existence d'un Décret Ministériel les protégeant ainsi que de la mise en réserve de sites qui accueillaient quelques colonies, il semblerait, d'après les dernières campagnes de prospection, que le phoque moine ait complètement disparu notamment sous la pression de la pêche illicite et du tourisme de plaisance mal organisé.

Vu l'existence de gîtes potentiels au niveaux des îles, la surveillance continue des activités de pêche côtière doit être maintenue et renforcée afin de ne pas entraver un éventuel retour du phoque moine.
Des campagnes de sensibilisation ont été, et sont toujours, menées auprès du grand public notamment au niveau des écoles et des différents utilisateurs de la mer.

IMPLEMENTATION OF ACTION PLANS IN TURKEY FOR MARINE MAMMALS

Presented by

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Foreign Relations Department

Meeting of Experts on the Implementation of Action Plans for Marine Mammals

Arta, Greece
29-31 October 1998

1. CETACEAN SPECIES IN TURKEY

With regards to legislation in Turkey since 1983 dolphin hunting has been banned in the Black Sea. "Water Products Circulatory" under the Water Products Law is the related instrument for the conservation of the cetacean populations in Turkey.

The species are also under protection through the international and regional conventions which Turkey is party such as: "Convention for the Protection of Mediterranean Sea Against Pollution (Barcelona)" and "Convention on International Trade of Endangered Species of Wild Flora and Fauna (CITES)".

As it had already been known, there are three dolphin species in the Black Sea. These are bottlenose dolphin (*Tursiops truncatus*), common dolphin, (*Delphinus delphis*), and harbour porpoise (*Phocoena phocoena*). There may be resident populations of bottlenose dolphin (T. truncatus) in the western part of Turkish Black Sea.

In the Marmara Sea, three dolphin species are known as in the Black Sea. These are D.*delphis* (common dolphin), T.truncatus (bottlenose dolphin) and *Phocoena phocoena* (harbour porpoise). The Marmara Sea population may be considered as being consisted of resident and migratory ones. Resident populations are those of *T. truncatus* (bottlenose dolphin), inhabiting around Marmara Islands. A resident population of P. phocoena has not been determined in the Marmara Sea. As a transitional zone the Istanbul (Bosphorus) and Canakkale (Dardanelles) Straits are very important for the cetaceans. However, there is no resident population anymore in recent years due to mass sea traffic and various pollution sources in these areas. In the Istanbul Strait, three dolphin species occur from May to October, generally depending on the migration of pelagic fishes from the Aegean to the Black Sea and vice versa. But there is no spring migration through the Marmara Sea and Istanbul Strait to Black Sea and out again in the autumn. In the Marmara Sea, incidental catches are very few and dolphins do not yet damage fishing nets.

As far as the Aegean Sea is concerned, *D. delphis* and (common dolphin) and *T. truncatus* (bottlenose dolphin) were determined to occur constantly in the northern part. Incidental catches occur in this area especially with gill nets for sardine fisheries. The Northern Aegean Sea is the northern limit for *Physter catodon* (sperm whale), *Grampus griseus* (Risso's dolphin) and *Psudorca crassidens* (false killer whale). In the central Aegean Sea, Gokova Bay, Sigacik and Gulluk regions, the most common species are *Stenella coeruleoalba* (striped dolphin) *T. truncatus* (bottlenose dolphin) and *D. delphis* (common dolphin). This species are generally known to damage fish nets.

In the Turkish part of the Mediterranean Sea, D.*delphis* (common dolphin), T.truncatus (bottlenose dolphin) and S.coeruleoalba often observed. There are also other observed species in Turkish coast of Mediterranean; for example Fin Whale & Sperm Whale.

In Turkey there are a few research studies concerning these species are carried out by University of Istanbul, Faculty of Fishery & Turkish Marine Research Foundation.

Throughout these researches in Western-Black Sea, Marmara Sea, Aegean & Mediterranean Sea, the populations of these species are being identified. More detailed information on these studies is available in the poster room.

For Marmara Sea, identification of the species distribution and population is being carried out and it will be finished in mid 1999.

Also, in addition to these research studies establishing of a stranding network is still carried out by University of Istanbul, Faculty of Fishery & Turkish Marine Research Foundation.

We also have studies on the stranding animals, which consists of::

1. Skull morphometry
2. Sampling of the body tissue, liver, blubber, muscle, etc.
3. Sampling of the genetic material.

Turkey has not issued a National Programme concerning the implementation of the Action Plan for the cetacean.

2. MEDITERRANEAN MONK SEAL IN TURKEY

Turkey is one of the Mediterranean countries on which viable monk seal populations are still surviving.

The Environment Law, The National Parks Law and the Law on Natural and Cultural Assets are the major legislation which have relevant statements for the conservation of the endangered species and their habitats such as the monk seal.

In addition to above mentioned national legislation, Turkey is a side to international conventions, such as the Bern, Barcelona, CITES and the Convention on the Biological Diversity addressing conservation of natural living recourses and natural habitats.

Declaration of Dilek Peninsula and Cape Gelidonya (Beydaglari) Coastal National Parks in 1966 was the first step in Turkey taken forward to protect the Mediterranean monk seal habitats. Later in 1990, nine Specially Protected Areas on the coast of Turkey were declared, which consist important seal habitats.

Deliberate killing of the species have been prohibited by "Aqua-products Circular" of The Turkish Ministry of Agriculture in 1977 and by the "Central Hunting Commission" of The Turkish Ministry of Forestry in 1978. In 1996 the enforcement was revised and fines to deliberate killing of a monk seal has been increased. According to the Aqua-products Circulars, diving into the seal caves is forbidden as well.

In 1991 Turkish National Strategy for conservation of the monk seal was prepared and consequently a National Seal Committee was established for co-ordination of the monk seal conservation activities. The Committee consists of representatives of related ministries, universities and the NGO's. The Ministry of the Environment acts as the co-ordination unit of the Committee.

Towards the implementation of the National Strategy, Foca which is a small town consisting of suitable habitats for the monk seal has been selected as a pilot area. A project titled "Implementation of the National Strategy in Turkey and Foca Pilot Project" has been initiated with the financial support of the Ministry of Environment and carried out by the Istanbul University. Through this project conservation, research and public awareness activities have been carried out in a comprehensive and integrated manner.

After the establishment of the National Seal Committee, residents of Foca has decided to contribute actively to the seal conservation activities in their region and formed a Local Seal Committee in Foca.

In 1993, with financial support of WWF, "Conservation of the Mediterranean Monk Seal in Turkey / Foca Pilot Project' was started by a Turkish NGO specialised on the monk seal.

Following the request of Foca Local Seal Committee, coastal trawlers and other large scale fisheries have been banned within the Foca Pilot Area in 1993. Ministry of Environment provided the Municipality of Foca with a speed boat to patrol the Pilot Area against illegal fishing in 1993.

The conservation activities performed in Foca led the local conservationists and the Municipality of Yalikavak to establish the second local seal committee of Turkey in Bodrum - Yalikavak in 1994. In Yalikavak Region large scale fishery has been banned as it was done in Foca.

In 1995 Foca Pilot Project has pioneered another project in Mersin, "Cilician Basin Project". This project has been executed by Middle East Technical University and financed by WWF.

At the same year, the Siren Rocks which was identified as the most important spot for the seals by the Foca Pilot project has been closed for human activities.

In 1997, another project named as 'Research and Protection of the Breeding Sites of the Monachus monachus in Bodrum-Yalikavak' has been started by the financial contribution of the Ministry of Environment and is still being carried out by the University of Istanbul, Faculty of Fisheries. Through this project, all the Bodrum-Peninsula is being researched.

In 1997 oil spill on an island off Bodrum Peninsula which consists of actively used seal caves was noticed. A clean-up operation has been undertaken by the Ministry of Environment by the technical assistance of Turkish NGO, Underwater Research Society, SAD-AFAG. This operation which would be taken place in the wilderness for the first time in Turkey to be a good example to raise and increase the awareness of the public and GOs on the importance of natural recourses, biological diversity and endangered species. Also, a video film is being prepared concerning the monk seal and this operation is being carried out by the financial contribution of the Ministry of Environment.

Through the end of the year, a Technical Sub-committee was established within the National Committee. The sub-committee is currently preparing an inventory of the "Important Monk Seal Sites of Turkey". By this inventory, which is expected to be finalise in a few months, the important monk seal sites in Turkey and protected areas on the coast are being mapped and the current problems for the survival of the monk seal is being listed for each sites.

The last meeting of the National Seal Committee was held in Yesilovacik which is a town in the Cilician Basin Project in December 1997 . Apart from the Committee members, regional authorities and the local fishermen have participated the meeting. The meeting served to increase the awareness of the local fishermen and regional authorities. The fishermen have well understood their benefits from the seal conservation. As a consequence of the meeting, the 2 miles no trawl zone on the Cilician Basin has been expended to 3 miles in order to protect fish stocks from over-fishing.

In 1998 most important monk seal habitats on the Cilician Basin were declared as 1st Degree Natural Sites by Turkish Ministry of Culture. By this decision a coastline of about 70km is protected against landscape modifications, flora and fauna destruction, logging and construction building.

For the near future a project aiming active involvement of local people to the protection of coastal ecosystem in Foca and Cilician Basin has been prepared co-operatively by SAD-AFAG and WWF and proposed to EC. The project also aims to encourage local fishermen to develop environment-friendly alternative income besides fishery and it has received the full support of The Ministry of Environment. In case of approval it will be implemented by SAD-AFAG with the co-ordination of Turkish National Seal Committee.