



REPORT OF THE 1st MEETING OF THE SCIENTIFIC COMMITTEE TO ACCOBAMS

TUNIS, 3-5 OCTOBER 2002

Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea,
Mediterranean Sea and Contiguous Atlantic Area

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Introduction

1. Following the entry into force on 1 June 2001 of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area (hereafter "ACCOBAMS" or the "Agreement"), a Scientific Committee (SC) was established in accordance with Article VII of the Agreement, to provide scientific advice and information to the Meeting of the Parties, or through the Secretariat to the Parties.
2. To benefit from support provided by the Mediterranean Sub-Regional Coordination Unit, the Regional Activity Centre for Specially Protected Areas of the Mediterranean Action Plan (hereafter "RAC/SPA"), the Meeting was held in Tunis, Tunisia from 3 to 5 October 2002 at the ABOU NAWAS GAMMARTH Hotel.
3. All members of the SC attended the meeting, with the exception of Mr. Greg Donovan nominated by the International Whaling Commission, who was unable to attend due to unforeseen circumstances.
4. A few experts were invited as observers by the Secretariat to provide contributions related to specific agenda items.
5. The list of participants is attached as Annex 1 to the present report.

AGENDA ITEM 1: Opening of the Meeting

6. Mr. Henchi, "Chef de Cabinet" of the State Secretary in charge of environment at the Tunisian Ministry of Agriculture and Hydraulic Resources, in the presence of Mr. M. A. Hentati, Director of the RAC/SPA and representing the Mediterranean Sub-Regional Coordinating Unit, opened the meeting and welcomed participants.
7. M.C. Van Klaveren, Executive Secretary of ACCOBAMS, also welcomed participants and expressed thanks for their participation.

AGENDA ITEM 2: Adoption of the Rules of Procedure of the Scientific Committee

8. Some amendments were proposed to the draft rules of procedure, and adopted. These concerned the following points:
 - In order to facilitate a turnover in membership, Regional Representatives (RR) shall not be re-elected on two consecutive terms.
 - The quorum for ordinary meeting was raised to two thirds. By contrast, the quorum for extraordinary meeting remained at half of the members.
 - It was clarified that the mandate of the Chair of the SC is extended to the end of the subsequent Meeting of the Parties.
 - To fully benefit from all kinds of expertise that might be needed according to the agenda, it was decided to add a sentence to Rule 5 to widen possible participation.
 - To avoid ambiguity, "between session" was added at the beginning of Rule 21.
9. The meeting adopted the Rules of Procedure of the SC, which are attached as annex 3.

AGENDA ITEM 3: Election of the Chair

10. The Executive Secretary explained that Rule 7 provided for a Chair to be appointed by the members of the SC during their first meeting.

11. According to such rule, the SC elected G. Notarbartolo di Sciara as Chair.

AGENDA ITEM 4: Adoption of the Agenda

12. The Meeting adopted the Agenda contained in the document CS1/Doc 1 rev 1, which is attached as Annex 4.

AGENDA ITEM 5: Information Provided by the Secretariat

13. The Executive Secretary presented her report on activities undertaken since the First Meeting of Parties and on the development of the Agreement. Concerning ratifications, she informed the SC that 12 Parties had ratified the Agreement, and that the process of ratification is underway in four more Countries. Other on-going activities were the promotion of the Agreement, the participation in meetings of common interest – notably COP7 of the CMS in Bonn - and fund-raising. The SC took note of the information provided by the Secretariat.

AGENDA ITEM 6: Report of the Regional Representatives

14. The Secretariat presented Resolution 1.3 of the MOP1 "emphasizing the need to establish a close link between the SC and the network of cetacean experts in each Party, so that the Agreement may benefit from existing knowledge and experience". According to this Resolution, the RR were invited to provide a brief information about ongoing relevant activities within their region.

15. A. Komnenou, D. Holčer, A. Bayed and A. Komakhidze, respectively RR of the Eastern Mediterranean, Central Mediterranean, Western Mediterranean and Contiguous Atlantic Area, and Black Sea, gave a short summary of their reports, which were also presented as CS1/Doc 7 (1, 2, 3 and 4), and are attached as Annex 5, Annex 6, Annex 7 and Annex 8.

16. It was generally agreed that this meeting's regional reports were extremely diverse, and the need to standardise the information collected was recommended. The Chair called the attention of the meeting to CS1/Doc 8 and G. Bearzi proposed a revised format designed to capture all types of information needed. This can be posted as a user-friendly form on the Internet, thus facilitating the collection of information, making it universally available and allowing for continuous updating. P. Reijnders recommended that a clear reference to conservation priorities be included in the format.

17. The meeting adopted the setting up of a working group to refine the subject and report back with a final proposal to be adopted by the meeting. The working group presented a new format, which was adopted after some discussion, and is provided as annex 9. The following was also decided: (1) the Secretariat shall ensure that the initiative be widely publicised by all possible means, including specialised email discussion lists, and enlisting the help of the RR; (2) there is a need for a moderator to ensure that the data entered is relevant to the conservation goals of the Agreement; (3) the database must have open access; (4) the database must be easy to update.

AGENDA ITEM 7: Implementation priorities

7.1 Funding availability.

18. To introduce this agenda item, the Executive Secretary provided the SC with current information on the budget. As agreed at MOP1, the functioning of the Secretariat is at present entirely supported by Monaco. Considering payment delays by some Parties and other circumstances, the Secretary estimated that, for 2002 and 2003 combined, the availability of funds for actions would be limited to an amount comprised between 40-80k €. The Secretariat added that it will endeavour to raise more funds through various funding sources, enlisting the help of the SC, to implement a greater number of activities, as indicated by the Meeting of the Parties. The SC took note of this communication by the Secretariat, acknowledging the crucial importance of this issue.

7.2 Discussion of priority actions adopted by the contracting Parties (MOP Resolution 1.9 Annex 1, International Implementation Priorities)

19. The Chair introduced documents CS1/Doc 9 rev 4, CS1/Doc 10 and CS1/Doc inf 3, and recalled that the MOP1 had issued a number of Resolutions engaging the SC.

20. SC members noted that there was a need to establish procedures for submission of proposals to be considered by the SC itself. It was decided to create a working group coordinated by A. Aguilar to prepare such procedures in the following two months. In the meantime an ad hoc Advisory Committee (AC), composed of A. Read, M. Simmonds and P. Reijnders, was established with the task of reviewing proposals submitted to this meeting, and advising on how to consider them.

21. The AC reported that all the proposals examined met the overall objectives of the Agreement. In addition, they constituted sound research or capacity building and, in general, were cost-effective. In addition, the AC acknowledged the importance of proposals dealing with capacity building (CS1/Doc 17, 18, and 23), but felt that it was premature to recommend funding of these proposals before the SC agrees on a general strategy for capacity building. It was recommended that the Capacity Building WG consider these proposals as part of their deliberations.

22. Finally, the AC recognized that many other areas of research, conservation and capacity building were worthy of financial support and encouraged the development of detailed, specific proposals that would meet other objectives than those proposed by the Meeting of Parties, for example: basin-wide surveys of cetaceans in the Black and Mediterranean Seas.

Action 1: Database on whale watching in the ACCOBAMS area and review of guideline.

23. As agreed in Resolution 1.11(2), MOP1 asked the SC to develop the guidelines adopted on whale watching at the MOP on the basis of the evolution of scientific knowledge. It was agreed that as a first step in this direction a database on commercial whale watching operations in the area be created.

24. Therefore, a working group was established to: (1) review the guidelines, and (2) create a standard entry form to be posted on the internet to facilitate the creation of database of commercial whale watching operations in the Agreement area. The group broadly welcomed the existing guidelines in Resolution 1.11 and found them a good model. However, they noted that different species and different local situations would require modified guidelines and an email correspondence group would make further recommendations and report back to the next meeting of

the ACCOBAMS SC. The report of this WG is annexed as annex. 10. The standard entry form was also adopted and is annexed as annex 11.

25. It was suggested that a moderator should ensure consistency and quality of the data entered, in the same way as for the database on research activities. Procedures for the establishment for this database will follow those adopted for the establishment of the “research activities” database.

26. M. Simmonds noted that the whale watching subcommittee of the IWC SC has been developing protocols to help researchers collect useful data from "platforms of opportunity" including whale watching vessels. This is described in the Annual Reports of the subcommittee published in the Journal of Cetacean Research and Management. It was emphasised that the link between SC of ACCOBAMS and SC of the IWC should be established.

27. During the discussions on this item the SC noted that its role is to provide indications on how to support sound, science-based management of whale watching rather than promoting it.

Action 2: Investigation of competitive interactions between coastal dolphins and artisanal fisheries.

28. After a brief introduction by the Chair, a discussion followed. The conclusions were:

- That baseline information on dolphin/fisheries interactions in the ACCOBAMS area is highly insufficient.
- That the RR should collect information on the existence of problem areas in which damage to cetaceans from fishing or aquaculture activities or gear occur. To this end it was decided that the RR set up a working group in the following months to establish a procedure for collecting the relevant information, including the preparation of a questionnaire in order to provide a report to the SC at its following meeting.
- The involvement of other international organisations concerned with this issue, notably the European Commission and the FAO/GFCM, was seen as highly desirable.

29. The Chair remarked that information on the widespread use of acoustic deterrents in fishery and aquaculture operations in the Mediterranean indicates that these could raise conservation concerns; attention was brought to the meeting of document CS1/ Inf 20 containing the report of a workshop organised in Rome in May 2001 by ICRAM (Workshop on interactions between dolphins and fisheries in the Mediterranean: evaluation of mitigation alternatives) was clearly describing this problem. The SC formulated a recommendation (Recommendation 1.1) on this issue, which is included as annex 12.

Action 3: Creation of a cetacean by-catch database

30. The meeting remarked that by-catch is a conservation concern throughout the Agreement area, although its importance differs according to region and species. Particular concern was demonstrated by A. Birkun, regarding the effects of cetacean by-catch in bottom-set gill nets for turbot in the Black Sea, and by A. Aguilar concerning swordfish pelagic driftnets in the Mediterranean Sea.

31. The SC emphasized the importance of the participation of ACCOBAMS in the efforts undertaken by the European Commission on by-catch. The recommendation formulated (Recommendation 1.2) is annexed as annex 13.

Action 4: Development and implementation of pilot conservation and management actions in well-defined key areas critical for the habitat of priority species.

32. The Chair summarised the decision of MOP1 about selecting four pilot areas in which conservation and management actions had to be developed. Members of the SC remarked that such action could be undertaken in other areas (A. Komnenou for instance mentioned the Northern Aegean Sea). D. Holčer described the case of a population of bottlenose dolphins in the Losinj/Kres area (Croatia), where the local government is planning to establish a conservation and management area centred on the presence of dolphins and with substantial involvement of local stakeholders.

33. It was decided that proposals to undertake such actions in further areas should be sent to the SC to be evaluated according to the procedure under elaboration by the *ad hoc* WG. Examination of one of such proposal, concerning the area surrounding the island of Kalamos, Greece, was postponed to the discussion of Action 7 (see below).

Action 5: Workshop on methods to evaluate habitat degradation and its effect on cetacean populations.

34. The Chair requested the opinion of the AC. The AC recognized the importance of reviewing of the potential effects of habitat degradation on cetaceans in the Agreement area and the relevance of the proposed workshop (CS1/Doc 11) to ACCOBAMS priorities. Nevertheless, given the limited availability of funds and the existence of many other priority areas, the AC did not recommend funding this proposal at present. Given the extensive degradation of habitats within the Agreement area, it is likely that such changes have had an effect on the demography of cetacean populations in the Mediterranean and Black Seas. A considerable amount of scientific expertise in cetacean demography and environmental change exists within the IWC Scientific Committee. The ACCOBAMS SC therefore requested that the IWC SC provide advice on the potential impact of habitat degradation on the demography of cetaceans in the Mediterranean and Black Seas.

Action 6: Conservation plan for cetaceans in the Black Sea.

35. A. Birkun presented updated information on the preparation of a GEF medium-sized project aimed at the consolidation and improvement of research and conservation activities in all Black Sea Countries, including the development of a sub-regional conservation plan for cetacean populations. The concept of the project was supported by the 1st Meeting of Parties to ACCOBAMS (Monaco, March 2002) and in the documents related to the 9th Ministerial Meeting of the Black Sea Commission (Sofia, June 2002). The necessity for this project is reflected as a separate item in the recommendations, prepared by the Black Sea Commission and attached to the Report on the implementation of the Action Plan for the Rehabilitation of the Black Sea (CS1/Inf. 1). The project's concept was also sent for preliminary review to UNEP specialists in Nairobi, who provided valuable advice for improvement of the proposal. The modified concept paper (CS1/Doc. 12) was presented recently to the Black Sea Commission for further expertise from their Advisory Groups on Fisheries and Conservation of Biodiversity. It is planned that both Advisory Groups will have expressed their opinion by the end of 2002.

36. The SC stated that the development of a conservation plan for cetaceans in the Black Sea is a matter of the highest priority for ACCOBAMS.

Action 7: Conservation plan for short-beaked common dolphins (*Delphinus delphis*) in the Mediterranean Sea.

37. Requested by the SC, the AC endorsed the proposal for the conservation of short-beaked common dolphins in the Mediterranean area presented as document SC1/ Doc 24, which is annexed as n. 14 to this report. The AC especially identified this conservation plan for common dolphins in the Mediterranean as meriting the highest priority for funding. The SC endorsed the opinion of the AC and recommended to the Secretariat to give highest priority to this action when funds are secured.

Action 8: Conservation plan for bottlenose dolphins (*Tursiops truncatus*) in the Mediterranean Sea.

38. The Chair introduced the action. It was pointed out that both conservation plans for the common dolphin (Action 7) and for the bottlenose dolphin (Action 8) have strong affinities and should be developed in parallel possibly by partly overlapping groups. It was noted that the IWC Scientific Committee – Small Cetacean Subcommittee - will review the status of the Black Sea bottlenose dolphin next year. In this context the wish to collaborate with the IWC was reiterated by the SC. It was decided to form a working group to prepare a proposal for presentation at the next meeting of the ACCOBAMS SC.

Action 9: Basin-wide Mediterranean sperm whale (*Physeter macrocephalus*) survey.

39. Following an introduction by the Chair, a brief discussion followed. Many participants noted the primary and urgent importance for an assessment of cetacean abundance for all species and for all geographic areas within the Agreement range. Discussions took place on the possible extension of the action to include other species in the survey, or the planning of a separate action for other species. A working group was established to elaborate the project and will report to the next SC meeting.

Action 10 : Identification of Mediterranean sites, in addition to the Ligurian-Corsican-Provençal (LCP) basin, important for the conservation of fin whales (*Balaenoptera physalus*), and assessment of the functional relationships of such sites to the LPC basin concerning the species' habitat needs.

40. After a brief presentation by the Chair, the great interest of this theme was recognised, as well as the importance of enlarging management measures currently implemented in the Sanctuary, known as a fin whale feeding area, to the whole basin. The SC recommended that the Secretariat undertake all possible action to establish a link between the Sanctuary Agreement and ACCOBAMS for co-operation on issues related to fin whale conservation in the Mediterranean Sea. The meeting formulated a recommendation (Recommendation 1.3) annexed as n. 15.

Action 11: Development of photo-identification databases and programmes covering the entire ACCOBAMS Area

41. S. Panigada, representing the EU programme “Europhlukes”, reported on an informal meeting held on 2 October 2002: this report is annexed with number 16. The SC agreed that it was premature to start a project equivalent to “Europhlukes” in non-EU countries, and highlighted the need to set up capacity building schemes first. Projects with the necessary infrastructure, but lacking specific photo-identification know-how, should, at first, be considered as pilot projects. The SC recommended that, if funding is adequate, a pilot project be undertaken in 2003, involving Ukrainian and Russian teams, supervised by A. Birkun. To this end a proposal prepared by A. Birkun, S. Panigada and G. Bearzi will be submitted to Secretariat in the forthcoming months.

Action 12: Establishment and implementation of a long-term training programme on cetacean research, monitoring and conservation.

42. The Chair invited G. Bearzi to present the topic that he had been invited to prepare by the Secretariat. His presentation was appreciated and an extensive discussion followed. The SC recognised that capacity building is a high priority matter for ACCOBAMS, and recommended that the Secretariat establish a working group to develop a strategy for capacity building. The group should include members of the SC and members of the scientific community at large, as well as professional fund-raising and capacity-building expertise.

Action 13: Development of an educational tool for research.

43. The pedagogic kit was presented by the Secretariat. To elaborate the kit the Secretariat had mandated the Swiss Cetacean Society to collect all relevant information. Members of the SC were asked to examine the kit and contribute to its finalisation.

Action 14: Creation of sub-regional directories of national authorities, research and rescue centres, scientists, governmental and non-governmental organisations concerned with the Agreement's objectives.

44. The Secretary recalled that the RAC/SPA distributed a directory of Mediterranean marine mammal scientists some years ago, and noted that a new directory, encompassing Mediterranean, Black Sea and Contiguous Atlantic area waters, should now be prepared as requested by the Parties. It was remarked that the creation of this directory could follow the same procedure as the creation of databases of scientific activities and whale watching operations in the ACCOBAMS area. It was also recommended that the directory extracts from such database be posted as a PDF file on the Agreement's website and updated frequently.

Action 15: Support to the implementation of national stranding networks, and their co-ordination into a wider regional network.

45. It was agreed to postpone this discussion to agenda item 8.

Action 16: Development of a network of specialised bibliographic collections and databases.

46. Requested by the SC, the AC acknowledged the importance of the proposal contained in CS1/Doc 23, but felt that it was premature to recommend any funding until a general strategy for capacity building is agreed on. The SC recommended that the Capacity Building WG consider this proposal as part of its deliberations.

Action 17: Establishment of a system of tissue banks

47. The Chair referred the SC members to documents SC1/ doc 20 and 21 and gave the floor to A. Aguilar. Aguilar explained that the tissue banks aim to provide researchers with geographically- and temporally-comprehensive collections of samples that may be used as a cost-effective diagnostic tool for population management. Although these samples may eventually be of use for other types of research, the sampling priorities and conditions in which tissues will be preserved will be those appropriate for genetic and reproductive-oriented studies, for the determination of

pollutant levels and their biomarkers, and for the assessment of pathological conditions. Once in operation, they will have the potential to become a key element in conservation-oriented research and, in this way, assist national and international organizations in the development of sound management policies for marine mammal populations and their habitats.

48. Given that at present there are several initiatives to create banks of this type in the ACCOBAMS region, the SC expressed its support to such initiatives and recommended that A. Aguilar and B. Cozzi, responsible for the Italian Tissue Bank, produce a proposal for the organisation of a workshop to develop agreed protocols for collection, preservation and distribution of tissue samples, and ensure effective networking between suppliers of samplers and potential users in the various ACCOBAMS Countries. The SC formulated a recommendation on this issue (Recommendation 1.4), which is included as annex n. 17.

Action 18: Establishment of a Task Force for special mortality events.

49. After a brief discussion, in which several members pointed out the importance for the SC to provide precise indications on the type of scientific support, both preventive and as a follow up, in case of special events, it was decided to create a WG for this task within the following three months.

Agenda item 8: Protocol on strandings and code of deontology

50. The Chair reminded the SC that a protocol on stranding procedures and a related code of deontology must be adopted during this meeting. J.A. Raga presented MEDACES (Mediterranean Database of Cetacean Strandings) and its state of development. A. Frantzis highlighted the need for properly established national networks so that valuable data reach the MEDACES database. After some discussion it was decided:

- To adopt the protocol on strandings with the appropriate modifications taking into account the geographical extension to the entire Agreement area, and the fact that ACCOBAMS is cooperating with RAC/SPA in the implementation of the Protocol. The protocol is annexed with n. 18.
- Concerning the deontology code, to adopt the document but to invite the Secretariat to collaborate with the RAC/SPA to achieve the necessary harmonisation between RAC/SPA and ACCOBAMS concerns.

51. M. Simmonds suggested that ACCOBAMS should facilitate discussion on the necessary reaction to live-stranded cetaceans, with the aim of "skill-sharing" and building capacity in the region. It was agreed that the emergency task force working group, together with the Secretariat, should consider the issue of capacity building and the preparation the relevant scientific protocols to be included in the guidelines concerning the rescue of live-stranded cetaceans. This would cover concerns raised by the SC, e.g. about inter-specific disease transmission. The SC stressed that only appropriately trained people should deal with live stranded cetaceans.

Agenda Item 9 : Cooperation with other international Organisation

52. The Secretariat informed the meeting of contacts made with two organisations (IFAW and FAO/COPEMED) to identify focuses for collaboration. S. Bräger (IFAW) noted that several activities were underway in the "Song of the Whale" programme, possibly in the Mediterranean region. He also informed the SC that the selection of projects is underway, and confirmed the

interest of IFAW in the Mediterranean region, particularly in the field of training and in sperm whale studies.

53. The SC asked the Secretariat to renew contacts with the COPEMED Secretariat.

54. Finally, the SC agreed that close contact be maintained with the ASCOBANS Advisory Committee, as well as with the IWC and in particular with its Scientific Committee.

Agenda Item 10: Any other business

10.1 Scientific Publications

55. Requested by the SC, the AC acknowledged the importance of the proposals described in CS1/Doc 17 and 18, but felt that it was premature to recommend funding of these proposals before the SC had agreed to a general strategy for capacity building. The SC recommended that the Capacity Building WG consider these proposals as part of their deliberations.

10.2 CBD/CMS Joint Working Programme (JWP)

56. The Secretariat presented document CS1/Inf 16 and informed the SC that the CMS Secretariat had contacted the different Agreements concluded under its auspices, asking them to consider the possibility of taking part in the JWP.

57. M. Simmonds noted that the recent Conference of the Parties of CMS had added some whale species to its Appendices – needing to strengthen their protection – and including some species present in the ACCOBAMS Area. More information can be found on the website of the Convention (www.wcmc.cms.org), and on that of the Earth Negotiations Bulletin (www.iisd.ca/linkages/cms/cop7).

58. The SC mandated the Secretariat and the Chair to elaborate concrete proposals for joint future work. This proposal elaborated by a working group will be circulated to the members of SC for comments and suggestions within the next two months.

10.3 GROMS

59. The Secretariat briefly informed the SC about the Global Register of Migratory Species (GROMS). The SC decided that the Secretariat should prepare a proposal on possible links with this initiative. It was further suggested that the Chair and the Secretariat would deal with this issue when they address the issue mentioned in previous agenda item 10.2.

10.4 Guidelines on the precautionary principle

60. CS1/Doc 19 was provided to SC members for comments to the authors, who will provide a new and final version to the next SC meeting.

10.5 Request for ACCOBAMS SUPPORT for scientific programmes

61. The Executive Secretary informed the SC about recent requests for endorsement and/or advice received from various sources, including some relating to the EU Life Programme. The SC decided to include the issue of how to deal with such requests in operational procedures to be considered by the appropriate WG.

10.6 Dolphinarium and dolphin-therapy

62. The Secretariat informed the meeting of a request for advice relating to keeping dolphins in captivity and "dolphin therapy", including one from the Ukrainian Ministry of Environment. The SC agreed that conservation matters of relevance to ACCOBAMS are limited to the following:

- i) import of dolphins into the Agreement Area which bring the risk of (a) disease transmission, and (b) genetic mixing; and
- ii) any capture from the ACCOBAMS region (whether for therapy or not) which is forbidden by the Agreement, and even if subject to a derogation, would be a particular conservation concern especially if relating to small populations or populations of unknown status.

63. Several members of the SC noted that there was no scientific proof of any therapeutic benefit that could not be gained in other ways.

Agenda item 11 - Date and next venue of the meeting

64. The SC agreed that their next meeting would be held in Istanbul, Turkey in October 2003. Confirmation will be forthcoming after appropriate communication between the Secretariat and the Black Sea Commission.

Agenda item 12 - Adoption of the report of the Meeting

65. The Meeting adopted the present report on Saturday, 5 October 2002.

Agenda item 13 - Closure of the Meeting

64. After the customary exchange of courtesies, the Meeting was closed on 5 October 2002 at 22.00.

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ANNEX 2

LIST OF DOCUMENTS BY AGENDA ITEM

<i>Number</i>	Agenda item	Document Title	Prepared by
CS1/Doc. 1 rev1	4	Draft Agenda	Secretariat
CS1/Doc. 2	4	Draft annotated Agenda	Secretariat
CS1/Doc. 3 rev 6	-	List of documents by Agenda Items	Secretariat
CS1/Doc. 4	-	Provisional time table	Secretariat
CS1/Doc. 5 rev 1	2	Draft Rules of Procedure	Secretariat
CS1/Doc. 6	-	Provisional list of participants	Secretariat
CS1/Doc. 7(1,2,3,4)	6	Reports on regional activities and needs	Regional Representatives
CS1/Doc. 8	6	Draft standard information sheet	G.C. Lauriano
CS1/Doc. 9 rev 4	7	Working document on priorities	Secretariat
CS1/Doc.10	7	Draft Working program for Sub regional Coordination Units	Secretariat/MedSRCU*/ BSSRCU*
CS1/Doc.11	7	Habitat degradation: IWC activities and possible links with ACCOBAMS	Mark Simmonds
CS1/Doc.12	7	GEF Medium-Sized Project Concept Paper	Alexei Birkun
CS1/Doc.13	7	Actions devoted on <i>Tursiops truncatus</i> in IWC and other possible links	Greg Donovan
CS1/Doc.14	7	Long-term training programme project	Giovanni Bearzi
CS1/Doc.15	7	MEDACES : Actions developed in the Mediterranean and involvement of Black sea Countries	Juan Antonio Raga
CS1/Doc.16	7	Information on financial situation of ACCOBAMS relevant to the Committee activities	Secretariat
CS1/Doc.17	10.1	Mammals of the Adriatic Sea by Spiridon Brusina	Drasko Holcer
CS1/Doc.18	10.1	Scientific publications of data on cetaceans of the (Eastern) Mediterranean	Alexandros Frantzis
CS1/Doc.19	10.4	Note on the project of guidelines on Precautionary Principle	Will Burns, Mark Simmonds
CS1/Doc.20	7	The environmental tissue bank for the Mediterranean Marine Mammals	A. Aguilar, A. Borrell
CS1/Doc.21	7	The Italian tissue bank for Mediterranean marine mammals	University of Padua
CS1/Doc.22	7	Minutes of EUROPHLUKES Meeting	Secretariat
CS1/Doc.23	7	A proposal for strengthening an implementation of the Venice Marine Mammal Library	Tethys Research Institute
CS1/Doc.24	7	A proposal for the conservation of short-beaked common dolphin in the Mediterranean Sea	Tethys Research Institute
CS1/Inf. 1	5	Minutes of the 9 th Ministerial meeting of the Black Sea Commission, Ministerial Declaration, Excerpt from the Report on implementation of the rehabilitation plan for the Black Sea	BSSRCU*
CS1/Inf. 2	5	The preparation of a strategic action plan for the conservation of biological diversity in the Mediterranean sea (SAP BIO)	MedSRCU*
CS1/Inf. 3	7	International implementation priorities for 2002-2006	MOP1
CS1/Inf. 4	7	Establishment of Guidelines for the regulation of the Whale watching	MOP1

CS1/Inf. 5	7	Report regarding the situation created by the fraudulent fishing performed in the Romanian EEZ (April-May 2002)	National Institute for Research and Development (Constanta,Romania)
CS1/Inf. 6	7	Thonaille Méditerranéenne- Effet des répulsifs sur la capture des dauphins dans les thonailles (15/02/2002)	Guy Imbert, Jean Claude Gaertner, Sandrine Cerbonne, Lucien Laubier
CS1/Inf. 7	7	SGFEN Report: Incidental catches of small cetaceans (1 -14 December 2001)	European Commission
CS1/Inf. 8	7	SGFEN Report: (June 2002)	European Commission
CS1/Inf. 9	7	Community Action Plan to integrate environmental protection requirements into the Common Fisheries Policy	European Commission
CS1/Inf.10	7	Potential mitigation measures for reducing the by catches of small cetaceans in ASCOBANS waters	Andrew Read
CS1/Inf.11	7	Genetic Differentiation of the Black sea Bottlenose dolphins population (<i>Tursiops truncatus</i>): preliminary report	Ada Natoli
CS1/Inf.12	7	The Europhlukes program	Ruben Huele
CS1/Inf.13	8	Guidelines for the development of National Networks for Cetacean Strandings (MEDACES)	Juan Antonio Raga
CS1/Inf.14	8	Deontological code of the Mediterranean Database of Cetacean Strandings (MEDACES)	Juan Antonio Raga
CS1/Inf.15	8	MAP recommendation	
CS1/Inf.16	10.2	Letter from the Executive Secretariat of CMS on implementation of the JWP Excerpt from CBD Decision VI/2 CDB/CMS Joint Working Programme	CMS
CS1/Inf.17	10.3	Minutes of GROMS meeting Information on GROMS	Klaus Riede CMS Secretariat
CS1/Inf.18	9	Comments on Georgian proposal on up listing Black sea <i>Tursiops truncatus</i> to CITES from IUCN	IUCN
CS1/Inf.19	9	Comments on Georgian proposal on up listing Black sea <i>Tursiops truncatus</i> to CITES from CITES Secretariat	CITES Secretariat
CS1/Inf.20	9	ICRAM workshop on Dolphin fisheries interactions	ICRAM
CS1/Inf.21	7	Ship collisions with whales	Dipl. Biol. Sven Koschinski for CMS
CS1/Inf.22	7	Report on the implications of the IUCN listing criteria for CMS	CMS secretariat

*MedSRCU: Mediterranean Sub Regional Coordination Unit

*BSSRCU: Black Sea Sub Regional Coordination Unit

**RULES OF PROCEDURE OF THE SCIENTIFIC COMMITTEE OF THE AGREEMENT
ON THE CONSERVATION OF CETACEANS OF THE BLACK SEA, THE
MEDITERRANEAN SEA AND CONTIGUOUS ATLANTIC AREA (ACCOBAMS)**

GENERAL FUNCTIONS

Rule 1

The Scientific Committee, established in accordance with Article VII of the Agreement, provides scientific advice and information to the Meeting of the Parties or through the Secretariat to the Parties. Its functions are defined in Article VII, paragraph 3 of the Agreement.

Rule 2

In particular, the Scientific Committee provides recommendations to the Meeting of the Parties concerning the implementation of the Agreement and of the Conservation Plan, and on further research to be carried out.

MEMBERSHIP

Rule 3

The Scientific Committee, as determined by the Meeting of the Parties (Res 1.3 -as annexed), shall consist of 12 members:

a) One qualified expert representing each of the four geographical regions as in annex 1. One alternate will be designated for each of the above experts, to participate in meetings only in the absence of the corresponding delegate. b) Five qualified experts in cetacean conservation appointed by the Director General of CIESM following consultation with the Permanent Secretariat of the Agreement; c) One representative each from the World Conservation Union (IUCN), the European Cetacean Society (ECS) and the Scientific Committee of the International Whaling Commission (IWC), each of them appointed by the corresponding Organization.

REPRESENTATION AND PARTICIPATION

Rule 4: Members

4.1 The geographical region representation shall be reviewed at an ordinary session of the Meeting of the Parties, in accordance with the Rules of Procedure of the Meeting. The terms of office of those members shall expire at the close of the ordinary Meeting following that at which they were appointed. At each ordinary session of the Meeting of the Parties, new nominations shall be made only to replace those regional members whose terms of office expire at the closure of the meeting, and any regional member who intends to stand down before completing a full term of office. Past nominees shall not be re-elected.

4.2 The same provisions shall apply with respect to alternate members.

4.3 The mandate of the five qualified cetacean conservation experts nominated by the CIESM in consultation with the Executive Secretariat shall be reviewed at each ordinary session of the Meeting of the Parties in the same way they have been nominated. Past nominees may be re-nominated at the end of their individual term of office.

4.4 At each ordinary session of the Meeting of the Parties ECS, IUCN and IWC shall be invited to appoint a representative to the Committee. Past nominees may be re-nominated at the end of their individual term of office.

Rule 5: Observers

5.1 The Chairperson, in consultation with the Executive Secretary, may invite observers representing riparian Countries.

5.2 Without prejudice to Rule 3, the Chairperson, in consultation with the Executive Secretary and accordance with the agenda, may admit a limited number of observers from specialised international Inter-Governmental and Non-Governmental Organisations and, in extraordinary circumstances, may admit one or more special guests.

5.3 If the following disciplines are not already represented on the Scientific Committee, the Chairperson, in consultation with the Executive Secretary, may invite specialists in environmental law, fisheries and socio-economics, and in any other field relevant to the agenda.

Rule 6: Secretariat

The Secretariat of the Agreement, with the support of the Sub-Regional Co-ordination Units, shall undertake secretarial tasks during the meetings of the Scientific Committee and shall provide administrative and logistical support.

BUREAU

Rule 7

7.1 The members of the Committee shall elect their own Chairperson.

7.2 This election will take place at the first meeting of the Scientific Committee following the Meeting of the Parties, and the newly elected Chair shall assume his/her functions immediately upon election. Such function will expire at the end of the following Meeting of the Parties.

7.3 The Chairperson shall preside all meetings of the Scientific Committee, approve the provisional agenda prepared by the Secretariat for circulation, and liaise with members between meetings of the Committee. The Chairperson may represent the Committee as required, within the limits of the Committee mandate, and shall carry out such other functions as may be delegated to him/her by the Committee.

7.4 In the event of the Chairperson being absent or unable to discharge the duties of Presiding Officer, the Committee will appoint one of its members to conduct the Meeting.

DECISIONS

Rule 8

Decisions of the Committee shall be taken by consensus unless a vote is requested by the Chairperson or by at least four members.

Rule 9 : Methods of Voting

9.1 Each Committee Member shall have one vote.

9.2 The Committee shall normally vote by show of hands at a meeting, but any Committee Member may request a roll-call vote. In the event of a vote during an inter-sessional period, there will be a postal ballot.

9.3 At the election of officers, any Committee Member may request a secret ballot. If seconded, the question of whether a secret ballot should be held shall immediately be voted upon. The motion for a secret ballot may not be conducted by secret ballot.

Rule 10:

Majority and voting procedures

All votes shall be taken by simple majority among members present and voting. In the case of a tie, the proposal shall be considered rejected.

MEETINGS

Rule 11

Meetings of the Committee shall be convened annually by the Secretariat of the Agreement jointly with the General Secretariat of the CIESM. Extraordinary meetings shall only be convened with the agreement of the Contracting Parties Bureau Members.

Rule 12

When in the opinion of the Committee an emergency arises, requiring the adoption of immediate measures to avoid deterioration of the conservation status of one or more cetacean species, the Chairperson may ask the Agreement Secretariat to contact the relevant Parties urgently.

Rule 13

Notices of meetings, including date and venue, shall be sent to all Parties by the Secretariat at least 45 days in advance and, in the case of extraordinary meetings, at least 14 days in advance.

Rule 14

A quorum for an ordinary meeting shall consist of the two third of the members of the Committee. This quorum shall be reduced to half of the members in extraordinary meetings. No decision shall be taken at a meeting in the absence of a quorum.

Rule 15

An executive summary of each meeting shall be prepared by the Secretariat as soon as possible and shall be communicated to all members of the Committee, to all Parties and non Parties, all riparian States and “ACCOBAMS Partners”.

Rule 16

a) The working language is English. However, simultaneous interpretations in French and English will be provided upon availability of funds. b) The working documents are distributed in English. French translation, in some case will be possible upon availability of funds.

WORKING GROUPS

Rule 17

The Committee may establish *ad hoc* working groups as needed to deal with specific tasks. It shall define the terms of reference and composition of each working group. The meetings of these working groups will be held, when possible, in conjunction with other events.

Rule 18

Insofar as they are applicable, these Rules shall apply *mutatis mutandis* to the proceedings of working groups.

Rule 19

The Committee shall receive reports from other relevant meetings and working groups established under the Agreement, when necessary.

COMMUNICATION PROCEDURE

Rule 20

In application of Article II.2 of the Agreement, any Party may ask for advice on derogations. The Secretariat shall communicate the request to the members for advice within 30 days. The advice received within the 30 days will be immediately communicated to the requesting Party.

Rule 21

Between sessions, any member, the Sub-Regional Co-ordination Unit or the Secretariat may submit through the Secretariat a written proposal to the Chairperson for decision. The Secretariat shall communicate the proposal to members for comment within 60 days of the date of that communication. Any comments received within the 60-day period shall also be communicated to members.

Rule 22

If, by the date on which comments on a proposal were due to be communicated, the Secretariat has not received any objection from a member of the Committee, the proposal shall be adopted, and notice of the adoption shall be given to all members.

Rule 23

If any member objects to a proposal within the 60 days time limit, the proposal shall be referred to the next meeting of the Committee.

OTHER FUNCTIONS

Rule 24

To each ordinary Meeting of the Parties the Chairperson shall submit a written report on the Committee's work since the previous ordinary Meeting.

PROCEDURE

Rule 25

These Rules shall apply at the first meeting of the Committee.

AMENDMENTS

Rule 26

The Rules of Procedure may be amended as required by a decision of the Committee.

AGENDA

1. Opening of the Meeting
2. Adoption of the Rules of Procedure of the Scientific Committee
3. Election of the Chair
4. Adoption of the Agenda
5. Information Provided by the Secretariat
6. Report of the Regional Representatives
7. Implementation Priorities
 - 7.1 Discussion on priority actions adopted by the Contracting Parties
 - 7.2 Funding availability
8. Protocol on strandings and code of deontology
9. Cooperation with other international Organisations
10. Any other business
 - 10.1 ACCOBAMS publications
 - 10.2 CBD/CMS Joint Working Programme (JWP)
 - 10.3 GROOMS
 - 10.4 Guidelines on the Precautionary Principle
 - 10.5 Request for ACCOBAMS support for scientific programmes
 - 10.6 Doplhinaria and dolphin-threapy
11. Date and venue of the next Meeting
12. Adoption of the Report
13. Closure of the Meeting

CETACEAN SCIENTIFIC AND ECOTOURISTIC PROJECTS OF EAST MEDITERRANEAN COUNTRIES

**Report by Dr. Anastasia Komnenou, DVM, PhD
East Mediterranean Regional Representative**

CETACEAN SCIENTIFIC AND ECOTOURISTIC PROJECTS OF EAST MEDITERRANEAN COUNTRIES

Report by Dr. Anastasia Komnenou,
East Mediterranean Regional Representative

The report summarizes the condition and the needs existing in the East Mediterranean countries for the cetacean management and conservation. In detail:

CYPRUS

MINISTRY OF THE ENVIRONMENT & FISHERIES

Contact: **HADJICHRISTOPHOROU Myroula, Marine Biologist, PhD ARGYRIOU, Marine Marine Biologist, PhD**
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In Cyprus there is not any specific scientific research for cetacean monitoring. The Cypriot Ministry of the Environment & Fisheries works mainly on projects referring to the fisheries and interactions with marine mammals, as well as, in the data collection and analysis on the marine environment flora and fauna. During the summer of 1999, the DELPHIS-Hellenic Cetacean Research & Conservation Society in collaboration with the Cypriot Ministry of the Environment & Fisheries issued a short period study on cetacean population monitoring extending from NW of Akamas up to SE Larnaka coastal areas. The study revealed the oligotrophic marine environment and the seasonal passage of few pods of migratory cetacean species (bottlenose, striped, Cuvier's and Risso's dolphins, as well as, pods sperm whales).

The cetacean strandings are reported to the local Port authorities but there is not any further recording of sightings or strandings, mapping or sampling taken of the dead animals.

EGYPT

EGYPTIAN ENVIRONMENTAL AFFAIRS AGENCY MINISTRY OF STATE FOR ENVIRONMENT

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The cetacean research in Egypt mainly consists on collecting data about strandings found along the coast. There is not any marine mammal specialist in the area who could concentrate on this field although the government welcomes any related training for qualified scientists of the area.

GREECE

GOVERNMENTAL ORGANIZATIONS

1. MINISTRY OF AGRICULTURE-CITES MANAGEMENT AUTHORITY

Contact: **Prof. KOMNENOU Anastasia, Veterinary Surgeon, PhD**
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The CITES Management Authority - Ministry of Agriculture is the governmental authority which is responsible for issuing permits for the study and sampling of wild fauna and flora protected in Greece. All cetacean species are protected as endangered in Greece and therefore all actions for their management and conservation is monitored by the Ministry.

The CITES Management Authority maintains a databank for the status of cetaceans in Greece. The databank includes information since 1945 from scientific surveys, photographs, video or audio taping and paper clippings recorded by cetacean experts, NGOS, port authorities and fishermen for sightings, strandings, autopsies and skeletal measurements of cetaceans stranded alive or dead around the Greek coastline.

2. ARISTOTLE UNIVERSITY OF THESSALONIKI (AUTH), FACULTY OF VETERINARY MEDICINE- DEPARTMENT OF CLINICAL SCIENCES, CLINIC OF SURGERY -

Contact: **Prof. KOMNENOU Anastasia, DVM, PhD.**
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The establishment (1925) and the operation (1926) of the University of Thessaloniki, formed a new starting point in matters of higher education. The Aristotle University today consists of 41 Departments as well as many other units, such as laboratories, study rooms, libraries, clinics, etc, which make it the largest University in the country in terms of the staff, the number of students and the facilities offered. At the same time, due to the research work and the activities undertaken by the teaching and scientific staff, the University has gained international recognition. On the other hand, the most important challenge of the forthcoming decades for the Aristotle University, which will be tested in terms of its ability to consolidate, in effect, is a leading role in the wider region of the Balkan Peninsula and the Black Sea, because of its comparative benefits

The Faculty of Veterinary Medicine (FVMT) was founded at the Aristotle University of Thessaloniki in 1950 and comprises the following five Departments:

- The Department of Animal Structure and Function.
- The Department of Animal Production, Ichthyology, Ecology and Protection of the Environment.
- The Department of Infectious and Parasitic Diseases, Avian Medicine and Pathology.
- The Department of Food Hygiene and Technology.
- The Department of Small and Large Animal Clinics.

Main Activities

- The Faculty of Veterinary Medicine has a 24 hour on-call emergency response student “Wildlife Rescue and Rehabilitation Team” trained in Cetacean Rescue. The team was established in 1995 by Dr Komnenou Anastasia, DVM, PhD, Lecturer at the Clinic of Surgery, in an attempt to accept the responsibility we all have towards wildlife and natural environment. The Rescue Team’s main activity related to cetaceans is to provide first aid, medical and surgical treatment as well as supportive care to stranded cetaceans: orphans, ill, exhausted, injured, illegally captive. This is achieved by successful collaboration with several NGO’S mainly with ARION Rescue and Rehabilitation Center.
- Necropsy of stranded animals and postmortem investigation with analysis of their biological and pathological features, is held by specialists in order to determine the cause of death. Laboratory tests (hematology, biochemistry, microbiology, parasitology, toxicology, cytology and gross pathology), from samples taken from live or dead stranded animals are conducted in the laboratories of the Faculty.
- . Tissue and organ (teeth, eye, etc) sample databank of stranded animals found along the Greek coastline is kept for further analysis (DNA, etc).
- Training of veterinary students in wildlife rescue and rehabilitation techniques as well as conservation of marine mammals.
- Close co-operation between the Faculty and government, research institutes and non-governmental organizations interested in marine mammal rescue and conservation.
- Establishment of a national marine mammal information network, as a source of information, guidelines on cetacean rescue and rehabilitation, medical treatment and pathology.

Scientific Projects

Infection and outbreaks of morbillivirus infection : study and treatment in the wild.

Research, isolation and identification of morbillivirus infection in the wild. Case reports. Study to predict and control the mortal events.

Parasitism in cetaceans

Systemic study of cetacean parasites, their life cycles and identification.

Factors of marine mammal nature mortality.

Study of the causes of death of free ranging cetaceans found stranded dead along the Greek coastline (virus infection, parasitism, pollution, human activities etc)

3. **NATIONAL CENTER FOR MARINE RESEARCH – N.C.M.R.**

Contact: **PAPACONSTANTINOU COSTAS, Biologist Oceanographer, PhD**

PANAGIOTIDIS PANOS, Biologist Oceanographer, PhD

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ppanag@posidon.ncmr.ariadne-t.gr (Panagiotidis)

Website: <http://www.ncmr.gr>

Greece's National Centre for Marine Research (N.C.M.R.) is a governmental research institution belonging to the General Secretariat of Research and Technology. It was founded to promote basic research in all fields of the aquatic environment and provides comprehensive and technical support to the public on all aspects of the marine and freshwater environments. The Center is headed by Dr. George Chronis and operates with a combined staff of 80. Related Institutes are:

Institute of Oceanography-Department of Biological Sciences

The Department of Biological Oceanography undertakes research on the most significant and profound marine biological issues. The principal aims of this department include the study of biology, taxonomy, biogeography and ecology of marine organisms. The research staff of this department also studies the impact of pollution on phytoplankton, zooplankton and zoobenthos. Recently information regarding the life in the deep layers of the seas surrounding Greece is being collected. Finally toxicological studies including bioaccumulation of heavy metals in organisms as well as the stress effects on populations by contaminants. Comprehensive research programs are conducted to better understand ecological relationships and implications, as well as the effects of environmental changes. The department is headed by Dr. P. Panagiotides

Institute of Marine Biological Resources- Department of Fisheries

The Department of Fisheries aims to produce information that can be used for the management of living resources of fish and shellfish in the Greek Seas. The department evaluates and monitors the status and interactions of fisheries and stock of the fish species that are most important to the fishing industry. The work is based on analysis of the commercial catches as well as on results obtained from cruises with the research vessels. Studies are also made on the effect on fish and fish stocks caused by changes in the marine environment, especially with major pollution incidents. Comprehensive research programs are conducted to better understand marine ecological relationships and the influencing effects that commercial fishing and environmental changes have on the production of wild fish stocks. This information provides the basis for the national and international fisheries policies. Dr. C. Papaconstantinou heads the Department.

The Center's research programs aim at:

- Firstly, advancing scientific knowledge on Greek water areas and their resources. This involves investigating the physical, chemical and dynamic situation of the water environment. It also includes the study of the biology and ecology in the sea, lakes and rivers, as well as the morphology of the sea floor and the shore.
- Secondly, contributing to rational development and use of Greek waters for fisheries, aquaculture, mineral resources and engineering works.
- Thirdly, contributing to the protection of the sea, coast, lakes and rivers and their living and non-living resources.
- To set priorities on the undertaking of projects, the Institute cooperates with Ministries, Local Authorities and any other directly interested organization.

**4. NATIONAL AGRICULTURAL RESEARCH FOUNDATION (N.AG.RE.F)
FISHERIES RESEARCH INSTITUTE (FRI) OF KAVALA, GREECE**

Contact: **Dr. KALANNIOTIS Argyris, Director,**
Dr. KOUTRAKIS Emmanuil
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The Fisheries Research Institute of Kavala (F.R.I.) belongs administratively to the National Agricultural Research Foundation (N.AG.RE.F.), which lies under the supervision of the Greek Ministry of Agriculture. FRI among other issues is also active on the assessment and management of human-cetacean interactions and mainly on the interactions between dolphins and fisheries. FRI aims towards the development of systematic research programs associated with the mapping and the study of the interactions between dolphins and fisheries in the Aegean Sea, in order to identify present and potential threats and to propose solutions that will help fishermen and dolphin populations.

FRI's Activities:

- *Carries out research programmes related with the fisheries of the Northern Aegean, which are related with the dolphins. The main of these projects are:*
1. SACS Stock assessment of some coastal species caught by artisanal fishery (Contract DG XIV 96/054)
 2. Upgrading Greek gillnet fishery (Con. DG XIV 97/106)
 3. The blue fin tuna fishery in the Eastern Mediterranean (XIV/98/45)
 4. Fishing power and selectivity of net and vessel types (XIV/99/08)
 5. Fish aggregating device fisheries in the Eastern Mediterranean (XIV99/30)
 6. Construction and monitoring of the artificial reef in Fanari-Rodopi, Greece, Greek Ministry of Agriculture, (Contract 1997-2004)

- *A questionnaire study was performed with the fishermen of Kavala Gulf in Greece regarding the interactions of cetacean with small-scale coastal fisheries.*
- *In FRI a PhD is carried out by Mrs C. Milani, in collaboration with the University of Malta, entitled: «Interaction between local population of Tursiops truncatus and other dolphins and coastal fishery in the Gulf of Kavala and in Kalymnos Island in Greece».*
- Gathering information regarding stranded, wounded or sick animals from the local port authorities of East Macedonia and Thrace.
- *Collaborates with other national or international organizations that work on this subject.*

5. **UNIVERSITY OF ATHENS-SCHOOL OF SCIENCES –
FACULTY OF BIOLOGY**

Contact: **Prof. VERRIOPOULOS George, Biologist, PhD**

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National and Capodistrian University of Athens was founded on 3 May 1837. It was the first University not only in the newly- established Greek State but also in all the Balkans and the Eastern Mediterranean, in general. The Faculty of Biology belongs to the School of Applied Sciences and is located at the University Campus. It includes 7 Departments, the Zoological Museum, the Botanical Museum and the Botanical Garden.

The Faculty offers courses in Biology, marine environment interactions, uses of biological resources, marine environment management and protection, specialized and applied zoology: protozoan, comparative/ anatomical/ evolutionary/ theoretical zoology, entomology, animal behavior, ichthyology, eco-toxicology, aquaculture. Also, stresses studies in Marine Biology, ecology, physiology, toxicology and marine animals' dynamics and population management.

NON-GOVERNMENTAL ORGANIZATIONS

6. **ARION - CETACEAN RESCUE & REHABILITATION RESEARCH CENTER**

Contact: **Prof. KOMNENOU Anastasia, DVM, PhD**

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ARION-Cetacean Rescue & Rehabilitation Research Center in Greece was officially formed in 2001 as a non-profit and separate NGO from the Hellenic Cetacean Research and Conservation Society-DELPHIS, after the mandatory need to promulgate separate actions for the rescue, rehabilitation and the knowledge on cetaceans and to sensitise the common people about cetaceans' problems. ARION's staffs have been trained internationally and since their involvement in the field in 1990, over 800 animals have been rescued. ARION is headquartered in Thessaloniki, Greece where maintains a business office while the Rescue Center is being built at a 5 acre area in Kanistro bay, Pallini, Halkidiki (NE Greece). The ARION-CRR Center's main objective is to offer veterinary first aid and rehabilitation treatment on cetaceans which are not able to survive on their own: orphans, ill, exhausted, lost and illegally captive for short term and under captive conditions and their monitoring in the wild after their re-introduction to their natural environment. Other special activities of the ARION-CRR Center are: the gathering and evaluation of samples derived from the necropsy of stranded dead cetaceans which are found along the Greek coastline, evaluating the cause of their death and the impact of human activities on their well being and further enriching the scientific knowledge towards the cetacean situation in the eastern Mediterranean Sea Region. The significance of ARION is that it is going to be the first intensive care unit for cetacean rescuing which combines animal rehabilitation with the on-site research lab and that is located in the Eastern Mediterranean basin. Upon its completion with the help of registered veterinarians, interns and cetacean experts, it could mount: rescue and relief operations to help animals in distress, whether from natural or man-made disasters, serve substantially on inpatients which might have stranded along the coastlines of the Eastern Mediterranean countries and they need further medical treatment, collaborate with local communities around the world to preserve critical tracts of wilderness habitat, and organize seminars for veterinarians and cetacean experts in first aid techniques and sampling. Participants in research projects, as well as, by private sponsors or foundations mainly provide the ARION financial support.

Main Objectives

- Perform routine veterinary examinations upon the admission of inpatients. The following analyses are conducted on the laboratories of the Veterinary Faculty of Aristotle's University in Thessaloniki: microbiology, hematology, parasitology, cytology, gross pathology, toxicology.
- Offering treatment based on clinical parameters determined during the [initial exam](#) and [diagnostic procedures](#).
- Monitor cetaceans on a daily, biweekly and monthly basis by a variety of standard medical diagnostic procedures, including microbiology, parasitology and hematology.
- Conduct research into various disease problems for improvement of the rehabilitation process.
- Study of the behavior of captive and semi-captive cetaceans
- Determination of environmental contaminants in cetacean tissue

- Formation of a National Cetacean Tissue and DNA Bank
- Study the behavior of dolphin-human interactions
- Collect data about cetaceans in Greece and any unusual phenomenon eventually sighted
- Continuation of the rescue hotline, which will operate 24 hour a day.
- Train and orientate veterinarians and cetacean experts in collaboration with related governmental bodies for cetacean rescuing and rehabilitation

ARION's staff has authored and presented many scientific papers and presentations since 1990.

ARION's Scientific Projects

Cetacean veterinary care

Rescue first aid techniques and reintroduction of successfully rehabilitated cetaceans back into their natural environment. Sampling, analysis, and data analysis is emphasized. ARION's staff has already produced a 65 page coloured booklet for the cetaceans first aid techniques and other rescue guidelines, in collaboration with the CITES Management Authority-Ministry of Agriculture and is being distributed to local port and forestry authorities in Greece.

Morbillivirus infection determined in striped dolphins and their medical treatment

Investigation, isolation and control of infectious diseases found in striped dolphins.

Harbour Porpoises' (Phocoena phocoena sp.) genetic variation with Black Sea's relative species

Emphasis in the research of Harbour porpoise in the Greek waters and its population distribution through tissue and blood sampling and distinguish DNA genetic variations with those species coming from the Black Sea and the Atlantic Ocean.

Heavy metals determination in Harbour Porpoises tissues

Tissue sampling, of Harbor Porpoises stranded in Greece, for determination of pollutant levels.

Cetacean Sightings and Strandings

Continuation of the Hellenic Cetacean Research and Conservation Society- DELPHIS recordings (supplementing the national databank with statistical analysis and mapping).

Geological and ecological characteristics in cetaceans' food resources

Every year we can observe mixed or distinct small pods of coastal or pelagic feeding cetaceans. The animals are monitored to determine variations in their behaviour during their feeding. Considering that the geological and ecological characteristics of specific areas in Greece may cause such big food resource increasing consequently the presence of consumers. Interactions with fisheries are investigated.

Behaviour of semi-resident group of common dolphins (Delphinus delphins) in Samothrace, NE Greece

This project is carried out in the coastal waters of NE Greece and started in 1998. Common dolphins were observed most frequently in groups of 6-10 with a maximum of 35 individuals. Photo-id studies related the seasonal presence of recognizable individuals in a single location (around Chalkidiki or at Ionian sea). The animals are monitored for long time to determine variations in their behaviour during the day. Human to dolphin interactions are also studied.

Application of the new magnetic separation technology “ CLEANMAG” for prevention and control action response of marine wildlife rescue and rehabilitation from accidental marine oil pollution

The general objective of the proposed work is the use of a new magnetic oil sorbing material “CLEANMAG” which will be applied on the affected animals external surface and would absorb (due to the materials strong oleophilic character-sorbing only oil and not water) all the oil, which would contact the particular material. “CLEANMAG” is a technique for oil spill cleanup and oil recovery. “CLEANMAG” is based on the magnetic separation technique and has shown excellent results in a laboratory scale and open sea application and it is possible to clean up an oil-polluted surface by 100%.

Rare cetacean species migration through Greek waters

The identification and movement of rare cetacean species through Greece is being recorded occasionally and mapped according to sightings and stranding data available.

Mass strandings of Cuvier’s beaked whales and their cause of death

During the last years great interest concerning the cetacean species population and survival has been developed all over the world. One of those species is the Cuvier’s beaked whale (*Ziphius cavirostris*), which also is one of the native marine mammals in the Mediterranean and consequently the Greek coastal area. Toward this end, for both monitoring and research purposes, all strandings have been reported and the causes of death have been investigated.

Whale watching vs. dolphin protection

Whale watching is an increasing uncontrolled business in Greece since 1999. ARION’s experts on the field try to summarize the problems which arise from this uncontrolled and illegal business which impacts directly the cetacean well being and give scientific information in identifying cetaceans, their movement patterns and recording data. Proposals for training qualified businesses and collaborating with experts in the field.

7. DELPHIS- HELLENIC CETACEAN RESEARCH & CONSERVATION SOCIETY

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DELPHIS – The Hellenic Cetacean Research & Conservation Society is a registered, non-profit, NGO established in 1993 for the study and protection of dolphins and whales in Greece. The Society has been active since 1984, by gathering data of stranded marine mammals in Greece and it was formed to study and research those cetaceans found in Greek waters, with a priority to the endangered species. Dr. Anastasia Komnenou, DVM, PhD, from the Veterinary Faculty of the Aristotle University of Thessalonica in Greece, supervised first aid and medical treatment of cetaceans, which is the official scientific collaborator. Most of the projects are financed mainly by self-funds or supported partially by donations or contributions of its 2200 members and friends.

DELPHIS's 'Coastal Rangers and Cetacean Rescue Teams' is a network of local oriented, voluntary, organized teams of experts and volunteers who are offering their valuable help during rescuing operations or gathering data from stranded dead or alive cetaceans. The Ministry of Marine Merchant since 1996 distributes official directive after DELPHIS proposal to all port authorities which are invited to respond in the cases of strandings or sightings to the Ministry of Environment, CITES Management Authority – Ministry of Agriculture, National Center for Marine Research and DELPHIS.

In 1995, Dr. Aimilia Drougas-DELPHIS, started the field research on monitoring cetacean populations in Greek waters under the of Agriculture's official research permit. The field research lasted 5 years and covered about 32,000 NM of coastline in Greece. The first 2 years the geographical areas at West South Greece were covered and since 1998 the research was extended to the North and East coastlines. The field research was entirely financed by personal and private contributions of the participants since the boats and the equipment were rented. The research revealed valuable information about the cetacean fauna in Greece and 8 from the 15 species inhabiting or migrating in these waters were identified: there have been sighted and recorded dolphins and whales like: bottlenose, common, striped, Risso's dolphins, Cuvier's beaked whales, pilot, fin and sperm whales). In 1999 after getting the official permit of the Ministry of Environment-Department of Fisheries in Cyprus, DELPHIS monitored the W-SE coastlines of Cyprus for 25 days and verified the oligotrophic marine environment and the migratory routes of cetacean species (bottlenose, striped, Risso's dolphins, Cuvier's beaked whales and sperm whales). The expedition went out of budget-since the boat was also rented) and it was stopped for possible future development.

DELPHIS contributed in the identification of rare species migrating in Greece like the harbour porpoise, the minke whale, the Sowerby's beaked whale and the humpback whale.

Main Objectives

- Gathering data, identifying and systematically recording the occurrence of cetaceans in Greece (both live animals and remains)
- Field research for comparative studies on cetacean monitoring, biology, behavior and human impact on cetaceans
- Providing first aid in sick or injured cetaceans aiming at their rescue and help for cetaceans in need of any treatment (co-operation with the Veterinary Faculty of Aristotle's University in Thessalonica)
- Taking detailed skeletal measurements of each stranded dead cetacean.
- Taking care for dead cetaceans sanitary burial along with the help of the local

municipalities and port authorities

- Encouraging public awareness and public sensitization, for protecting cetaceans' biodiversity in Greece.
- Contributing in every legal way in the application and improvement of legislation, sensitization of fishermen and the public opinion by offering seminars in local and national level and by placing relative announcements through daily or monthly media
- Writing papers, technical reports and participating in relevant conferences and meetings in the national or international level
- Searching and educating volunteers at local level, to support the network of "Cetacean Rescue Teams", on recording cetaceans' sightings and offering first aid help in cases of stranded marine mammals
- Supplementing a "National Cetacean Databank", for public information and uses, based on international bibliography, video and photographic materials

DELPHIS Scientific Projects

Cetacean population monitoring in Greece

The on-going seasonal field research and education program concerning monitoring the movements of cetaceans along Ionian and Aegean Sea, in Greece is conducted since 1995, by DELPHIS-Hellenic Cetacean Research and Conservation Society. It is an effort for a systematic study and recording of the cetaceans found in the entire Greek Archipelago for which there still exists a lack of information. Cetaceans' sightings and characteristics of their population, biology, ecology and behaviour are recorded mainly by using cameras/videos and identified later with the method of photo-identification. Acoustic and scanning recordings were also applied and experimented by using hydrophones and sonar although the techniques need further understanding. Data are collected with the assistance of 10 trained volunteers during daily watches made by a 16m long motor sailer and a raft, which are rented. The study has already covered 32,000 NM of coastline around Greece and the data are analyzed in a technical report. The Ministry of Environment partially funded the year 2000 research.

Harbour Porpoises' (Phocoena phocoena.) population dynamics monitoring and genetic variation with Black Sea's relative species.

During 1997, after the first documented incident of sighting, DELPHIS has stressed its field research to the N. Aegean Sea, with emphasis in the research of Harbor Porpoises population dynamics in order to understand this tiny species population distribution through tissue and blood sampling and distinguish DNA genetic variations with those species coming from the Black Sea and the Atlantic Ocean.

Cetaceans diversity in Greece: 1945-2001 Sightings and Strandings databank

Fifteen small and large cetaceans have been identified living, feeding, reproducing or migrating through the Greek waters that is, the 19,75% of the today's world identified species. Some of these species are quite rare or accidental visitors, endangered or threatened to extinction, including: the Harbour Porpoise (*Phocoena phocoena relicta*), the Minke Whale (*Balaenoptera acutorostrata sp.*), the Humpback whale (*Megaptera novaeangliae sp.*), and the Sowerby's beaked whale (*Mesoplodon bidens sp.*). The data have been presented to the Hellenic Ministry of Agriculture after a national demand on the cetaceans' condition in

Greece. The Hellenic Cetacean Strandings 56-year Databank includes important information on exact dates and positions found, species identification, sex, length, maturity level, causes of death, samples taken and their results, skeletal measurements, photographs and videos. Considerable attention has been given to the causes of the cetacean's death including the incidental catches, vessel collision, deliberate killing, diseases, pollution, noise, and annoyance. Finally, the geographical distribution of the cetaceans' sightings and strandings for each species has been mapped, digitally.

Bottlenose and Common dolphin interactions in Amvrakikos Gulf, Greece.

Bottlenose (*Tursiops truncatus*) and Common dolphins (*Delphinus delphis*) are the focus of an intensive research program along the Ionian Sea of Greece, studying distribution, abundance, movement and genetics. Amvrakikos Gulf sustains a diverse ecosystem of terrestrial and marine animals. Among them, bottlenose dolphins regularly live, feed and reproduce in the gulf and seasonally, the pelagic common dolphins occasionally pass through the canal from Ionian Sea in Amvrakikos Gulf for chasing food.

Cetacean conservation and public awareness

Since 1995, DELPHIS actively organizes presentations and training seminars for volunteers of the rescuing teams and the general public for cetacean first aid techniques and conservation. DELPHIS helps policy experts in preparing national and international marine mammal data banks, and reports for the implementation of regulations towards cetaceans' conservation and cetacean management plans for specially protected areas.

8. PELAGOS CETACEAN RESEARCH INSTITUTE

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The Pelagos Cetacean Research Institute is a scientific non-profit organization formally founded on 2000 in Greece, dedicated to the study and conservation of whales and dolphins and their environment, in Greece and the Mediterranean Sea. However, as of 1993 a team of researchers now constituting the core of Pelagos Institute has conducted extensive research with international acclaim. It has also collaborated with numerous Universities, research centers, NGO'S, within Greece and abroad, conducting research and stressing the need for the conservation of cetaceans and their natural environment. Pelago's Institute staff has presented and published many scientific papers and participated in international research meetings and agreements. Dr Alexis Frantzis as the President and Scientific Director of Pelagos Institute has contributed and coordinated many significant scientific projects.

Main Objectives

The main objectives of Pelagos Institute are:

- to conduct scientific research on cetaceans and their natural environment
- to spread information and knowledge towards every concerned person and bodies
- to educate and promote environmental awareness to the public
- to contribute to the conservation of cetaceans and their natural environment

PELAGOS INSTITUTE Scientific Projects

The most important research programs of Pelagos Institute are briefly presented below:

Cetacean Fauna of the Greek Seas

This program is underway with the cooperation of the National Center of Marine Research that pioneered in the recording of cetaceans in Greece during 1990, with the help of the National Coast Guard. The program created a database on the geographical range of cetacean populations that inhabit the Greek waters. All the existing evidence since 1840 till present (from scientific research, reports of strandings, occasional observations, publications, photographs and video) were gathered, filed and analysed. The database created, already exceeds 1300 confirmed records. Preliminary results of this study have appeared in the 15th European Cetacean Conference, in 2001.

The Greek Sperm Whale Project

This program operates since 1998 with the objective of studying the biology, bioacoustics, genetics and movement patterns of the sperm whales that inhabit the Greek Seas, as well as the evaluation of their population size, through photo-identification techniques. Since the sperm whale is the least known of the three most endangered species in the Mediterranean, the ultimate aim of this program is to achieve the validation of an immediate protection act for their conservation.

The Corinthian Dolphin Project

This program operates since 1995 and aims to record the populations of four dolphin species (striped, bottlenose, common, and Risso's dolphins) that reside in this particular area, and at the same time to study the unique behavioral phenomenon of symbiosis and interaction of three of these species. Research up-to-date indicates that the particular area exhibits the highest dolphin sighting frequency in Greek Seas, and one of the highest in the entire Mediterranean Sea. The study of the small community of common dolphins present in the gulf and its relationship/dependence of striped dolphins has a particular conservation value.

North Aegean Harbor Porpoise Project

The program "North Aegean Harbor Porpoises" started in 1998 due to the intriguing presence of harbor porpoises in the Greek Seas that was considered extinct in all of the Mediterranean Sea. The program aims at estimating the size and the genetic isolation of the Greek harbor porpoise population, in addition to studying the threats it is facing, in order for effective conservation measures to be proposed and enforced.

The Ziphius Project

In 1996 the study of a mass stranding of 12 Cuvier's beaked whales in the area of the Kyparissiakos Gulf initiated the beginning of this program. The discovery of the mass stranding causes, lead to a scientific publication in the world acclaimed NATURE magazine in 1998. Since then, the subject created international appeal and started to concern both the international scientific community and the public. In the context of the "Ziphius project", Pelagos Institute continues up to the present, to actively participate with pioneering methods in the study of Cuvier's beaked whales in the wild. The research activities include photo-identification of Cuvier's beaked whales, as well as the study of their biology, behavior and most importantly their bioacoustics.

9. WORLD WIDE FUND FOR NATURE - GREECE

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In summer 2000, WWF Greece initiated a project in order to study the dolphins present in Amvrakikos Gulf. The organization acquired knowledge on the population size, distribution and ethology of the dolphins (*Tursiops truncatus*) and also formed a basic understanding with respect to their interaction with the local fishing sector. The current project attempted to a) establish a picture of the situation on a national scale, primarily through the elaboration of a network of contacts providing relevant information and b) investigate the interaction between fisheries and dolphins on a local scale, through focused research activities in Amvrakikos Gulf. The central objective of the project was the acquisition of knowledge with respect to the interaction between dolphins and fisheries on a national and local scale.

The project achieved its objective, both on a national and local level. More specifically:

On a national scale:

- The competent ministries were contacted in order to ensure close co-operation with the port authorities and fishermen co-operatives with regard to the collection of data on dolphin strandings around Greece,
- In order to ensure a flow of more detailed and possibly 'objective' information on dolphin depredation, contacts were established in selected areas (Kyparissia, Kastelorizo and Chios) in Greece,
- Two questionnaires, in order to collect data regarding dolphin-fisheries interaction throughout Greece were used,

On a local scale:

- The close cooperation of the research team with a selected number of fishermen in Amvrakikos Gulf was established,
- The methodology used for the in situ recording of damages caused by dolphins to fishing gear in Amvrakikos was developed,
- A questionnaire for the collection of more detailed information concerning the interaction was developed and used in the field,
- A limited number of boat surveys were carried out, in order to observe behavioral parameters and estimate the number of dolphins present in Amvrakikos Gulf.

10. ARION WW

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ArionWW is a private business which started during the summer of 2001 and its aim is to develop a sustainable type of tourism. This ecotouristic activity is a combination of skippered sailing cruise and dolphin-watching. The North Sporades area, where this sailing tour takes place, is characterized by an exceptionally high biodiversity, a fact that led to the establishment of the first National Marine Park of Greece. The itineraries aim at scanning the areas where cetaceans are most probable to be encountered, according to available information. The species most frequently encountered are Bottlenose dolphins (*Tursiops truncatus*), Stripped dolphins (*Stenella coeruleoalba*), Common dolphins (*Delphinus delphis*), Risso's dolphins (*Grampus griseus*), Cuvier's beaked whales (*Ziphius cavirostris*) and his majesty the Sperm Whale (*Physeter catodon*). There have also been reports of Fin whale (*Balaenoptera physalus*) sightings and a stranding of a juvenile individual of the species, a few years ago. The island complex is also a sanctuary for the Mediterranean Monk seal (*Monachus monachus*), while the sight of sea turtles is not considered a surprise.

11. ARCHIPELAGOS AEGEOU

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Archipelagos Aegeou is a Greek, non-profit, non-governmental organization, founded in Spring 2000 and is based in Ikaria, an island of the eastern Aegean Sea in Greece. Its aim is to contribute to the protection of the Greek marine environment by making its biodiversity and conservational value known through ecotouristic sailing tours.

On May 2000, Archipelagos Aegeou initiated the program *Marine Environment Research: Aegean Sea (MERAS)* which is being implemented in the region of the Eastern Aegean aiming to define the environmental identity of the islands of the region (e.g. Ikaria, Fourni, Samos, Arki, Lipsi, Patmos, Agathonisi, Lebitha and Donousa). During this program recording of the biodiversity of the marine environment of the area takes place and includes: underwater biological surveys of the sublittoral zone ecosystems, recording of the local cetacean populations, study of the local fisheries, study of zooplankton biodiversity. For this purpose, Archipelagos Aegeou rents to anticipated participants the sailing boat *Pinelopi* traveling through the natural environment of the islands.

In parallel to the ecotouristic program, a series of informational activities are being implemented addressing to the local schools and communities, aiming to raise their environmental awareness.

12. IONIAN SE RESEARCH CENTER - ISRC

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The Ionian Sea Research Center (ISRC) has been looking for and recording raw data on marine animals in the local area, since 2000. Dolphin sightings –either from land or sailing through the sea around the island- and recordings were considered an integral part of the ISRC work as an organization dealing with and studying the marine environment through ecotouristic activities. Observing animal populations and tracking their movements and changes that occur to these is an important tool in monitoring animal habitats and can even indicate environmental or man-induced changes.

Information was recorded by the ISRC members themselves as well as, visitors to the region over this 2-year period and a short report was produced to represent the recorded sightings. Volunteers also, encourage visitors to report any other sighting to the ISRC or to the Fiskardo's Nautical and Environmental Museum (FNEC). To this local effort DELPHIS has generously contributed to FNEC's official opening the permission to display the skeleton of a 5 meter Cuvier's beaked whale which was stranded dead in the area, few years ago. DELPHIS carried the official permit through the CITES Management Authority of the Hellenic Ministry of Agriculture of this endangered species.

The information gathered provides some useful information for the ISRC and is also intended to be shared and distributed to other organizations such as DELPHIS or ARION in Greece and the Whale and Dolphin Conservation Society which record cetacean sightings during their long term scientific research.

13. ZAFIROPOULOS Dimitris, Biologist,

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Dr Zafirooulos has been involved in Cetacean research for the past 5 years and collaborated with the Zoology-Marine Biology Laboratory of the University of Athens (Prof G. Veriopoulos), and Tethy's Research Institute. In year 2000 he was responsible for the WWF research project in Ambrakikos Gulf.

Activities include research on the geographical distribution, behavior, population dynamics and interaction with fisheries of small cetaceans.

ISRAEL

HEAD DOLPHIN PROJECT THE UNIVERSITY OF HAIFA
THE RECANATI INSTITUTE FOR MARITIME STUDIES
IMMRAC - Israel Marine Mammals Research & Assistance Center

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IMMRAC - Israel Marine Mammals Research & Assistance Center is the only active organization in Israel engaged in scientific research on wild populations of cetaceans, since 1994. IMMRAC operates under the permit of "Sampling for scientific purposes of protected species", issued by the Israeli Authority for Natural Reserves and National Parks, since 1994. We are also working under the CITES-export/import regulations. IMMRAC's rehabilitation center is located on the grounds of a Naval High School in the central Mediterranean coast of Israel. All governmental authorities including the Navy are cooperating with IMMRAC on the subject of cetacean conservation. IMMRAC also maintains long lasting research ties with the Ministry of Agriculture, the Department of Fisheries on the subject of cetacean feeding behavior around trawl boats & bycatch.

IMMRAC's Activities

IMMRAC was established in 1994 by a number of individuals that dedicated their free time and efforts to protecting and researching the marine mammal populations along the coasts of Israel. Up to that time, there was no knowledge available on marine mammals, mainly dolphin populations, inhabiting this region: list of species estimated numbers, mortality rates and reasons and so on. Unfortunately, IMMRAC is the only active center of its kind in the entire Levantine region. Nowadays, while activity remains purely voluntary, some IMMRAC members are engaged in active cetacean research through affiliation with Israeli academic institutions.

IMMRAC's activity can be roughly divided into three main fields: Research, increasing public awareness and rescue & rehabilitation.

Research

The research project began when Oz Gauffman, a marine biologist, initiated a wild dolphin & whale survey along the Mediterranean coast of Israel. He collected sighting reports of different species of wild dolphins and whales frequenting coastal waters. Most of the initial contribution came from trawler boats that were later joined by Navy vessels and diving boats. IMMRAC conducted the first dolphin population surveys in the eastern Mediterranean, albeit, in only a very limited part of it. Since it did not have a boat of its own, IMMRAC's volunteers boarded diving and shipping boats. IMMRAC's activities and research, carried out without any fixed financial support, revealed the following information that wasn't known up to then:

- (1) In 1995 it was first revealed from photographs taken by Orit Barnea that the long snouted spinner dolphin (*Stenella longirostris*) frequents the Gulf of Eilat/Aqaba. This is the northernmost habitat for this Indian Ocean population.*
- (2) Updating the list of species along the Mediterranean coastline from strandings and sightings revealed the existence (in an increasing order of rarity) of bottlenose dolphin (*Tursiops truncatus*), striped dolphin (*Stenella coeruleoalba*), rough toothed dolphin (*Steno bredanensis*), Risso's dolphin (*Grampus griseus*), Cuvier's beaked whale (*Zyphius cavirostris*) and common dolphin (*Delphinus delphis*). Vagrant healthy individuals of Indopacific humpbacked dolphin (*Sousa chinensis*) and minke whale (*Balaenoptera acutorostrata*) were also encountered.*
- (3) The bottlenose dolphin (*Tursiops truncatus*) were found to maintain close ties with the trawler boats, most probably as a means of increasing fish catch. This practice no longer involves damage to the fishing gear and involves little or no alienation from fishermen. However, it seems to be an important cause of mortality, especially in the young, juvenile age group.*
- (4) The local population of bottlenose dolphins shows similar growth curves to conspecifics from Florida and S. Africa but seem smaller than Adriatic Sea's dolphins.*
- (5) Mercury tissue levels are on the lower part of the Mediterranean range and cadmium levels are higher than reported from the western basin, probably due to natural rather than industrial sources.*

In 1998, IMMRAC received, as a donation from "Tnuva", Israel's largest dairy producer, a research and rescue boat, that enabled the conduction of daily population surveys. Such survey's have added new capabilities in open sea research on resident dolphin populations. Current research activities involve:

- 1. Mortality investigations (pathology, pollutants, growth curves).*
- 2. Dolphin-fisheries interactions*
- 3. Habitat utilization, pod structure, behavioral repertoire, etc., (using taped visual observations, GPS and bottom scanner mapping, photo ID and genetic typing).*
- 4. Solitary dolphin human interaction.*

Inreasing public awareness

Creating public awareness in Israel concerning the preservation of cetacean population is also one of IMMRAC's main goals. In order to achieve this goal IMMRAC is active in two different fields:

- a. Reaching the public through the various media (mainly following news-breaking occurences, public lectures, "green days", conventions and articles in popular magazines.*
- b. Education, is the key to fostering a different approach to the marine environment. Effort is invested in educating at all levels: kindergartens, schools, summer camps, colleges and universities.*

Rescue and rehabilitation

IMMRAC has a 24hour on-call rescue team consisting of 20 volunteers, 3 of which are veterinarians who have done internships in this field abroad. The rescue team conducts simulation exercises, twice a year. The personnel are divided into 3 crews according to the different geographical regions: north, center and south. Now that IMMRAC owns a boat, the reaction time in case of an event has become shorter and its actions more professional.

The need for a land base, led IMMRAC back to its home located at the Naval High School, Mevo'ot Yam, Michmoret. The facility consists of an office, a small library and storage space for rescue and rehabilitation gear. Today, IMMRAC consists of 300 registered volunteers, all over Israel. All the information on the volunteers and their specific qualifications is centralized such that volunteers with specific skills can be approached according to the need. The determination, dedication and faith of IMMRAC's volunteers are a guarantee that the fullfilment of dreams may be realized through commitment to an idea, despite all the difficulties on the way.

LEBANON

NATIONAL MARINE SCIENCES CENTER

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The cetacean research in Lebanon mainly consists on collecting data about strandings found along the coast. There is not any marine mammal specialist in the area who could concentrate on this field although the government welcomes any related training for qualified scientists of the area.

SYRIA

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PROPOSALS FOR CETACEAN PROJECTS FOR EASTERN MEDITERRANEAN REGION

The following projects derived from the needs expressed by the Eastern Mediterranean countries for consideration as joint efforts and /or programs towards the cetacean management and conservation which inhabit or migrate to the Eastern Mediterranean basin.

- *Creation of a Sub-regional East Mediterranean database of cetacean sightings and stranding network – photo ID and DNA coding.*
- Veterinarians training in rescue and rehabilitations methodology and techniques as well as sampling stranded cetaceans
- Harbour porpoise monitoring and conservation.
- East Mediterranean vs. Black Sea bottlenose dolphin monitoring and conservation.
- Beaked whales' monitoring and conservation.
- Sperm whales' monitoring and conservation.
- Cetaceans' management against infectious diseases.
- Cetacean – fisheries interactions; bioacoustic devices vs. gillnet protection; fishermen training.
- Cetacean expert training in whale watching and data recording.
- Funding through international and intergovernmental bodies.

CETACEAN EXPERTS

These experts have been actively involved the last few years in cetacean rescue, research and conservation.

Dr DROUGAS Aimilia, Biologist -Oceanographer, PhD, GREECE

Email: arionrescue@yahoo.com

delphis@hol.gr

Dr FRANTZIS Alexandros, Biologist-Oceanographer, PhD,GREECE

E-mail : afrantzis@otenet.gr

GAUFFMAN Oz, Marine Biologist, Ph.D. Student, ISRAEL

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Report on the ongoing and planned cetacean research, conservation activities and the regional needs for the ACCOBAMS Action plan implementation within the Central Mediterranean region.

Document prepared by: Draško Holcer, B.Sc Biol.-Ecol.,
ACCOBAMS Scientific Committee member - representative for Central Mediterranean Region
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INTRODUCTION

On June 1st 2001. the Agreement on the Conservation of Cetaceans In the Black sea, Mediterranean Sea and contiguous Atlantic area - ACCOBAMS entered into force. The purpose of the ACCOBAMS Agreement is to reduce threats to Cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals.

Subsequently, on the first meeting of the Parties, held in Monaco (28th February-3rd March 2002) a number of documents regarding the previously mentioned issues were approved and a list of priorities for the year 2002-2006 were adopted by the Parties (Resolution 1.9). At the same meeting Agreement area was divided into four regions (Western, Central and Eastern Mediterranean and Black Sea Region) and Scientific Committee of the Agreement was established (Resolution 1.3 and Resolution 1.3 Annex 1).

Following the first meeting of the Parties, and as part of preparations for the first meeting of the Scientific Committee, the Permanent Secretariat of the Agreement has asked appointed regional representatives to contact cetacean and marine experts in the region. Subsequently collecting information and preparing a report regarding the ongoing and planned cetacean research, conservation activities and the regional needs for the ACCOBAMS Action plan implementation. The report should help Scientific Committee to devise a work plan for the years 2002-2004.

INFORMATION REQUESTED

Following the guidelines from the ACCOBAMS Permanent secretariat the following questions have been sent to numerous e-mail addresses of colleagues in the Central Mediterranean countries - Albania, Bosnia Herzegovina, Croatia, (Italy), Libya, Malta, Slovenia and Former Yugoslav Republic. (Complete list is on the www.hpm.hr/accobams).

1. Are you involved in a research programs on Cetaceans in the area CENTRALMED? If yes could you please give a brief description of each project using the following key words:

(Acoustics, Anatomy, By-catches, Conservation, Ecology, Education, Ethology, Evolution, Feeding, Fishing activities, Genetics, Histology, Legislation, Locomotion, Morphology, Parasites, Pathology, Physiology, Population, Protected area, Reproduction, Sightings, Stranding, Toxicology, Whale watching)

*2. Do you plan to start a research programs on Cetaceans in the CENTRALMED area?
If yes, could you please give a brief description using key words here above.*

3. The conservation strategy presented to the Meeting of the Parties to ACCOBAMS, named «Cetaceans of the Mediterranean and Black Sea, state of knowledge and conservation» and the implementation international Priorities for the period 2002-2006 adopted by the Contracting Parties are linked with the following priorities:

*Evaluation and management of human activities to mitigate negative impacts on Cetacean.
Mitigation of fishing negative interactions (by catches, overexploitation, loss of habitats,...)
Mitigation of marine activities impacts, notably collisions, whale watching and invasive research activities
Improvement of marine environment quality*

Establishment of marine protected areas

*Support to scientific research as bases for conservation
Response to emergency situation*

Capacity building, awareness and education

Could you identify, inventory and prioritise the needs for the implementation of the Conservation Plan and the Priority actions for the CENTRALMED area in general and for your country in particular? Please to refer to priorities cited above.

Collected answers, together with the address and institution of the sender, are summarised by country. Answers were not edited wherever possible or edited only to a degree for consistency.

SUMMARY OF FINDINGS

Albania

The questionnaire was sent to several addresses in Albania including Ministry of the Environment, University of Tirana, Museum of Natural Sciences and NGOs active in the region. Two answers (from Mr. Dedej from the Ministry of the Environment and Mr. Bego from the Museum of Natural Sciences) were received and can be summarised as follows.

Tirana University, Museum of Natural Sciences
Rruga e Kavajes, no. 132, Tirana
Dr. Ferdinand Bego, ferdibego@albaniaonline.net

There are no projects so far in Albania regarding cetaceans research, inventory and monitoring due to the lack of means and funds for such activities. Data collected so far are from few direct observations along the coastal waters conducted in the past several years, as well as from the examinations of the reported dead animals along the coast. Interviewing of local fishermen, especially those fishing offshore, has also been practiced to get some information about these animals.

There is a great need for research and conservation projects. During the last few years the illegal fishing techniques and the use of dynamites for fishing are causing more and more harm to large sea vertebrates, including sea turtles and dolphins.

To counteract such negative trends and understand potential and present problems there is a need for a better cooperation among the experts in our region to exchange knowledge and conduct joint research, inventory and monitoring activities. There is a need for more support from international organisations and donors, and for training programmes for young researchers and marine biologist in order to have more human resources to be engaged in research, inventory and monitoring activities in the region. There is also need for awareness raising activities for the protection of Cetaceans and in order to change attitude and behaviour of local fishermen and people towards these animals.

Bosnia and Herzegovina

The questionnaire was sent to several addresses in Bosnia and Herzegovina including Ministry of Physical Planning and Environment, University of Sarajevo, Center for Ecology and Natural Resources and UNEP-MAP office in Sarajevo. There are no marine mammal specialists in the area. The only received answer was from Mr. Kupusović from UNEP-MAP office and in his opinion there are currently no institutions or experts that might be able to send adequate inputs in Bosnia and Herzegovina.

Croatia

The questionnaire was sent to several addresses in Croatia including Ministry of the Environment and Physical Planning; University of Zagreb, Faculty of Veterinary Medicine; Croatian Natural History Museum and Blue World, NGO

At present only two research programs are being carried out in Croatia, one by the Faculty of Veterinary Medicine and the other by Blue World and Croatian Natural History Museum.

Faculty of Veterinary Medicine, Department of Anatomy, Histology and Embryology
Heinzelova 55, 10000 Zagreb
Prof.dr. Hrvoje Gomercic

The team of Veterinary faculty carries out two projects (“Health and other biological characteristics of marine mammals of the Adriatic Sea” and “Save the last Adriatic dolphins”) and this programmes include following investigations on live and stranded bottlenose dolphins (*Tursiops truncatus*) and other marine mammal species that occasionally occur in the Croatian part of the Adriatic Sea: population size and composition, geographical distribution, ethology, reproduction, comparative anatomy, histology, histochemistry, pathology, pathohistology, genetics, parasitology, microbiology, toxicology. Education, conservation and legislation are also important parts of the projects.

Blue World, Zad bone 11, 51551 Veli Lošinj
Croatian Natural History Museum, Department of Zoology, Demetrova 1, 10000 Zagreb
Draško Holcer, Drasko.Holcer@blue-world.org

Blue World (BW) in cooperation with Croatian Natural History Museum (CNHM) carries out several Cetacean research and conservation projects. The main one is *Adriatic Dolphin Project* (ADP) – research and conservation of Cetaceans in the Croatian Adriatic waters with particular emphasis on resident population of common bottlenose dolphins (*Tursiops truncatus*) on Lošinj and Cres archipelago, Northern Adriatic Sea. The study, conducted continuously from the BW field base in Lošinj, includes research of biology, ecology and behaviour. Research carried out to date makes this population one of the best studied in the Mediterranean. The population is estimated at about 120 animals. Recent *Proposals for the establishment of the marine protected area* in the Lošinj-Cres archipelago (designated as Special zoological reserve under national Nature protection law, and supported by Croatian Ministry of the Environment protection and ACCOBAMS (Resolution 1.9)), creation of *Marine education centre* on the island of Lošinj and numerous public awareness activities (Dolphin day, lectures, leaflets, posters, Code-of-conduct in the vicinity of dolphins, public appearances, etc) aim to effective conservation of this population. Signed contract with Principality of Monaco and Ministry of the Environment and Physical planning of the Republic of Croatia for the *identification of critical habitats and the analysis of the management procedures for the future MPA* are in line with ACCOBAMS implementation priorities 2002-2006. The lack of funding is presently the biggest obstacle for the further expansion of BW’s activities, nevertheless in summer 2002.a new research program, *ADP-Kornati*, has been opened together with SEA LAND – Organization for the protection of the environment and scientific research. The programme will cover Kornati archipelago National Park in Central Adriatic sea, with aim of better understanding of the cetaceans within the study area. The main goal is to understand whether the dolphins frequenting the Kornati area are the same ones inhabiting the waters of the northern Adriatic sea. In addition we will also verify and confirm the possible presence of short-beaked common dolphins (*Delphinus delphis*) and other Cetaceans within the area. Based on the findings the program will continue with different research activities such as the analysis of habitat preferences, association patterns, reproductive rate etc.. As there aren’t an official national stranding network, CNHM and BW also collect *Cetacean sightings and strandings* information. Among its activities, BW offers well organised training courses on cetacean research and conservation to students of different disciplines (e.g. biology, economy, engineering, etc.) and to any person interest in this field.

BW is also cooperating with institutions, scientists, PhD and BSc students at the national and international level by carrying joint projects, providing data, tissue samples and other information. In particular, data and samples, from Losinj area and Croatian waters, are provided to the following PhD projects: Population dynamics and foraging behaviour of bottlenose dolphins in Croatian waters (Caterina Fortuna, Sea Mammal Research Unit,

University of St Andrews supervisor: Dr. Philip Hammond), An analysis of the issues concerning the designation and management of the Losinj-Cres archipelago marine reserve, Croatia (Peter Mackelworth, University College London, Supervisor: Dr Peter Jones) and Phylogeography and molecular ecology of bottlenose dolphin and common dolphin populations, world-wide. (Ada Natoli, University of Durham, UK Supervisor: Dr. Rus Hoelzel). Tissue samples are also gathered as contribute to a programme of the Biomarkers Laboratory (University of Siena) on toxicology of small cetaceans. Stomach contents analysis of bottlenose dolphins are carried out as a cooperation between BW, ICRAM and SMRU.

Future research is planned on dolphin-fisheries interaction (particularly concerning small scale and artisanal fisheries), socio-economic aspects of fisheries in the Lošinj area, toxicology, population range of the resident bottlenose dolphins inhabiting the Kvarneric, assessment of the Adriatic cetacean fauna and population size. Concerning the priorities in Croatia they are at present: scientific research (especially of cetacean fauna and population/s, interaction with fisheries and mitigation measures), establishment of MPA's and capacity building, education and awareness activities.

Italy

Italy has signed, but not yet ratified the ACCOBAMS, and is therefore not the member of the convention. Due to its geographical position Italy can choose between Western and Central Mediterranean region, but for the purpose of this report Italy has been placed within the Central Mediterranean region. Within the region, Italy has the greatest number of Cetacean research programs. The questionnaire has been sent to numerous e-mail addresses, but considering the number of organizations and research programs, the number of replies has been relatively low. Contacts have been made with the Italian delegates at the International Whaling Commission, which are in charge of the National report on the Cetacean research and conservation activities. They expressed their will to help and volunteer for the future ACCOBAMS reports if the need for it arises.

The replies have been received from ICRAM - Istituto Centrale per la Ricerca Applicata al Mare; Tethys Research Institute; Cetacean Tissue Bank, University of Padua, Dept. of Experimental Veterinary Sciences; Centro Interdisciplinare di Bioacustica e Ricerche Ambientali, Università degli Studi di Pavia; Natural Marine Reserve of Miramare Trieste; Laboratori di Biologia Marina ed Ecologia Animale, Dip.Te.Ris. - Università di Genova; Dipartimento di Biologia Sperimentale, Ambientale e Applicata (DIBISAA), Università di Genova and University of Siena, Biomarker laboratory

ICRAM - Istituto Centrale per la Ricerca Applicata al Mare

Via di Casalotti 300, 00166 Roma, <http://www.icram.org>

Giancarlo Lauriano (g.lauriano@icram.org) & Caterina Maria Fortuna (c.fortuna@icram.org)

ICRAM is active in the field of research, conservation and management of Cetaceans in the Mediterranean sea. Research activities carried out since 1998. include Study on the Fin whale vocalization (*Balaenoptera physalus*), presence and distribution of Bottlenose dolphin in the Capo Carbonara AMP (South-east Sardinia), Biomarkers as diagnostic and prognostic tools for assessing effects of Endocrine Disruptors in the Mediterranean Sea, Development of advanced technologies applied to the conservation of threatened species within coastal and pelagic MPAs, Interaction between marine protected species and fishing operations within the AMPs, Development of advanced technologies applied to the conservation of threatened species within coastal and pelagic MPAs, Interaction between small cetaceans and fisheries along the Italian coast, Fisheries interaction within three Italian hot spots (North Sardinia, North Adriatic Sea, Southern Tyrrhenian Sea) and Study on the Bottlenose dolphin's distribution along the Sicilian coasts), NEREIDI – Research modular programme to support the Cetaceans Sanctuary management. More detailed information on completed and ongoing projects carried out by personnel of the ICRAM are listed in Annex 1 of this report

ICRAM personnel also serves the Ministry of Environment, by giving several dozens of consultancies every year whenever required by the officers of the Department for the Defence of the Sea.

Since 1998 ICRAM is also in charge of Italian Delegation at the International Whaling Commission Scientific Committee and its President, Giuseppe Notarbartolo di Sciara, is the Italian Alternate Commissioner at the Commission, on behalf of the Ministry of Environment.

Since 2001, ICRAM is also involved, with its researcher Giancarlo Lauriano, in the “Subgroup Fishery and Environment (SGFEN)” of the Scientific, Technical and Economic Committee for fisheries – (STECF) EUROPEAN COMMISSION Directorate-General.

In addition, ICRAM organised or hosted a number of relevant international meetings on Cetaceans research and conservation. In February 2000 a workshop IFAW/ICRAM was organised to review: “Various Aspects of Whale Watching”. In May 2001 ICRAM organized the International Workshop on “Interactions between Dolphins and Fisheries in the Mediterranean: Evaluation of Mitigation Alternatives” and the 15^o Annual Meeting of the European Cetaceans Society (ECS) on “Marine protected areas and other approaches for the management of threats to marine mammals”. In June 2001, a Scoping Meeting for a future IWC Workshop on Habitat Degradation was held in Rome from 11-12th of June 2001, at ICRAM headquarters.

Tethys Research Institute, Viale G.B. Gadio 2, 20121 Milano

Bearzi Giovanni, President, bearzi@inwind.it

Tethys RI carries out numerous projects in several locations throughout the region which includes almost all aspects of cetacean scientific research, education and conservation. Tethys main research areas and activities are carried out in the Ligurian sea (*creation of Biosphere reserve, population estimates of fin whales and striped dolphins, distribution, occurrence, photoidentification, genetics and radiotracking and three-dimensional tracking of fin whales, habitat choice and preferences of cetaceans in the western Ligurian sea, fin whale's response to approach of small vessels, testing of the effectiveness of whale-watching regulations, categorisation of fin whale's behaviour, impact of collisions, acoustic survey, social ecology and association patterns of Risso's dolphins, ecology of sperm whales, radiotracking of long-finned pilot whales, behaviour and habitat use of striped dolphins in the Western Ligurian sea, etc.*), Eastern Ionian sea (*distribution and sightings of cetaceans, social ecology, organisation, feeding ecology, ecotoxicology, genetics and behaviour of short-beaked common dolphins, etc.*), Northern Adriatic sea (*cetacean fauna, bottlenose dolphin population estimate in the gulf of Venice, social ecology, behaviour and social organisation of bottlenose dolphins in the Kvarneric*), the islands of Ischia and Ventotene (*cetacean research*), Manfredonia (*behaviour of solitary common bottlenose dolphin*) and the Asinara Reserve, northern Sardinia (*interactions with fisheries*). Their activities also include projects that are oriented to cetacean populations in a wider Mediterranean area, like genetic diversity of Mediterranean population of bottlenose dolphins, molecular ecology of striped dolphins, phylogeography of the short-beaked common dolphin, eco-toxicology of Mediterranean cetaceans, cetacean distribution and sighting frequencies, defining of cetacean conservation strategies. The work on the protection of the cetaceans, marine environment and its biodiversity is further strengthened through many educational and public awareness campaigns and activities (lectures, courses and training courses, etc). The main priorities for the implementation of the ACCOBAMS conservation plan are mitigation of negative fishing interactions, improvement of the marine environment quality and evaluation and management of human activities to mitigate negative impact on cetaceans, support to scientific research, capacity building, awareness and education.

The Cetacean Tissue Bank, University of Padua, Dept. of Experimental Veterinary Sciences, strada Romea 16, 35020 Legnaro-Agripolis (Padova),
cetaceantissuebank@libero.it

The Cetacean Tissue Bank in collaboration with CSC and ICRAM collects and preserves tissues from stranded cetacean by immersion-fixation or freezing and provides them to the scientific community for free and can offer other services like specific staining, immunohistochemistry, blood tests, necropsy, bibliography. They study anatomy, histo-pathology and physiology of marine mammals. In near future new laboratory techniques (especially DNA and RNA extraction from fixed materials and consequentially genetics study) and study of parasites in stranded cetacean will be used. The main priorities are: response to emergency situation, support to scientific research, capacity building, awareness and education, evaluation and management of human activities to mitigate negative impacts on Cetaceans and improvement of marine environment quality.

Centro Interdisciplinare di Bioacustica e Ricerche Ambientali, Universita' degli Studi di Pavia, Via Taramelli 24, 27100 Pavia
Dr. Gianni Pavan, gpavan@cibra.unipv.it

Centre is involved in the research of acoustics (*study of the species-specific acoustic features of each species, development and testing of acoustic detection and analysis instruments, organization of wide area acoustic and visual surveys, acoustic monitoring of selected areas, analysis of underwater noise generated by human activities, creation of a Cetacean Sound Library for the Mediterranean Sea*), ethology (*characterization of acoustic behaviours, analysis of the impact of underwater noise*), stranding (*participation to the Italian stranding network managed by Centro Studi Cetacei, collection and analysis of stranding data by means of GIS techniques*), conservation (*organization of surveys to evaluate the presence and distribution of animals, analysis of the impact of human activities at individual and group level, studies on Acoustic Risk Mitigation Policies for protecting animals from high power sound sources*) and education (*education and training for students and researchers, training for operators involved in the application of Acoustic Risk Mitigation Policies, maintaining a library on marine mammals and underwater bioacoustics, maintaining a website*). New research planned for next years will address studying of distribution and long range movements of large species (fin whales and sperm whales) by means of short and long term tagging and by setting up a network of underwater acoustic sensors. The main priorities are: support to scientific research as bases for conservation, response to emergency situation, capacity building, awareness and education, evaluation and management of human activities to mitigate negative impacts on Cetaceans, mitigation of fishing negative interactions.

Natural Marine Reserve of Miramare Trieste, Shoreline - AREA Science Park Trieste, AREA - Padriciano 99, 34012 Trieste, francese@shoreline.it
Mr. Marco Francese

Dr. Francese is a member of the EST (Dolphin Emergency Service Team), related to management and research activities of a protected area. In future research is planned on sightings and photo-id campaign, management of emergency situation for stranded animals, analysis of toxicant in tissues of dead Cetaceans and educational program. All these things are going on with individual effort (each activity has a Project Leader) and with the Miramare Marine Reserve facilities. The planned research are on toxicology of stranded dolphins (bioindicators of level of pollution) and creation of a recovery centre for ill dolphins. The main priorities are evaluation and management of human activities to mitigate negative impacts on Cetacean (especially about toxicity level of marine environment), improvement of marine environment quality, response to emergency situation, establishment of marine protected areas and increase of awareness and education.

Laboratori di Biologia Marina ed Ecologia Animale, Dip.Te.Ris., Università di Genova
Via Balbi 5, 16124 Genova, largepel@unige.it
Prof.dr. Lidia Orsi Relini

Laboratory is involved in the study of large pelagic animals of the Ligurian Sea (entirely covered by the Cetacean sanctuary). During many years their studies regard both the environment and single species (fin whales, dolphins, pelagic sharks, large perciform fishes that represent fishery resources (tuna, swordfish) etc.) Their work regards: conservation, ecology, ethology, population, feeding, fishing activities, by catch, education etc. At present, main research in progress regards the study of the spatial and temporal distribution of the krill, a key species in the Sanctuary, both for the whales and the fishery resources. A second research regards records of cetaceans in old Mediterranean literature. Cetaceans and conservation are included in the University lessons. Regarding the priorities, they have a general value for the entire Mediterranean including our area. In particular, mitigation of marine activities impacts, notably collisions, whale watching and invasive research activities seems urgent.

Dipartimento di Biologia Sperimentale, Ambientale e Applicata (DIBISAA), Università di Genova, Viale Benedetto XV, 5, 16132 Genova
Prof.dr. Maurizio Würtz, wurtz-ge@unige.it

Department is involved in research of cetacean ecology, ethology and distribution according to the oceanographic parameters (by satellite), bottom morphology, trophic situation and feeding behaviour to estimate the population abundance and range throughout the year, and in theoretical and practical (mostly based on at sea operations) educational and formation programs at international level for students and researchers following the Course on cetology at the Genova University.

Planned research are on impacts of pleasure and sporting boats on the cetacean's ethology within the six miles limit and ecology and ethology of the resident bottlenose dolphin families along the Ligurian coast.

Priorities are listed as: support to scientific research as bases for conservation, evaluation and management of human activities to mitigate negative impacts on Cetaceans, improvement of marine environment quality, mitigation of marine activities impacts, mitigation of fishing negative interactions, capacity building, awareness and education, response to emergency situation and establishment of marine protected areas.

University of Siena, Biomarker laboratory
Prof.dr. Maria Cristina Fossi, <http://space.tin.it/scienza/marfossi>

This researchers group has been involved in the last 15 years in several international (EEC) and National (Eni-Agip, Ministry of Environment, ICRAM) research projects on the following research programmes: use of biomarkers in the monitoring of industrial activities, development of non-destructive biomarkers in marine mammals, development of a multi-trial biomarker approach in invertebrates, development of a biomarker approach to evaluate the effect of xenobiotic in South-America, study of biomarker response in Antarctic organisms, study of sea-bird populations at risk using non-destructive approach, study of biochemical adaptation to polluted environments by pollution-tolerant species, study of Mediterranean cetacean populations, development of biomarkers of exposure and effects for endocrine disrupters in marine top predators. The research group has published more than 300 publications on ecotoxicological subjects and has been involved in the organisation of international workshops and congresses. The research group collaborates and participates in exchanges with researchers and teachers from around the world.

EEC projects: *ENVIRONMENT* 1991-1994. Evaluation of harmful effects of pollutants in marine ecosystems using biomarkers (EV5V-CT94-0398) (Siena-Reading-Plymouth); *INCO* 1995-1997: The use of non-destructive biomarkers to assess the health status of endangered species of marine mammals in Southwest Atlantic (CII-CT94-0018) (Siena-Buenos Aires) and *INCO* 1991-1993. Valutazione di impatto da pentaclorofenoli nel bacino del Biobio attraverso l'utilizzo di biomarkers. (Siena-Concepcion).

Libya

The questionnaire was sent to Environment General Authority, Technical centre for environment protection, Marine Biology Research Centre Tajura-Tripoli and several marine researchers.

There hasn't been any answer to any of the e-mails.

Malta

The questionnaire was sent to Environment Protection Department, Environment Planning Authority, Nature Trust (Malta); Dept. of Biology, University of Malta; The Biological Conservation Research Foundation (BICREF) and a number of marine experts. Received replies are summed up below.

Nature Trust (Malta), P.O. Box 9, Valletta CMR 01, mlcg@waldonet.net.mt
Sarah Muscat, Marine Conservation Committee

Nature Trust (Malta) is the largest and one of the oldest environmental non-governmental organisations in Malta. It consists of four environmental organisations that merged together, Marine Life Care Group (Malta) being one of them. As an organisation it manage environmental affairs on various levels and does substantial political lobbying and public awareness about various aspects, including cetaceans. The organisation also offers advice to the national Council on various issues.

The marine section is responsible for coordinating all the projects related to cetaceans like collection of by-catch data, collection of data of sightings of cetaceans in local waters and collection of data of sightings of cetaceans in the Gozo and Comino channels. The aim of the last two projects is to establish areas of importance with regards to cetaceans and to manage such areas and protect cetaceans. These projects will be expanded by complimenting them with specific research and fieldwork.

At present there are no marine conservation areas in the Maltese Islands. However, Nature Trust (Malta) has been appointed as partner with the Malta Environment Planning Authority on the establishment of various local marine protected areas.

Nature Trust (Malta) is involved in the situation regarding the business of tuna farms in the Mediterranean. They are presently lobbying on a moratorium for further tuna farms with the local and international authorities, until effective studies on what effect these farms may have on the environment and biodiversity is completed and have started approaching the owners of the existing local tuna farms to help in the study of the effects of these farms on cetaceans. Nature Trust (Malta) is also involved in the 24-hour rescue and rehabilitation service of cetaceans and chelonians. The team consists of divers, biologists and veterinarians and organise monthly training on rescue of cetaceans for the whole team, including veterinarians. The Malta Environment Planning Authority will be presented with a full proposal on the Marine Rescue Team, which shall incorporate a national strategy for rescue, rehabilitation and data analysis of stranded cetaceans and chelonians, which to date is non-existent.

Regarding the priorities and goals of the Convention, the issue concerning tuna farms should be addressed and cooperative studies throughout the Mediterranean region should be carried out without further delay. Moreover, there is still a substantial amount of work that needs to be done for Malta to become in line with ACCOBAMS.

Department of Biology, University of Malta, Msida
Dr. Adriana Vella, avel@cis.um.edu.mt

The research topics covered involve distribution, abundance and conservation aspects of all cetacean species observed in the region around the Maltese Islands, their stranding, sighting records, photo-id and population studies, ecology, by-catch and fisheries associations in this region. This research has also drastically helped in increasing local and international accurate awareness of cetacean species and their problems in this region. However, very little financial support has been given to support this scientific and demanding research project in this region to date, a need that is urgent if the cetacean research project is to be sustained in the long-term.

In future further developing of the ongoing efforts is planned, by utilising hydrophone studies to increase detail during marine surveys, and to monitor activities associated with fishing activities in the region. Apart from this there are certain species, such as common dolphins (*Delphinus delphis*) that seem to need urgent consideration in the Mediterranean and that research indicates that this region may have a serious contribution to make to its conservation in the Mediterranean, if action is taken soon. Thirdly greater details on the extent to which particular species suffer from particular fisheries exploitation and fishing techniques need further work, which is thus considered important side by side with other conservation measures.

It is important that ACCOBAMS get researchers from the field to contribute actively and prioritise the needs for urgent implementation of the Conservation plan. Priorities around the Maltese Islands are: funding to maintain and develop ongoing scientific research efforts to study and monitor cetacean survival and populations side by side with the human impacts on these cetaceans, encourage further research in fisheries associations and conservation management of problems that are already being noted by the cetacean researcher and funding for research and management with fishermen. Also, considering Maltese Islands region as a possible conservation area for common dolphins in particular, but also for other cetaceans is one of the priorities.

The Biological Conservation Research Foundation (BICREF), PO. Box 30, Hamrun
Ms. Sue Rathgeber, BICREF@hotmail.com and suerath@maltanet.net

BICREF has been involved in conservation research since 1997-98 through active research assistance of ongoing research surveys via land, sea and air. The topics covered involve distribution, abundance and conservation aspects of all cetacean species observed in this region around the Maltese Islands, their stranding, and sighting records. This research has also drastically helped in increasing local and international accurate awareness of cetacean species and their problems in this region. However, very little financial support has been given to support this scientific and demanding research project in this region to date, a need that is urgent if the cetacean research project is to be sustained in the long-term.

BICREF plans further assistance to ongoing scientific conservation research on cetacean species especially vulnerable species such as common dolphins (*Delphinus delphis*) that seem to need urgent consideration in the Mediterranean and increasing local awareness efforts toward cetacean needs for their effective protection.

BICREF prioritises financial support for ongoing research work on local cetaceans. This would help the evaluation and management of human activities to mitigate negative impacts on Cetacean.

Slovenia

The questionnaire was sent to National Institute for Biology, Marine Biology Station Piran; Nature Protection Authority of the Ministry of the Environment, Spatial Planning and Energy and several marine researchers and NGOs. Only one reply has been received.

Vivamar - Society for sustainable development of the sea, Klavčičeva 2, 1241 Kamnik
Darja Ribaric, president, darja.ribaric@guest.arnes.si

Vivamar carries out project on Sightings of the bottlenose dolphins (*Tursiops truncatus*) in the area of the Slovenian sea and the contiguous waters. In January 2001 they started to deliver Questionnaires about the sightings of the bottlenose dolphins in the Slovenian sea under the kindness of the director of the Natural history museum of Slovenia. Questionnaires have been delivered to the professional fishermen, divers, skippers from sailing schools, Maritime police station of Koper, Harbour master's office in Koper and other people of different profiles, active on the sea. All of those people, given the questionnaires are often present on the sea, therefore being very reliable about dolphins' sightings. In season 2002 monitoring with a small plastic boat with the outboard engine has been started.

Future planned activities: photo ID of the dolphins present in the Slovenian sea (to determine the number of individuals in the area as well as relations to why and when the dolphins are coming and from where), research of interactions between the fisheries and the dolphins and how to find the solutions about the problem concerned, education of the people in the whole country (why the protection of the Cetaceans is necessary; how to behave when a Cetacean is seen in the vicinity) and conservation as Slovenia, the signatory of the Barcelona convention, has not finalised National Action plan for the protection of Cetaceans yet. Also ecology studies will come in the future, since the situation in Slovenia sea is very particular - small area with a lot of noise pollution, relatively

small amounts of fish present but still transient dolphins are visiting the area. Strandings - making notices of all stranded dolphins in the Slovenian sea and develop (or strengthen) the net for the further investigations, telling more about the cause of the stranding (links to the Veterinary faculty, University in Ljubljana)

Priority actions for Slovenia: Support to scientific research as bases for conservation, Capacity building, awareness and education, Mitigation of fishing negative interactions, Improvement of marine environment quality, Evaluation and management of human activities to mitigate negative impacts on Cetacean. Priority actions for CENTRALMED: Response to emergency situation, Improvement of marine environment quality, Capacity building, awareness and education, Mitigation of fishing negative interactions, Evaluation and management of human activities to mitigate negative impacts on Cetaceans, Establishment of marine protected areas, Mitigation of marine activities impacts, notably collisions, whale watching and invasive research activities, Support to scientific research as bases for conservation

Former Yugoslav Republic

The questionnaire was sent to governmental institutions like Ministry of Environmental Protection and Urban Planning, Department of Environmental Protection, Republic of Montenegro; Institute for Nature Protection, Republic of Montenegro; Natural History Museum, Republic of Montenegro; Institute of Marine Biology Kotor; Faculty of Sciences, Dept. of Biology and a number of NGO's.

There hasn't been any answer to any of the e-mails.

Report on cetacean research activities and on priorities for establishing a conservation plan in the western Mediterranean and adjacent Atlantic zone (WESTMEDAT)

Document prepared by Abdellatif Bayed
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Introduction

The Permanent Secretariat of ACCOBAMS had asked regional representatives to prepare a scientific report for each of the four regions. The following documents were used:

- *Report on the first session of the meeting of the contracting parties on the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and contiguous Atlantic area (Monaco, 28th February – 02nd March) and especially on resolution 1.9 «international priorities set up for 2002-2006 ».*
- The document entitled « *Cetaceans of the Mediterranean and Black Sea state of knowledge and conservation strategies* » (Document MOP 1/Inf. 6), prepared by a group of experts.

A questionnaire was prepared covering 3 aspects (see annex 1) :

- Research programmes in progress ;
- Research projects for the near future;
- Identification and inventory of needs for establishing a conservation plan and of priority actions (the list was given).

The questionnaires were sent to addresses taken from the Directory of marine mammal specialists for the Mediterranean and the Black Sea (CAR/ASP), and also to personal contacts, if not found in the Directory. The Agreement Secretariat was consulted and the names and addresses obtained . The questionnaire was sent by electronic mail to more than 80 people belonging to universities, research centres, private research institutions, museums and ONG. About twenty e-mails were returned because of address changes and many others were not answered. Replies were often formulated by representatives of research teams or groups. Only one ONG replied from those contacted in Spain, France and Italy. It should be noted that the appeal was sent out during the summer when many groups were at sea for their work, so an extra delay was accorded and certain answers were received in mid-September.

To complete the data collected, available websites were visited and our own documents covering the different activities were used. Using all this information, a synthesis has been made which combines logical reflections and discussions by experts at the different meetings concerned with Mediterranean cetaceans.

Reference is made here to (1) the workshop on the elaboration of national plans for cetacean conservation in Mediterranean countries, organised in Tunis on 6th and 7th September 2001, when the Action Plan was set up for conservation in the Mediterranean and Black Seas, adopted by the contracting parties at the Barcelona Convention in 1991 and the ACCOBAMS Agreement and (2) the round table relating to conservation priorities, for Mediterranean and Black Sea cetaceans, organised during the last CIESM Congress (Monaco, 27th September 2001). Several specialists, actually members of the Scientific Committee of ACCOBAMS, attended both these meetings.

Research undertaken on species as populations in the geographic regions studied (open or orientated research) is presented and also work on particular themes associated with specific problems and on the priorities brought up by those teams which did reply. Classification of the information according to different countries has been avoided as it seemed more appropriate to analyse according to species and geographical regions of WESTMEDAT and according to other interesting criteria.

The data and advice given were only obtained from information received from those groups (cited according to their country) which actually sent a reply. All responsibility is declined as regards research projects or programmes not cited but which occur in the WESTMEDAT region; the authors of these were contacted but no replies were forthcoming.

1.-Geographic Zones studied

In the WESTMEDAT, the most studied zones and around which more diversified programmes have been developed, are in the north covering the Gulf of Lyon and the Ligurian Sea, the length of the Mediterranean coast of Spain, the Alboran Sea, and the Straits of Gibraltar. The Ligurian Sea has abundant cetaceans and a sanctuary was created in 1899, so it is an important part of this zone. In fact, an abundance of marine mammals is usually observed between the end of Spring and the beginning of Autumn, with big cetaceans, notably the Rorqual commun (*Balaenoptera physalus*) and other species of various sizes.

2.- Research on cetacean populations

Several projects treat the cetaceans of the Western Mediterranean in general, without any distinction of actual populations. Research in these cases is mainly concerned with distribution and abundance (Spain, Italy and France) and statistics show that *Balaenoptera physalus* is especially studied (estimation of populations, behaviour, distribution, genetics, choice of habitat). In the southern Mediterranean basin, projects are more diversified; research teams usually have sufficient human scientific resources and should be encouraged to set up bi-lateral programmes. This has already been achieved between Morocco and Tunisia, where an attempt is being made to minimise fishing-cetacean interactions on the Moroccan Mediterranean coastline.

Balaenoptera physalus

The common rorqual is fairly frequent in the north western Mediterranean, where French and Italian teams are the doing most of the research; out of 21 projects communicated by the Tythys Research Institute, 8 are dedicated to B.physalis. Projects finalised or underway deal with population estimations, distribution, behaviour *sensu lato* (respiration, diving, locomotion,...), genetic and ecology using different techniques (estimation of numbers, radio-tracking, photo-identification).

Physeter macrocephalus

The sperm whale is the least known species in the Mediterranean: a species which seems to be attracting more and more attention from researchers. One project, combining Spain and France and soon to be

joined by Morocco, is concerned with the ecology of the sperm whale in the Straits of Gibraltar. Other projects (France, Italy) are underway in the north-western Mediterranean.

Delphinus delphis

The common dolphin is more widely distributed in the southern part of the Western Mediterranean and is especially studied in the Alboran Sea and the Straits of Gibraltar with regard to its abundance and distribution (Spain, France). Other research by Morocco and Algeria concerns genetic differences between Mediterranean and Atlantic populations.

Tursiops truncatus

The bottlenose dolphin is the object of many studies and projects in the western basin (Spain, France). There is also a trans-Mediterranean project to study genetic differences between populations of this species with the participation of Algeria, Spain, France and Italy.

Stenella coeruleoalba

Estimation of the Blue and white Dolphin population has been done in several sectors of the western basin. An Italian project is working on the physical habitat of cetaceans, including this species, to the west of the Ligurian Sea. A Spanish project in the Alboran Sea and French and Spanish projects are underway in the Straits of Gibraltar, and will be joined by Morocco in 2003.

Globicephala melas

In the Ligurian Sea an Italian radio-tracking project is studying this species and a French project in the north-western Mediterranean will soon be set up on the Blackfish, to compare its ecology with that of other cetaceans (sperm whale, dolphin, Risso's dolphin). A photo-identification catalogue of the three species will be set up in preparation for this work.

3.- Research Activities associated with conservation

3.1.- Minimisation of negative reactions caused by fishing activities

Several research programmes have been undertaken in countries of the WESTMEDAT and are concerned as much with coastal fishing as with open-sea fishing. In Morocco, Algeria and Tunisia, these projects are focused on making fishing communities aware of the problems and some experiments are underway to help diminish dolphin attacks on nets and to minimise the risks of accidental capture.

3.2.- Reduction of human activity impacts (collision, whale watching, aggressive research)

An Italian project is actually studying the effect of collisions between cetaceans and boats on Mediterranean populations. Ways to minimise collisions between cetaceans and the high speed boats and ferries crossing between Corsica and the European Continent is the object of a French project, which also studies the danger menacing important concentrations of big cetaceans between May and October in the north-western Mediterranean.

3.3.- Establishment of new research protocols on cetaceans

A French project is working on a definition of working methods and protocols which could be used by high speed boats and ferries to monitor cetacean populations

4.- Use of stranded cetaceans in research

Stranded dead cetaceans on the shore provide an opportunity to increase our knowledge of these animals. As well as identifying species and investigating the cause of death, samples of tissue and organs are taken for studies. Spanish projects deal with the taxonomy and structure of parasites, the genetics of the cetaceans, their contamination by heavy metals and other exogenic elements. A follow-up of strandings is being undertaken by all countries in the WESTMEDAT region and the networks are organised with varying efficiency according to the country concerned.

5.- Other research activities.

- A French group is taking part in the European EUROFLUKES programme on photo-ID ;
- For more than 10 years , the Ecole Pratique des Hautes Etudes (Prof. P. Beaubrun) have co-ordinated and directed an information index of observations on living cetaceans by the CIESM where two data banks are associated : (1) hazardous recordings based on observation records and (2) observations related to efforts from prospecting correspondents (relative abundance index) ;
- Whale watching investigation undertaken by Spain, France and Italy (possibly by Great Britain in Gibraltar)
- Expert evaluation by private organisms such as that sent to us by a French team, who had just finished a study on the impact on cetaceans and birds by an off-shore Aeolian park project for the French Mediterranean coast.

6.- Conservation priorities reclaimed by different research workers

Propositions made to scientists answering the questionnaire had all been taken into consideration to some extent by those groups who replied. Three priorities emerged as being more important:

- Help for conservation research;
- Evaluation and managing of human activities so as to minimise and reduce negative impacts on cetaceans including maritime fishing activities;
- Setting up of protected marine areas.

Information on the regional activities and needs in the Black Sea Region

*Prepared by: Dr. Akaki Komakhidze.,
ACCOBAMS Scientific Committee member - representative for the Black Sea Region*

The Black Sea mammals are one of the important and representatives of biodiversity and at the same time most influenced by human activities due to the over fishing and pollution. Accordingly protection and conservation of marine mammals is precondition for environmental conservation and management in the Black Sea.

The Black Sea Regional Activity Centre for Biodiversity Conservation (Batumi, Georgia) is currently working on establishment of Black Sea Biodiversity regional information database including past, on-going and planned scientific-research activities on marine mammals. The database will include list of relevant institutions/agencies and NGO's working on the biodiversity issues. In addition there will be database of national and regional legislation on biodiversity protection and conservation. The information to be included in database will be provided from relevant organizations of the Black Sea littoral countries.

Bearing in mind all above mentioned and in order to avoid uncertainties, we are not able to provide detailed information at this stage, until the data from Black Sea countries are supplied.

It should be mentioned, that despite economical difficulties, the Black Sea countries, including Georgia, try to secure funding to perform small scale study of the current condition of marine mammals such as: population surveys, causes of mortality and conservation/rehabilitation measures etc. Of course, those studies are very important but their local character does not provide possibilities for having complete and comprehensive picture on the current state of marine mammals in the Black Sea region. In such situation, the full-scale regional activities could be the solution, need for which was emphasized many times.

Initially the Black Sea marine mammal study and conservation program should be established, for which it is necessary to form database which would include already completed scientific –research work, as well as information provided through the stranding and by-catch networks using volunteers operating at near and off-shore areas (fishermen etc.).

It is obvious that the baseline for Marine mammals conservation program should be study of their current population. One of the most important subject of program should be study of causes of their mortality and elaboration of conservation measures, as well as methodologies for their rehabilitation.

One of the key issues for implementing the marine mammals conservation measures is development of rehabilitation centers in the Black Sea littoral countries (including in Batumi, Georgia), as well as study of coastal zone for establishment marine reserves, special marine mammals protection measures in the areas of wintering of commercial fish stock and their fishing.

And finally, in the existing dolphinarium around the Black Sea, the environment where captive mammals are held need to be examined by competent specialist in order to provide advice on improvement of their conditions.

Database of cetacean research activities in the ACCOBAMS area

Opening page	List research groups			
	List by other field (e.g., species, area etc.)			
	New research group	<i>password provided</i>		Enter new project
	Existing research group	<i>enter password</i>		Update project info
		<i>enter password</i>		Enter new project
		<i>enter password</i>		Delete project
	field	specifications	format	limitations
Data entering form	Entering date	entered by system	date	
	Contact person		text	
	Institute / Organisation		text	
	Address		text	
	City		text	
	Zip		text	
	Country		picklist	
	telephone		number	
	fax		fax	
	e-mail		text	
	web site		text	
Project form	Species		picklist	IWC species + "all cetacean species"
	Study area		text	up to 40 words
	Geographic area (concerned countries)		multipick	ACCOBAMS countries only
	ACCOBAMS subregion		picklist	list of the 5 subregions
	Year beginning		year	
	Year end		year	
	Ongoing project	yes/no	checkbox	
	Project subject / title		text	
	Project description		text	up to 300 words
	Keywords	keyword list	multipick	IWC keywords?
	Main research platform / facility	keyword list	multipick	
	Principal investigator			
	Principal investigator e-mail			
Output	Peer-reviewed literature		text	"unlimited" space

Other publications	text	"unlimited" space
Output other than research	text	"unlimited" space

Report of the working group on whale watching guidelines

The group broadly welcomed the existing guidelines in resolution 1.11 and found them a good model. They noted that different species and different local situations would require modified guidelines and an email correspondence group would make further recommendations and report back to the next meeting of the ACCOBAMS scientific committee.

The group also urged that a separate permitting system should be developed for bona fide researchers who may need for researchers reasons need to get closer to the animals. The correspondence group will also consider this whilst noting whale-watching activities can be an important source of information in some regions. The group recognised that whale watching activities can rapidly develop to become a substantive a threat and proposed the following statement of concern:

The scientific committee noted that, whale watching may be a useful instrument for the building of awareness on cetaceans and their habitats, it is also liable of creating an almost permanent source of noise pollution and stress if carried out in an improper or intensive matter. Experience on certain geographical areas shows that excessive whale-watching effort concentrated on small, local populations has brought changes to usual behaviour and triggered collisions with boats.

Database of whale-watching activities in the ACCOBAMS area

Opening page	List by Company name			
	List by other field (e.g., species, area etc.)			
	New whale-watching activity	<i>password provided</i>		Enter new ww activity
	Existing whale-watching activity	<i>enter password</i>		Update ww activityinfo
		<i>enter password</i>		Enter new ww activity
		<i>enter password</i>		Delete ww activity
	field	specifications	format	limitations
Data entering form	Entering date	entered by system	date	
	Contact person		text	
	Company name		text	
	Address		text	
	City		text	
	Zip		text	
	Country		text	
	telephone		number	
	mobile phone		number	
	fax		number	
	e-mail		text	
web site		text		
Ww activity form	Species		multipick	IWC species + "all cetacean species"
	Operation name		text	
	Operation description		text	up to 300 words
	Embarcation port		text	
	Operation area		text	up to 40 words
	ACCOBAMS subregion		picklist	list of the 5 subregions
	Year beginning		year	
	Monthly coverage		multipick	
Frequency of trips		picklist		
Platform	Type of platform		picklist	
	Vessel name		Text	
	N° of engines		number	
	Horsepower		number	
	Maximum speed (kn)		number	
	Cruise speed (kn)		number	
	Length over all (m)		number	

	Maximum width (m)	number	
	Maximum n° of passengers per trip	number	
	Yearly average n° of passengers	number	
	Daily average n° of passengers	number	
	N° of crew	number	
	Educational support	multipick	slides, videos, brochure, researcher, none
	Cetacean expert on board	picklist	yes or no
	Expert qualifications	text	brief description
Code of conduct	Adoption of code of conduct	picklist	yes or no
	Prepared by	text	
	Brief description of code of conduct		including distance from the animal
Output	Kind of output	multipick	educational, research, public awareness
	Collection of scientific data	picklist	yes or no
	Keywords to describe research	multipick	
	Destination of data	text	
	Publications	text	"unlimited" space
	Output other than research	text	"unlimited" space

Recommendation 1.1

Acoustic devices used to avoid dolphin interaction with fishing activities and aquaculture have the potential to adversely impact cetacean and other animal populations. They may damage the hearing of cetaceans and, if used extensively, exclude them from significant portions of their habitat. These undesired effects are well documented for “acoustic harassment devices” (AHD) which are used, for example, to prevent animals from approaching aquaculture facilities; AHD produce high source levels (>185dB re 1 P at 1m) and operate primarily in the mid to high frequency range (c.5-30kHz).

The Scientific Committee reiterated the recommendations of the Rome workshop (Reeves *et al.*,2001) and concludes that it is *inappropriate* to use AHDs to alleviate conflicts between cetaceans and fisheries or mariculture operations in the Agreement area. Member countries should strictly regulate the use of these potentially harmful devices.

In contrast, “pingers” are used primarily to alert cetaceans to existence of fishing gear and thus avoid entanglement. These are low-intensity (generally <150dB re 1 P at 1m) sources that operate in the mid to high frequencies between about 2.5-109kHz, with harmonics to much higher frequencies (Reeves *et al.*,2001). These devices are considered to be less invasive than AHD and their use is, in principle, oriented towards cetacean conservation.

Nevertheless, the Scientific Committee noted that if pingers are used extensively, they may produce significant noise pollution and possibly exclude cetaceans from certain areas. There have been few controlled studies of the efficacy of pingers in reducing by-catches in the Agreement area. The Scientific Committee **recommended** against the use of these acoustic alarms until controlled studies have been conducted and they have been shown to be effective in reducing by-catches and not harmful to cetacean populations. Furthermore, as in other areas, the Scientific Committee stressed that eventual implementation of any management scheme using pingers should be accompanied by an observer scheme designed to monitor their effectiveness over time.

Reeves, R.R.; Read, A.J. and Notarbartolo di Sciara, G. 2001. Report of the Workshop on Interactions between Dolphins and Fisheries in the Mediterranean: Evaluation of Mitigation Alternatives, Roma 4-5 May 2001. Istituto per la Ricerca Applicata al Mare (ICRAM), Via di Casalotti 300, 00166 Rome, 44pp.

Recommendation 1.2

By-catch, the unintended capture and mortality of cetaceans in fishing gear, is a major conservation concern throughout the Agreement area. Especially regarding the effects of cetacean by-catches in bottom-set gill nets in the Black Sea and in pelagic drift nets in the Mediterranean Sea.

The Scientific Committee noted that some measures concerning the by-catch of small cetaceans in the Black Sea have already been recommended by the Ninth Ministerial Meeting of the Black Sea Commission (CS1/Inf. 1). The Scientific Committee endorsed the following recommendations:

- (1) Promotion of regional efforts to establish common methodologies to avoid by-catches;
- (2) Prohibition of bottom-set gill nets for turbot during May-June in coastal waters inhabited by the harbor porpoise;
- (3) Development of new turbot fishing regimes and fishing gear, less dangerous for small cetaceans; and
- (4) Monitoring of numbers of stranded and by-caught small cetaceans.

Furthermore, the Scientific Committee noted the following:

- (1) The occurrence and magnitude of cetacean by-catches vary geographically in the Agreement area;
- (2) There are few if any, regions within the Agreement area, where scientific estimates of the magnitude of these by-catches or an understanding of their impacts exist; and
- (3) In general, our understanding of the nature and magnitude of this threat is at best fragmentary.

Therefore, the Scientific Committee **recommends** that a study be commissioned of current knowledge regarding the extent and magnitude of cetacean by-catches in the Agreement area. The Scientific Committee suggests the following terms of reference for this study:

- (1) This study should review, as fully as possible, the areas in which cetacean by-catches are known or suspected to occur; the relative magnitude of these catches, and the identity of fisheries in which the by-catches are made.
- (2) The study should review evaluations of the magnitude of cetacean by-catches in the Agreement area made by other organizations, including the IWC Scientific Committee and the European Commission (e.g. CS1/Inf. 8);
- (3) Regional representatives of the ACCOBAMS Scientific Committee should be consulted;
- (4) Consultations should also be made with other individuals and organizations familiar with cetacean by-catches in the Agreement area;

(5) In addition to direct information on cetacean by-catches, the study should provide data on the relative effort (measured by landings, number of vessels, or some other metric) in fisheries, such as pelagic drift nets and bottom-set gill nets that are likely to take cetaceans as by-catches for all countries in the Agreement area. Data on fishing effort held by the FAO, ICCAT, regional and national fisheries organizations should be reviewed.

(6) The study should be conducted by someone familiar with the fisheries of the Agreement area.

The Scientific Committee noted that, given the limited funds available to the Secretariat and the large amount of work required to implement other priority actions, it would be preferable if other sources of funds were used to commission this work. In particular, the Scientific Committee requested that the Secretariat explore the possibility that funds from the IWC Small Cetacean Fund could be used.

Finally, the Scientific Committee **recommended** that all Parties and range states should provide estimates of cetacean by-catches to the Secretariat on an annual basis.



TETHYS RESEARCH INSTITUTE



**A PROPOSAL FOR THE CONSERVATION OF SHORT-BEAKED
COMMON DOLPHINS IN THE MEDITERRANEAN SEA**

ACCOBAMS Implementation Priorities #4 and #7

September 2002

BACKGROUND / RATIONALE

The short-beaked common dolphin (*Delphinus delphis*) is one of the most threatened cetaceans in the Mediterranean Sea. Conservation problems for this small Odontocete have been recognised since the 1970s. The UNEP Mediterranean Action Plan (Barcelona, 1975) recommended strong conservation measures to protect the species but without specifying what these should be. Determining the conservation status of Mediterranean common dolphins has been one of the priorities noted in past cetacean action plans of the IUCN Species Survival Commission (Perrin 1988; Reeves & Leatherwood 1994). The forthcoming IUCN/SSC cetacean action plan recognises that short-beaked common dolphins in the central and eastern Mediterranean have declined precipitously and that conservation action is urgently needed to prevent their extirpation in this region (Reeves *et al.* In press).

Although both public and institutional awareness of the importance of protecting the natural environment has increased in several Mediterranean countries during the last decades, little progress has been made toward understanding the causes of the short-beaked common dolphin's regional decline. Perhaps at least partly because of this dearth of understanding, no concrete measures have been taken to arrest and reverse this trend (Notarbartolo di Sciara & Demma 1997).

As a first step towards the implementation of a conservation plan, the ACCOBAMS Implementation Priorities have proposed a comprehensive assessment of the species' status and problems in the Mediterranean, with the goal of identifying critical habitat and estimating distribution and abundance throughout the basin (ACCOBAMS 2002). The Agreement also proposed to select an area containing critical habitat for this "priority species", in which pilot conservation and management projects be developed and implemented immediately. The Agreement further indicates that the coastal waters surrounding the island of Kalamos, western Greece, show particular promise as possible candidate for the creation of a model, which can then be applied to other similar situations in the Agreement area (see ANNEX 1).

SHORT-BEAKED COMMON DOLPHINS IN THE MEDITERRANEAN SEA: A REVIEW OF INFORMATION RELEVANT TO THEIR CONSERVATION

A major hindrance to determining the status of common dolphins in the Mediterranean is the fragmentary character of the literature, which is composed almost exclusively of unpublished reports, academic theses or dissertations, conference proceedings and other non-refereed publications. Although some of these studies are of high scientific quality and have been longrunning, only a small proportion of the relevant available data has been published in peerreviewed scientific journals. This situation makes it difficult to evaluate what is known even for many of the areas where focused research on the species has been conducted.

An obvious first step to preserve the species is therefore represented by a comprehensive assessment of what is known, to see what lessons can be learned from the available evidence.

The Tethys Research Institute has been systematically collecting information on Mediterranean common dolphins for a decade, and manages extensive bibliographic collections (Venice Marine Mammal Library, about 10,000 articles filed) that include most of the available literature on the species, worldwide. Field research by Tethys in several Mediterranean areas has directly contributed to the existing know-how, and includes a decade-long research effort in several portions of the basin (see www.tethys.org under “Actions”). Furthermore, Tethys acts as regional co-ordinator for the eastern Mediterranean for the European Commission “Europhlukes” project (www.europhlukes.net) and has created a network of collaborations across the Mediterranean that involves several *Delphinus* researchers.

This provides Tethys with the necessary expertise to co-ordinate the efforts of an expert group, that can join forces to report the state-of-the-art on the species and define the most appropriate conservation measures. Such a task of reviewing the available information and defining the most urgent conservation actions has been already initiated (see next paragraph), and could greatly benefit from support provided by ACCOBAMS.

SHORT-BEAKED COMMON DOLPHIN EXPERT GROUP

The most effective and practical solution to discuss the possible strategies and priorities to preserve Mediterranean common dolphins is represented by the co-ordination of a group including international conservation experts and Mediterranean researchers with extensive direct expertise in common dolphin research.

Co-ordinating the efforts of such a group would be an appropriate way to: 1) gather, evaluate and disseminate information on Mediterranean common dolphins; 2) define the most urgent research and conservation needs for the species in this region; and 3) encourage Mediterranean researchers to present the information that has not yet been published, therefore contributing to the understanding of past and present trends.

Output from investigations conducted by the expert group would be published as an ACCOBAMS report and made available to the parties by means of direct and online distribution.

Further output in the form of scientific articles will allow the international community to benefit from the work done by the group. The expert group will review the essential documentation needed to take action, and develop the Action #7 of the ACCOBAMS Implementation Priorities ("Conservation plan for short-beaked common dolphins in the Mediterranean Sea", see ANNEX 1). The success of such a Plan depends upon the evaluation of updated, comprehensive information that highlights what is currently known on the species' status and conservation problems both at a regional and local level. A short-beaked common dolphin working group - co-ordinated by Tethys - has been informally created on April 4, 2000, during the European Cetacean Society's 14th Annual Conference (Cork, Ireland). It includes researchers from Spain, Greece and Italy having 10 years of direct expertise in common dolphin studies. More recently, this expert group has been collaborating with international conservation experts with the aim of addressing problems affecting the species in the Mediterranean. The short-beaked common dolphin working group has organised several meetings and has assembled extensive background information that could serve the scopes of a Conservation Plan.

It can be foreseen that through the support provided by the ACCOBAMS Secretariat the expert group will expand its current network and benefit from collaboration by Mediterranean organisations having an interest in common dolphin research and conservation.

UNDERSTANDING AND MITIGATING THE THREATS: THE KALAMOS AREA AS A CONSERVATION MODEL

The dataset assembled by the Tethys Research Institute around the island of Kalamos, western Greece, between 1993–2002 represents one of the largest dataset currently available for any short-beaked common dolphin group living in the Mediterranean Sea (see ANNEX 2), together with the information recorded by Alnitak in the Alboràn Sea.

Although some of the data collected by Tethys over the past decade have undergone preliminary analysis and have been presented at European Cetacean Society annual conferences and elsewhere, the extensive available information has never been comprehensively analysed and reviewed, neither has it been used for management purposes.

This bias – that can be entirely ascribed to lack of funding to support data analysis and review – prevents understanding of cause-effect relationships and delays the identification of effective management measures. However, the availability of extensive information recorded over a decade of intensive field work, and the possibility to describe past and future trends in short-beaked common dolphin abundance, now enable to gain insight onto the species' status and relate it to local environmental features.

Why does a relict group still survive in the Kalamos area? What is prompting the decline in numbers that has been recorded here since 1996? Can this understanding be used to protect this and other coastal groups living in the Mediterranean Sea?

Indeed, the Kalamos area represents a unique case study for an understanding of the current problems of short-beaked common dolphins in the Mediterranean, provided that:

- 1) The existing ten-year dataset is fully analysed, and information is reviewed and made available to the scientific community;
- 2) The relevant cause-effect relationships are identified and mitigation measures are found by means of inter-disciplinary work;
- 3) The resulting know-how is proposed as a model that may be applied to other Mediterranean areas under similar conditions.

THE PROPOSAL

SCOPE OF PROJECT / ACTIVITIES

The proposed project will allow *Delphinus* scientists, as well as experts from different disciplines and local managers, to rely on the most comprehensive assessment of the species status and problems ever attempted. This project will:

- 1) Co-ordinate the efforts of a short-beaked common dolphin expert group that has been formerly created (April 2000), featuring Mediterranean researchers and international conservation experts;
- 2) Obtain, file and evaluate the available literature information on common dolphins (*Delphinus* sp.) in the Mediterranean and elsewhere;
- 3) Evaluate the severity and impact of the main threats affecting short-beaked common dolphins in the Mediterranean, with the aim of prioritising action;
- 4) Publish a comprehensive review of information relevant to the conservation of shortbeaked common dolphins in the Mediterranean, including an assessment of common dolphin status in the region;
- 5) Produce a short-beaked common dolphin Conservation Plan. The Plan will: a) identify the most appropriate research and conservation measures for *D. delphis* in the Mediterranean, and
2) prioritise action to develop and implement pilot conservation and management projects in Mediterranean areas containing critical habitat for the species. Conservation measures will involve the establishment of *ad hoc* protected areas encompassing critical habitat and the adoption of experimental management plans with the involvement of local people and user groups. The Plan will also identify areas where research must be implemented immediately, including a series of localised surveys, with a priority in the eastern Mediterranean, aimed at the identification of existing remaining concentrations.
- 6) Evaluate the severity and the impact of the main threats affecting short-beaked common dolphins in the eastern Ionian Sea by looking at dolphin abundance, population dynamics and behaviour, based on the dataset that has been assembled by the Tethys Research Institute between 1993-2002 (see ANNEX 2). This project will also include the preparation of a draft Management Scheme for the Kalamos area.

OUTPUT

The proposed project will review the existing information and provide sound information, priority actions and management recommendations to policy makers and administrators.

Output from this project will include:

- 1) Review of short-beaked common dolphin status and information relevant to their conservation in the Mediterranean Sea (to be published in a peer-reviewed Journal);
- 2) Short-beaked common dolphin Conservation Plan (to be published by ACCOBAMS);
- 3) Review of short-beaked common dolphin status and community trends (1993-2002) in the Kalamos area, where one of the largest Mediterranean datasets on the species exist (to be published in peer-reviewed Journals);
- 4) Draft management scheme for the Kalamos area, to be used as a model which can be applied to other similar situations in the Agreement area (to be submitted to the ACCOBAMS Secretariat);
- 5) Creation of an ACCOBAMS web site dedicated to the conservation of short-beaked common dolphins, where all the available information, including maps, literature and contact information, will be posted to enable easy data retrieval by user groups.

PROJECT DURATION: 26 MONTHS (NOVEMBER 2002 – DECEMBER 2004)

BUDGET (IN EURO)

Budget item	Cost
Co-ordination of expert group	4,200
Meetings and communication	6,500
Review of short-beaked common dolphin status and information relevant to their conservation in the Mediterranean Sea	0*
Short-beaked common dolphin Conservation Plan	12,700
Review of the status of short-beaked common dolphins in the Kalamos area (analysis of 10-year dataset)	16,800
Draft management scheme for the Kalamos area	6,300
Short-beaked common dolphin web site	2,100
Grand total	48,600

* the review will be based upon volunteer work

Action # 4

Development and implementation of pilot conservation and management actions in well-defined key areas containing critical habitat for populations belonging to priority species (*Delphinus delphis*, *Phocoena phocoena*, *Physeter macrocephalus*, *Tursiops truncatus*)

In spite of the recent growth of scientific knowledge and attention on cetacean ecology in the Agreement area, and of the awareness of the survival threats these mammals are subject to, evidence is accumulating that some populations are declining in numbers and becoming increasingly fragmented within their shrinking range. Particular concern exists for short-beaked common dolphins in the Mediterranean, as well as for harbour porpoises, common bottlenose dolphins, and sperm whales. In some well-known instances, relic population units of these species are presently seen to be undergoing dramatic reductions in their numbers, and are thought likely to disappear soon if prompt measures are not taken. This action proposes to select four areas, each of them containing critical habitat for one of the four priority species, in which pilot conservation and management projects be developed and implemented immediately. Areas should be selected on the basis of sufficient available knowledge and characteristics of the area allowing the creation of a model, which can then be applied to other similar situations in the Agreement area. The following areas show particular promise as possible candidates: (a) the coastal waters surrounding the island of Kalamos, western Greece (short-beaked common dolphins); (b) the coastal area of southern Crimea, Ukraine, comprised between Cape Sarych and Cape Khersones (harbour porpoises and Black Sea common bottlenose dolphins); (c) the offshore waters of southern Crete, Greece (sperm whales); and (d) the waters of the Losinj-Cres Archipelago, Croatia (Mediterranean common bottlenose dolphins). Conservation measures should involve the establishment of *ad hoc* protected areas encompassing critical habitat for the target species and the adoption of experimental management plans with the involvement of local people and user groups; measures should include intensive monitoring of the cetacean population, targeted research, regulation of impacting human activities, education efforts directed at the local fishing communities and recreational users, and promotion of more compatible, alternative activities (e.g., whale watching) and resource uses.

Action # 7

Conservation plan for short-beaked common dolphins (*Delphinus delphis*) in the Mediterranean Sea

Short-beaked common dolphins in the Mediterranean have undergone a dramatic decline in abundance during the last few decades, and have almost completely disappeared from large portions of their former range. Recent line-transect surveys resulted in an estimate of about 15,000 common dolphins in the southwestern Alboran Sea, but abundance was not estimated for the rest of the western Mediterranean due to the low number of sightings. Regions where common dolphins no longer occur include the northern Adriatic Sea, the Balearic Sea, and the Ligurian-Corsican-Provençal basin. Currently, the main threats facing common dolphins in the subregion possibly include accidental killing in fishing gear, reduced availability of prey due to overfishing and habitat degradation, and the effects of toxic contaminants. While epizootics and reproductive disorders appear to have affected striped dolphins primarily, common dolphins may also be at risk because of their similarly high contaminant burdens. As a first step towards the implementation of a conservation plan for the species, a comprehensive assessment of its status and problems in the subregion should be prepared, leading to the identification of critical habitats and to determine distribution and abundance throughout the study area. This project would entail a series of localised surveys, with a priority in the eastern Mediterranean, aimed at the identification of existing remaining concentrations. Standard methods should be used so that results can be compared over time and from one region to another. Biopsies should be collected for genetic and contaminant analyses. Samples should be archived in a central repository, and collaborative studies should be initiated to better understand population structure and identify regional differences in contaminant exposure. For the first phase of the project it is proposed that a steering committee be established with the task of completing the preparation of the project, including the elaboration of organisation, logistic, scientific, technical and financial aspects. It is envisaged that the complete proposal will be presented for approval to MOP2.

THE KALAMOS DATASET

Dolphin data around Kalamos were collected over a total of 42 months spent in the field over 10 years of research, totalling 988 hours spent with 936 *Delphinus* groups. Over 18,000 dorsal fin photographs suitable for individual identification were filed. The dataset includes 13,786 3-min long behavioural samples including position, group size and composition, group formation, directionality and speed of movement, surfacing pattern, dive duration, dolphin activity and behavioural events, presence of birds and bird data, presence of boats and disturbance levels, etc.) Moreover, between 1997-2002 78 fish scale samples were collected during surface feeding events performed by individual short-beaked common dolphins, and 21 skin and blubber biopsy samples were remotely obtained from free-ranging animals (genetic analyses are being performed by the University of Durham, U.K.; toxicological analyses by the University of Siena, Italy). The dataset also includes consistent information on sympatric common bottlenose dolphins and navigation logs reporting any other species sighted in the area.

THE DOLPHINS

Near the island of Kalamos, in the eastern Ionian Sea, a coastal unit of approximately 100 short-beaked common dolphins has exhibited a high degree of site fidelity since studies by Tethys began in 1993 (Politi 1998; Politi & Bearzi 2001). Exclusively based on the presence of this relict group, the area has been qualified as "Site of Community Importance" in 1995, according to the Habitat Directive 92/43/EEC *Natura 2000* (Frantzis 1996). The Kalamos area has been identified by the ACCOBAMS Agreement as one where pilot conservation and management actions should be developed and implemented immediately to preserve short-beaked common dolphin critical habitat. The forthcoming IUCN/SSC cetacean action plan also recommends that pilot conservation and management projects be implemented in the waters adjacent to the island of Kalamos (Reeves *et al.* In press).

Short-beaked common dolphins near Kalamos appear to feed largely on shoaling prey in the water column or near the surface (Agazzi *et al.* 2001). The potential for competition for key prey exists between short-beaked common dolphins and local mid-water fisheries targeting sardines and anchovies.

Stergiou & Koulouris (2000) report decreased mean trophic levels along the Greek Ionian coasts as a result of the "fishing down" phenomenon. Decreased total landings were also reported (Stergiou *et al.* 1997). The eastern Ionian Sea has been subjected to intensive trawling (Papaconstantinou *et al.* 1985a, 1985b), which may affect the prey of Common Dolphins because of its negative impact on the marine ecosystems (*e.g.*, Stergiou *et al.* 1998). The complexity of marine food webs makes it difficult to provide quantitative evidence that overfishing represents a threat to Common Dolphins. Nevertheless, it is interesting that the Common Bottlenose Dolphins, which are locally sympatric with Common Dolphins in the eastern Ionian Sea, exhibit obvious signs of malnutrition (around 40% of photo-identified individuals described as emaciated; Politi *et al.* 2000). Short-beaked common dolphins around Kalamos have a highly fluid fission-fusion social system, a flexibility that may enable the animals to adapt to environmental shifts and fluctuating food prey availability (Bruno *et al.* 2001). However, photoidentification and survey data showed that the total number of Common Dolphins using the study area

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Recommendation 1.3

Considering the priority listed in Action 10 (Identification of Mediterranean sites, in addition to the Ligurian-Corsican-Provençal (LCP) basin, important for the conservation of fin whales (*Balaenoptera physalus*), and assessment of the functional relationships of such sites to the LPC basin concerning the species' habitat needs), the Scientific Committee:

- Acknowledges the great interest of this topic and its major importance
 - a) to enhance the conservation of fin whales in the Mediterranean
 - b) to widen to the Mediterranean basin the management measures actually implemented in fin whale feeding areas.
- Invites the Parties to join efforts to identify, as soon as possible, wintering areas and migratory routes of this species.
- Recommends to the ACCOBAMS Secretariat to establish necessary links with the Sanctuary Agreement on matters related to marine mammals conservation.
- Recommends that a workshop be organised, as soon as possible, on the identification of the best available study techniques on Mediterranean fin whale ecology, as a necessary step preliminary to the implementation of realistic field studies.

REPORT OF THE EUROPHLUKES MEETING

A meeting on Europhlukes took place in Tunis on the 2 October 2002 with the participation of representatives from CPEA (CIESM Panel of Experts for ACCOBAMS), EUROPHLUKES, Tethys Research Institute, IFAW and the ACCOBAMS Secretariat.

The representative from EUROPHLUKES, Simone Panigada, informed the meeting about the project telling that this is a CONCERTED ACTION funded by the European Commission under the Fifth Framework Programme which will run for 36 months and will be finished in October 2004.

Aims of the project are:

- to develop a European cetacean photo-identification system as a facility for research on the sustainable management of the marine environment;
- to initiate a European network of providers and end-users of the European Cetacean photo-identification system;
- to ensure continued contribution of material and supportable use of the database.

Photo-identification is considered to be one of the least intrusive methods for gathering knowledge of cetaceans. It is a technique for identifying individual animals using photographs of distinctive natural markings. Knowing which animal was observed where, when, with whom and under which environmental conditions will provide the necessary knowledge for researchers and managers to protect cetaceans populations.

Simone Panigada mentioned in his presentation that the southern Mediterranean and Black Sea are currently not covered by photo-identification studies, and therefore they do not take part in the Europhlukes project. He also pointed out that the aims of the Europhlukes project do not provide funding for field work or training of researchers, which will be necessary to involve these countries in the project. The participation of other countries to the project, in particular from the Black Sea and North Africa would result in a great improvement of the project itself, by widening its geographical coverage to the entire Mediterranean and Black Sea areas, and therefore providing a detailed picture of cetaceans populations living in these areas.

After this introduction the meeting discussed the collaboration with the ACCOBAMS Secretariat in order to decide on how to extend to the entire ACCOBAMS area photo-identification capacity building. In the initial phase of the project, it was decided to limit capacity building only to those groups in which infrastructures exist. In order to verify which of these infrastructures exist it was decided to revise the "Draft Standard Information Sheet" (CMS 1/Doc.8) and to distribute it online and in printed form. The revision will consist of a list of the items to be included in the form. This revision will be performed by an *ad hoc* working group consisting of Giovanni Bearzi, Alexei Birkun, Stefan Braeger, Giuseppe Notarbartolo di Sciara and Simone Panigada, and will be submitted for adoption by the Scientific Committee.

While the funding of this aspect of capacity building will be included in a wider effort, it was considered that an initial pilot project could be developed in May 2003 in Ukraine with the cooperation of Alexei Birkun and his team.

Recommendation 1.4

The aim of tissue banks is to provide researchers with geographically- and temporally-comprehensive collections of samples that may be used as a cost-effective diagnostic tool for the management of populations. Although these samples may eventually be of use for other types of research, the sampling priorities and preservation conditions will be those appropriate for genetic and reproductive-oriented studies, for the determination of pollutant levels and their biomarkers, and for the assessment of pathological conditions. Once in operation, they become a potential key element in conservation-oriented research and, in this way, assist national and international organizations in developing sound management policies for marine mammal populations and their habitats. Given that, at present, there are several initiatives to create banks of this type in the ACCOBAMS region, the Scientific Committee expresses its support to such initiatives and **recommends** that a workshop be carried out to develop agreed protocols for collection, preservation and release of tissue samples, as well as to ensure effective networking between suppliers of samplers and potential users in the various ACCOBAMS countries.

Guidelines for the development of national networks of cetacean strandings

General guidelines

The gathering of appropriate information from a live stranding or carcass incident requires an organised systematic response including early detection and reporting followed by rapid and effective action. An ideal stranding network should include:

- A mechanism for allowing quick reporting of live stranded, ill, injured or dead animals (a “24 hours” telephone service)
- An emergency response team to attend the reports of stranded animals
- Organised and standardised data collection and reporting procedures
- Logistic support and equipment for retrieval and transport of animals (when required)
- A facility for the effective necropsy of dead animals by trained personnel
- A facility for medical treatment and rehabilitation in the case of live animals
- The precaution principle should be considered to prevent the transmission of pathogens and diseases between cetaceans and humans.

The general objectives of a stranding network should be:

- To allow the wider community to report strandings in a efficient and rapid way
- To warrant that an opportune response is made to all notified cetacean strandings
- To maximise the number of stranding reports in order to identify the causes of mortality, strandings and lesions
- To secure timely reporting of strandings and mortalities to all relevant parties, including the public
- To enable long-term scientific studies which provide information to improve their conservation, management and biological knowledge
- To increase public awareness of cetaceans

Mediterranean countries should set up national stranding networks that take advantage of their human and material resources appropriate to consider their own particular circumstances. Although the socio-economic conditions of each country are crucial, the establishment and maintenance of a national cetacean stranding network do not require elevated expenditure nor sophisticated infrastructures, at least for the collection of basic-level data. What is crucial, however, is to achieve good co-ordination between the different authorities, experts, NGO's and the civil society in general. It is recommended to stress that all interested cetacean specialist of each country should be invited to participate in the date and sample collection as well as to the analysis of them, according to their expertise. Because materials from stranded specimens are of high scientific value, ACCOBAMS encourages parties to ensure that appropriate samples are distributed to interested research groups. A stranding network should be formed at the initiative of each state, whereas ACCOBAMS would offer advice from its scientific committee if deemed necessary. It is highly recommended to seek the collaboration of security forces (local and national police, navy, coastguard, etc.) and civil protection services. NGO's can play an important role in stranding

networks by mobilising volunteers to cover as much of the national coastline as possible, increasing public awareness on cetacean conservation, and seeking the co-operation of local fishermen. The actions undertaken by a stranding network are summarised on Figure 1. Due to the differences in the current development of national stranding networks in the Mediterranean states, special efforts are recommended to realise and consolidate such networks. It is important to consider the possibility of organising sub-regional courses for training of personnel, particularly from the regions mentioned above. This would build a critical mass of experts who would support the national stranding networks. Moreover, workshops or meetings on cetacean research conducted in the riparian countries should be organised, in collaboration with other Mediterranean that already have a well-established networks.

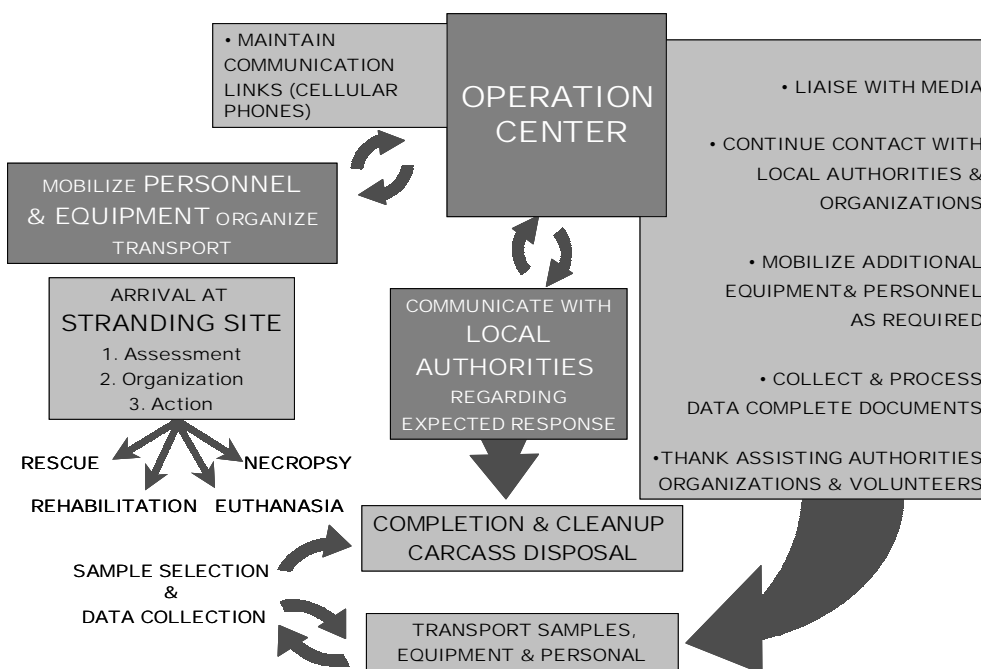


Figure 1. Stranding networks actions (based on Geraci & Lounsbury, 1993 with the authors' permission).

Specific guidelines

1. Basic field equipment

The minimum material necessary to perform a necropsy of a stranded animal should be the following:

- Gloves
- Data sheets
- Waterproof markers
- Measuring equipment
- Knives, scissors, scalpel, string
- Sample containers
- Preservatives (70% ethanol, 10% formalin, others)
- First-Aid kit
- Photographic camera and film

2. Experts *in situ* interventions

From the moment a stranding is reported, experts must come to the site as soon as possible with the necessary equipment, particularly if the animal is still alive. Planning of expert interventions should take into account the geographical and social peculiarities of each region or country. The actions to be taken can be summarised as follows:

- To have all the equipment indicated above ready for use before a stranding occurs
- To react quickly. It is important to give a response to the person reporting a stranding and to inform people at the stranding site that operations are already under way
- To evaluate the situation. Once on the beach it is necessary to obtain all possible information about the stranding and surrounding conditions to take appropriate decisions
- To contact the corresponding authorities. It is important to consider the local, regional or national organisations involved that may help in control the public and the animal
- To coordinate the action of authorities and volunteers. Those involved either officially or as volunteers require the assistance of a person experienced in strandings. The expert must give them instructions and remember to eventually acknowledge the help received
- To care for public health and safety. Potential public health problems and distress to the animal may occur. Eventual risks to the security of people or animals should be considered
- To provide information to the public and the media. This information must be clear and appropriate in explaining the action taken
- To take scientific decisions concerning animal transportation, euthanasia (if required), necropsy, and data and photography collection. This aspect depends on the scientific competence of the official in charge

An excellent handbook covering these aspects has been written by Geraci and Lounsbury (1993) and it is available both as book and as CD ROM. Figure 2 shows the main options to follow when a cetacean strands, both alive and dead.

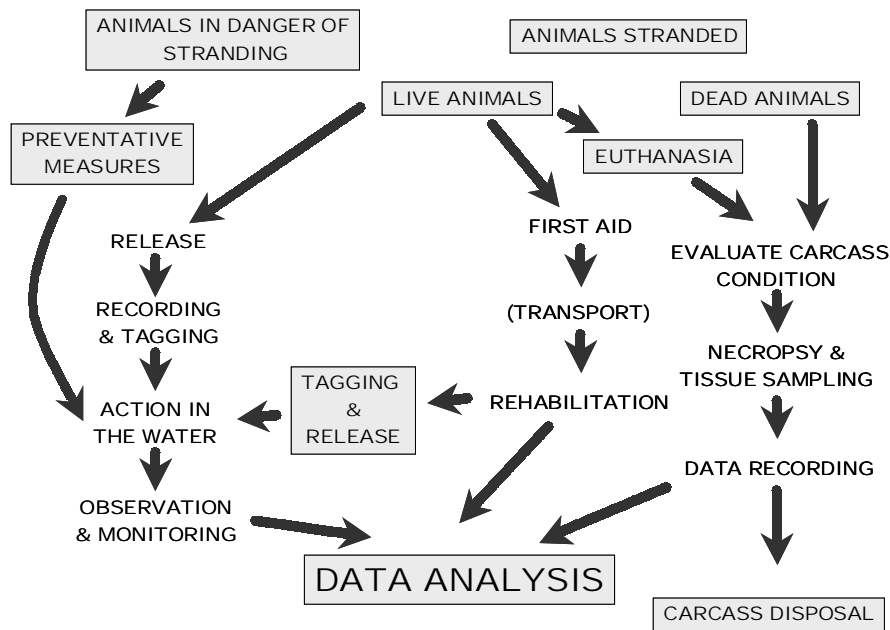


Figure 2. Options for responding to stranded cetaceans (based on Geraci & Lounsbury, 1993 with the authors' permission).

3) Necropsy

For each analysis samples should be taken systematically according to the decomposition stage of the animal (freshly dead, decomposed but organs basically intact, advanced decomposition -organs not recognizable- and mummified or skeletal remains only). For histopathology, microbiology, parasitology, toxicology and reproduction, the animals should be preferably alive or recently dead. In fact, samples from organs apparently normal at macroscopical level should be also taken. Samples from lesions that are suspected to have an infectious origin must be taken in an aseptic fashion with a sterile scalpel blade.

The surface of the sample must be disinfected in 70 % ethanol. Then the sample (2 x 2 x 2 cm for virology or 6 x 6 x 6 cm for bacteriology, aprox.) should be placed in a suitable container. Commercial kits for the collection and storage of such samples are available.

Labelling

Great care should be exercised labelling the samples. Two labels, one inside and another outside the container, should accompany each sample. This is because external labels are easily detached at high humidity or at freezing temperatures. Each label should include the following data:

- Reference number designating the individual animal
- Type of tissue
- Purpose of the sample (histopathology, virology, etc.)

Labels should be written legibly in permanent ink, using adequate terminology and preferably in English.

The following advises were proposed by Kuiken and García-Hartmann (1991) and Janiaux et al. (in press). These are recommendations and depending on the supporting facilities of each country it will be possible to carried out or not completely.

LIFE HISTORY STUDIES

Age determination

Collection: in odontocetes, take 4-5 teeth from the middle of the lower jaw. Choose teeth that appear intact and little curved. If the jaw does not need to be preserved for preparation of the skeleton, it can be sawed to collect the teeth more easily.

Fixation and storage: Teeth can be frozen at -20°C, kept in 70 % ethanol. They should not be kept at room temperature as they may crack hampering age determination.

Digestive contents

Collection: The contents of each stomach compartment should be collected separately and kept frozen at -20°C. Alternatively, 70 % ethanol can be used to preserve the stomach contents, but formaldehyde solutions should be avoided as they can dissolve small fish bones.

Genetic studies

A piece of skin (2 x 2 cm, approx.) should be collected and kept frozen (-20°C) or fixed in either 70 % ethanol or 20% dimethyl sulfoxide (DMSO) solution saturated with NaCl.

Reproductive status

Collection: In females both ovaries must be collected separately and weighted. In males only one testis needs to be collected and weighted.

Fixation and storage: part of the gonads must be fixed in a buffered solution of 10 % formaldehyde.

Skeleton

It is necessary to know beforehand whether the skeleton is to be kept intact for collection purposes. In this case the necropsy is more complex as the integrity of the bones should be sought. For instance, all ribs must be dissected individually at the level of the vertebra and sternum joints. Particular attention must be paid to preserve the pelvic bones, situated in the caudal musculature close to the anal opening, as well as the tympanic bullae and hyoid bones. These bone elements should be packed individually and catalogued. The remaining bones should be collected and preserved at 4°C or -20°C.

HEALTH STUDIES

Toxicology

Collection: Although 10 g are enough to perform the analyses, large tissue samples (\pm 250 g) should be collected. For the analyses of persistent organic pollutants (POPs), samples of blubber, dorsal muscle, liver, kidney and brain should be stored in a plastic bag. A sample comprising the whole depth of the blubber (free of skin and muscle) should be collected at the posterior level of the fin. For heavy-metal analyses, samples of blubber, dorsal muscle, bone (5th rib), liver, kidney and brain should be stored in plastic bags. Contact with an taken.

In lactating females, collect milk samples in glass vials. Foetuses should be surveyed in the same fashion as adults.

Fixation and storage: samples should be preserved at -20°C if analyses are not carried out immediately. Ideally samples should be weighted before freezing, its weight being reported on the label, because of liquid losses associated to freezing.

Virology

Collection: Sampling of parenchyma and lesions of potential infectious origin should be taken in an aseptic fashion.

Fixation and storage: samples should be placed as soon as possible at 4°C. If they cannot be transported to a specialised laboratory within 24 h, they should be frozen (ideally at - 80°C).

Bacteriology

Collection: the collection of liquids (blood, pus, urine, etc.) should be done with a syringe or a sterile Pasteur pipette after disinfection (alcohol, cauterisation) of the organ surface (heart, bladder, etc.). An intestinal loop, with adjacent mesenteric ganglion, should be collected after ligation of its two ends.

Parasitology

Collection: parasites should be collected and fixed in a solution of 70 % ethanol, preferably with 5 % glycerine. If such a solution is not available, they can be stored in a 10 % formaldehyde solution. If all individuals are not collected, the whole number should be estimated. When surveying for parasites, special attention should be paid to the ear sinuses, the air passages and pulmonary blood vessels, liver and hepatic ducts, pancreas, the different stomach compartments and the intestine. If the skull is to be kept intact, caution should be exercised when dissecting the ear sinuses to avoid damage to the tympanic bulla. If lesions associated to parasites are detected, fix the ensemble in 10 % formaldehyde.

Fixation and storage: fixed specimens can be stored at room temperature. Fresh tissues or

organs for parasite examination should be refrigerated at 4°C. Freeze (-20°C) if they cannot be examined within 24 h.

Histopathology

Collection: samples should be collected to include a zone of juxtaposition of normal tissue and the lesion. Avoid manipulating the sample excessively to avoid damaging its microstructure. For large organs, it is preferable to collect several small samples rather than a large one.

Fixation and storage: The best fixative is a buffered solution of 10 % formaldehyde. A non-buffered solution can be used instead and has the advantage that can be readily prepared on the field, but this will preclude ulterior immunohistochemical analyses.

Since the penetration of the fixative is slow, it is advisable:

- To make small slices thinner than 1 cm thick
- To slice large samples at regular intervals
- To inject fixative in hollow organs (bladder, eye, etc.) and lesions (e.g. cysts).

The ratio between the volume of fixative and that of the tissue should be around 10:1 and even 20:1 for brain samples. Since tissues tend to stiffen in formaldehyde, it is advisable using vials with large openings. Do not freeze samples for histopathology either before or after fixation.

Other related studies

Immunohistochemistry

Fix all samples with a buffered solution of 10 % formaldehyde. Fixation should be as short as possible, ideally analyses should be carried out within 24 h.

Electron microscopy

Samples should be collected as fast as possible, cut in small cubes (1 mm³), fixed in glutaraldehyde and stored in glass vials.

Molecular Biology (PCR)

Samples for molecular studies (2 x 2 x 2 cm) must be frozen quickly and stored at -20°C.

4) Carcass disposal

One of the more relevant actions from both the media and public health perspective is to develop a protocol for the disposal of stranded cetaceans after death and data collection. The decisions are constrained by the size and condition of the animal, stranding location characteristics and logistic factors. Whereas a small cetacean, such a dolphin, is easy to handle and transport, large animals like sperm or humpback whales are difficult to deal with. Likewise, there are differences depending on whether the body is fresh or in advanced state of putrefaction, or on the geographical characteristics of the coast, e.g. sandy beaches vs. inaccessible, abrupt and steep shorelines. Finally, the support of human resources, both officials and volunteers, and the availability of equipment, like vehicles, excavators, boats, etc., is also important. Incineration is the best method to dispose of the carcass of a cetacean. Logistics allowing, large animals should be cut in manageable pieces. If cremation is not possible, the body should be buried in an authorised dump. Incineration on the beach or disposal at sea should be avoided because of the risks posed to public health and navigation.

5) Emergency procedures (mass stranding and live animals)

In most recent years the Mediterranean and Black Seas have been scene of some events which have had great repercussions to cetacean conservation and have attracted the attention of the scientific community (Aguilar and Raga, 1993; Birkun et al., 1998; Frantzis, 1998). Such events are related to mass strandings or mass mortalities over wide geographical areas. Consequently, the establishment of a task force of marine mammals mortality and special events, formed by international experts, is recommended.

Cetacean strandings sometimes take the form of live animals arriving ill, wounded or disoriented to the shore, in which case recovery should be attempted. These cases often attract the public and media attention and therefore represent an excellent opportunity to convey the importance of marine biodiversity conservation. Given the existing logistic problems and the lack of specialised personnel, co-operation between stranding networks, aquaria and oceanaria, capable of assisting in cetacean rehabilitation, should be sought.

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Table of Contents

	<i>Page</i>
Introduction.....	2
Item 1: Opening of the Meeting.....	2
Item 2 : Adoption of Rules of Procedure of the Scientific Committee.....	2
Item 3: Election of Chairperson	3
Item 4: Adoption of Agenda.....	3
Item 5: Information Provided by the Secretariat.....	3
Item 6: Report of the Regional Representatives.....	3
Item 7: Implementation Priorities.....	4
Item 7.1: Funding availability	4
Item 7.2: Discussion of priority actions adopted by the Contracting Parties	4
Item 8 : Protocol on Strandings and code of Deontology.....	9
Item 9: Cooperation With Other International Organisations	9
Item 10: Any Other Business	10
Item 10.1: Scientific Publications.....	10
Item 10.2: CBD/CMS Joint Working Programme (JWP).....	10
Item 10.3: GROMS	10
Item 10.4: Guidelines on the Precautionary Principle.....	10
Item 10.5: Request for ACCOBAMS Support for Scientific Programmes.....	11
Item 10.6 : Dolphinarium and Dolphin -Therapy	11
Item 11 : Date and Next venue of the Meeting.....	11
Item 12: Adoption of the report of the Meeting	11
Item 13: Closure of the Meeting.....	11
Annex 1: List of Participants	12
Annex 2: List of Documents.....	17
Annex 3: Rules of Procedure for the ACCOBAMS Scientific Committee	19
Annex 4: Agenda	23
Annex 5: EASTMED Report.....	24
Annex 6: CENTRALMED Report	47
Annex 7: WESTMEDAT Report	56
Annex 8: BLACKSEA Report.....	60
Annex 9: Database of Cetacean Research Activities in ACCOBAMS Ares.....	61
Annex 10: Report of Working Group on Whale Watching Guidelines.....	63
Annex 11 : Database of Whale-Watching Activities in the ACCOBAMS Area	64
Annex 12 : Recommendation on Acoustic Devices.....	66
Annex 13 : Recommendation on by-catch activities.....	67
Annex 14 : A Proposal for the Conservation of Short-Beaked Common Dolphins in the Mediterranean Area.....	69
Annex 15 : Recommendation on Fin Whales.....	80
Annex 16 : Report of the Europhlukes Meeting.....	81
Annex 17 : Recommendation on Tissue Banks.....	82
Annex 18 : Protocol on Strandings.....	83