# PROPOSAL FOR INCLUSION OF SPECIES ON THE APPENDICES OF THE CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

- **A. PROPOSAL:** Inclusion of the Mediterranean population of short-beaked common dolphin *Delphinus delphis* on Appendix I and II<sup>1</sup>.
- **B. PROPONENT:** Principality of Monaco.
- C. SUPPORTING STATEMENT:
- 1. Taxon

1.1 Class: Mammalia
1.2 Order: Cetacea
1.3 Family: Delphinidae

1.4 Genus/species/subspecies<sup>2</sup> Delphinus delphis Linnaeus 1758
 1.5 Common name: English: short-beaked common dolphin

French: dauphin commun Spanish: delfín común

# 2. Biological data

#### 2.1 Distribution

The short-beaked common dolphin<sup>3</sup> is a small cetacean species with a wide distribution. Like most other cetaceans, however, it is not panmictic and occurs as a series of geographically separate populations (Heyning and Perrin 1994; Perrin and Brownell 1994; Jefferson and Van Waerebeek 2002).

Literature and osteological collections show that common dolphins were widespread and abundant in much of the Mediterranean Sea until the late 1960s. However, the population declined dramatically over the past 30-40 years (Bearzi *et al.* 2003; and see references contained therein).

Today, common dolphins remain relatively abundant in the westernmost portion of the basin, the Alboran Sea. There are sparse records off the coast of Algeria where, however, survey coverage has been limited. Possibly isolated groups are present around Sardinia and Corsica, particularly off their western coasts (Bearzi *et al.* 2003). Common dolphins are seen in the early summer in the south-eastern Tyrrhenian Sea off the island of Ischia (Mussi *et al.* in press). The species is also present in the Sicily Channel, with larger groups being observed around Malta (Vella in press). Common dolphins can be found in portions of the eastern Ionian Sea, particularly around the island of Kalamos (Bearzi *et al.* 2005), and in the Gulf of Corinth (Frantzis and Herzing 2002). Sighting and stranding data indicate a regular presence of common dolphins in the Aegean Sea, particularly in the Thracian Sea, Northern Sporades, the southern Evvoikos Gulf, the Saronic Gulf, and the

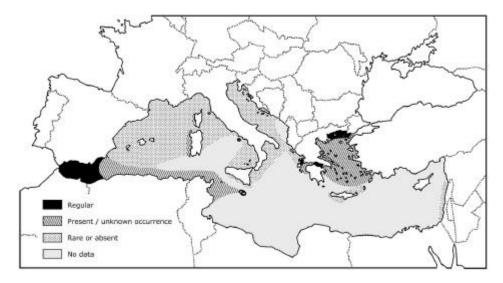
\_

<sup>&</sup>lt;sup>1</sup> Although the CMS currently includes Mediterranean common dolphins in its Appendix II, that status is limited to a "western population". As common dolphins are known to occur in both the eastern and the western portions of the Mediterranean basin, such designation should be revised to include common dolphins throughout the Mediterranean. Furthermore, considering the endangered status of Mediterranean common dolphins, as attested by the IUCN Red List that recently classified the Mediterranean common dolphin population as "Endangered", it would seem desirable that this population be considered by CMS for inclusion in its Appendix I.

<sup>&</sup>lt;sup>2</sup> On a global scale, the systematics and zoogeography of the genus *Delphinus* are subjects of ongoing investigation (e.g. Jefferson and Van Waerebeek 2002). At present, two species are recognised: the short-beaked common dolphin *D. delphis* and the long-beaked common dolphin *D. capensis* (Heyning and Perrin 1994; Rosel *et al.* 1994). Only short-beaked common dolphins inhabit the Mediterranean Sea and adjacent water bodies.

<sup>&</sup>lt;sup>3</sup> Hereinafter "common dolphin".

Dodekanese (Frantzis *et al.* 2003). Otherwise, these dolphins are rare in, or completely absent from, Mediterranean areas where information is available (Bearzi *et al.* 2003). Mediterranean regions where common dolphins have apparently vanished include the northern Adriatic Sea, the Balearic Sea, the Provençal basin, and the Ligurian Sea.



Approximate distribution and relative density of short-beaked common dolphins in the Mediterranean Sea. Atlantic Ocean, Marmara Sea and Black Sea were not considered. From Bearzi *et al.* 2003 (drawing by Massimo Demma).

#### 2.2 Population

Once one of the commonest species in the Mediterranean Sea, the common dolphin has experienced a generalized and major decrease in this region during the last 30-40 years (Bearzi *et al.* 2003). Dramatic negative trends were recorded in portions of the central Mediterranean, particularly in the northern Adriatic Sea (Bearzi *et al.* 2004a) and in the eastern Ionian Sea (Bearzi *et al.* 2005).

In 2003, Mediterranean common dolphins were classified as Endangered in the IUCN Red List of Threatened Animals, which refers to an inferred =50% decline in abundance over the last three generations (about 35-45 years; see http://www.redlist.org).

There is no basin-wide estimate of abundance for common dolphins in the Mediterranean Sea. Line-transect ship surveys of the Alboran Sea in 1991-1992 produced an estimate of 14,736 (CV=0.38; 95% CI= 6,923-31,366), with a density of 0.16 dolphins per km², but no estimates were made for this species elsewhere in the western Mediterranean due to the low number of sightings (Forcada and Hammond 1998). Vella (1998, in press) combined data from ship and aerial strip-transect surveys conducted between 1997-2002, and obtained a density estimate of 0.135 dolphins per km² (CV=0.28; 95% CI=0.066-0.290) in the area around the Maltese islands. Apart from these studies, the presence of common dolphins, and in some instances a qualitative assessment of their relative abundance can only be inferred based on survey data and/or longitudinal investigations (Bearzi *et al.* 2003).

Genetic exchange between common dolphins from the Mediterranean Sea and Atlantic Ocean, to the extent that it occurs, appears to involve predominantly animals from the Alboran Sea, possibly due to oceanographic features such as the Almería-Orán thermohaline front (Natoli *et al.* 2001; Natoli 2004). Some gene flow is of course to be expected between adjacent populations in a species; complete absence would be indicative of separate species.

A certain degree of isolation between Atlantic and Mediterranean populations is further suggested by differences in contaminant levels. Organochlorine concentrations in Alborán Sea common dolphins were about double those typical of dolphins in neighbouring North Atlantic waters and showed a completely different profile (proportions between PCB congeners, the DDE/tDDT ratio, etc.) (Borrell *et al.* 2001).

At the eastern end of the Mediterranean, there is little indication of movement by common dolphins through the narrow Dardanelles Strait between the Aegean and the Marmara and Black Seas. Intrusions or migrations to and from the Aegean Sea cannot be excluded, since common dolphins are known to occur in the western part of the Marmara Sea (Topaloglu *et al.* 1990; Öztürk and Öztürk 1997). Therefore, some level of genetic mixing may occur between Aegean Sea and Black Sea common dolphins due to movements through the Turkish Straits System (Barabasch 1935; Kleinenberg 1956; Frantzis *et al.* 2003).

A preliminary study of skull morphometrics (Amaha 1994) suggested differences between Black Sea and Mediterranean common dolphins. In contrast, a genetic comparison of relatively small samples (8 Black Sea, 20 central Mediterranean) revealed no significant differences (Natoli *et al.* 2001). Clearly, further work based on larger samples and using additional genetic markers is needed to assess and characterize the relationship between Black Sea and Mediterranean common dolphins. It is acknowledged that some genetic exchange might occur in portions of the Aegean Sea where favourable habitat still exists (*e.g.* in the Thracian Sea; Frantzis *et al.* 2003).

Analysis of samples from the Alboran Sea and the Ionian Sea showed considerable genetic differentiation (higher than between the eastern and western North Atlantic populations) indicating limited gene flow between the populations inhabiting the eastern and westernmost portions of the Mediterranean basin (Natoli 2004). Those dolphins that remain between the Aegean and Alboran sectors of the Mediterranean seem to consist of only isolated, remnant groups (possibly indicative of further population substructure). The analysis of a few (8) samples from the Tyrrhenian Sea and Algerian waters did not exclude further population structure in this part of the basin.

#### 2.3 Habitat

In the Mediterranean, common dolphins are found in both pelagic and neritic environments, occasionally sharing the former with striped dolphins (*Stenella coeruleoalba*) and the latter with common bottlenose dolphins (*Tursiops truncatus*) (Bearzi *et al.* 2003). Mixed-species groups of common, striped and Risso's dolphins (*Grampus griseus*) have been consistently observed in the pelagic waters of the Gulf of Corinth, Greece (Frantzis and Herzing 2002).

Recent genetic studies indicate that the observed population structure within the Mediterranean reflects differences in distribution pattern and habitat use by common dolphins in the eastern (where the species is predominantly coastal) and western (where it is predominantly pelagic) portions of the basin (Natoli 2004).

Mediterranean common dolphins are typically found in groups of 50-70 animals, with larger aggregations occasionally recorded, particularly in offshore waters. Groups containing several hundred individuals are observed in the Alboran Sea and in the Gulf of Vera (southern Spain) (Cañadas *et al.* 2002), in contrast to the smaller groups recorded elsewhere in the Mediterranean (Bearzi *et al.* 2003). In the eastern Ionian Sea coastal waters, groups rarely include more than 15 individuals, and groups greater than 40 have not been observed (Bearzi *et al.* 2005).

#### 2.4 Migrations

Most of the available information on the possible extent of migratory behaviour by Mediterranean common dolphins comes, indirectly, from genetic studies, as discussed under section 2.2. Although recent genetic studies found clear population structure within the Mediterranean, with significant divergence between Mediterranean and Atlantic populations, movements are known to occur across the Gibraltar Strait, involving common dolphins living in the Alboran Sea. Further but probably much more limited movements may occur through the Turkish Straits System, involving common dolphins living in northern Aegean waters (also see section 2.2).

Apart from the information indirectly provided by genetic and osteological studies, common dolphin migratory patterns within the Mediterranean basin are poorly known. The common dolphin is a highly mobile species and migratory movements crossing national jurisdictional boundaries certainly occur, including movements between waters under national jurisdiction and the high seas. Most of the common dolphin groups living in the Mediterranean are likely to be under the responsibility of more than one country, and management measures need to be designed accordingly.

Seasonal movements occur in the Alboran Sea, where the density of dolphins is lower in the winter and higher in summer. In this area, where common dolphins have been intensively studied, the animals are known to move across national waters in all seasons, with the same dolphins sharing Spanish, Moroccan and British (Gibraltar) waters (Ana Cañadas, pers. comm.).

Common dolphin presence off the island of Ischia (south-eastern Tyrrhenian Sea) and around Malta (Sicily Channel) appears to change on a seasonal basis, suggesting migratory behaviour (Bearzi *et al.* 2003). Coastal groups in the eastern Ionian Sea exhibit relatively high levels of site fidelity (Bearzi *et al.* 2005), but wide-range movements – possibly a response to prey depletion – might explain the decline of common dolphins recorded around the island of Kalamos in recent years.

# 3. Threat data

The main factors thought to have contributed, singly or in synergy, to the decline of Mediterranean common dolphins include: 1) reduced availability of prey caused by overfishing and habitat degradation, 2) contamination by xenobiotic chemicals resulting in immunosuppression and reproductive impairment, 3) incidental mortality in fishing gear, especially gill nets (including driftnets), and 4) environmental changes such as increased water temperatures affecting ecosystem dynamics.

# 3.1 <u>Direct threats</u>

Fishery bycatch is a major threat to many cetacean populations, and it could well have played a role in the decline of Mediterranean common dolphins (IWC 1994). In the Alboran Sea, for example, drift gillnets used by the Spanish fleet have killed several hundred common dolphins per year in the recent past (Silvani *et al.* 1999). This fishery has stopped, but it operated for many years and undoubtedly had some impact on the population.

A recent survey focusing on the Moroccan driftnet fishing fleet documented the killing of a total of 237 dolphins (including both common dolphins and striped dolphins). Estimates for a 12-month period by the whole Moroccan driftnet fleet were 3,110–4,184 dolphins killed (both species). The same study estimated that between 11,589–15,127 dolphins would be killed annually around the Strait of Gibraltar. Dolphins in the Alboran Sea reportedly suffer from annual take rates exceeding 10% of their population sizes - a clearly unsustainable impact (Tudela *et al.* 2005).

Based on the high impact observed in the Alboran Sea, it is reasonable to assume that driftnets kill significant numbers of common dolphins in other parts of the Mediterranean where illegal driftnet fishing and common dolphin occurrence overlap (e.g. in the south-eastern Tyrrhenian Sea; Miragliuolo *et al.* in press).

Based on the available evidence, the impact of direct threats such as bycatch in fishing gear and direct killing appears to vary widely according to geographic region and historical time. For instance, a study focusing on the cetacean fauna of the northern Adriatic Sea indicated that large-scale intentional killings until the 1960s, followed by habitat degradation and overfishing, are the causal factors most likely responsible for the eradication of common dolphins in that area (Bearzi *et al.* 2004a). While the impact of bycatch is extremely high in areas such as the Alboran Sea, in other areas such impact is reportedly low (e.g. in the eastern Ionian Sea), and other threats – such as prey depletion caused by overfishing - seem to be responsible for the local decline of common dolphins (Bearzi *et al.* 2005).

# 3.2 <u>Habitat destruction</u>

Excessive fishing pressure is a growing concern, worldwide (Jackson *et al.* 2001; Pitcher 2001; Pauly *et al.* 2002) and is having profound direct and indirect impacts on Mediterranean ecosystems (Sala 2004; Tudela 2004). Although in the Mediterranean there is an acute lack of historical data (Briand 2000, 2003), it is acknowledged that unsustainable harvesting led to the decline of many fish stocks, with serious implications for high-order predators including common dolphins.

In all Mediterranean areas where common dolphins have been studied consistently, including the Alboran Sea, southeastern Tyrrhenian Sea, and eastern Ionian Sea, food-web competition with fisheries and the pressure posed by excessive fishing on the marine ecosystems is regarded as an important threat (Bearzi *et al.* 2003, 2004b). Cause-effect relationships, however, remain poorly characterized, largely due to the inherent complexity of marine trophodynamics.

Mediterranean biodiversity is undergoing rapid alteration under the combined pressure of human impact and climate change (Bianchi and Morri 2000), and it is sometimes difficult to discriminate between the effects of environmental shifts due to climate change, whether "natural" or a result of the greenhouse effect, and other factors that may be affecting the availability of common dolphin prey, such as overfishing and habitat degradation.

# 3.3 <u>Indirect threats</u>

The role of xenobiotic contamination is controversial but likely significant. High levels of PCBs in Mediterranean dolphins, compared to levels in dolphins from other areas (Fossi *et al.* 2000; Aguilar *et al.* 2002), represent a major concern because of the possibilities of immune suppression and reproductive impairment. The high PCB levels in common dolphins from the Alboran Sea are close to the range at which adverse effects could be expected, based on extrapolation from other species (Borrell *et al.* 2001). Fossi *et al.* (2000, 2004) found a significant correlation between mixed-function oxidase activity and organochlorine levels in common dolphin skin biopsies, suggestive of exposure to endocrine-disrupting chemicals and potential for transgenerational effects.

#### 3.4 Threats connected especially with migrations

More studies are needed to assess the specific impacts on migratory behaviour of threats such as those outlined above. Although such impacts can be inferred to be significant, at present they remain conjectural.

# 3.5 <u>National and international utilization</u>

See under 4.1 and 4.2 below.

No information is available on Mediterranean common dolphins specimens or products in the international trade.

# 4. Protection status and needs

# 4.1 <u>National protection status</u>

National protection status varies according to country. While common dolphins are specifically protected as species in some countries, they may be protected as "cetaceans" or "marine mammals" in others, according to the implementation of international cetacean conservation instruments. In some Range States (e.g. in Libya, see Bearzi 2005), common dolphins are not granted specific protection as species, order or class, and they may be simply included in broad legislation instruments relating to the protection of the marine environment or nature in general.

Various kinds of marine protected areas exist or have been proposed throughout the Mediterranean. Although not specifically intended for common dolphins, the following measures may contribute to the protection of the local cetacean fauna:

- ♦ The largest area set aside for cetacean conservation is the "Pelagos" Marine Sanctuary that has been declared by the Governments of Italy, France and Monaco in the Corso-Ligurian Basin. Although common dolphins are now generally rare in the Ligurian Sea, they used to be quite frequent there (Bearzi et al. 2003). Recent records refer particularly to waters off western Corsica and Sardinia.
- ♦ In 1999, the Spanish Ministry for the Environment classified the common dolphin in its National Endangered Species Act as "vulnerable" in the Mediterranean. The following year, a program was initiated

to identify important areas for the conservation of cetaceans in the Spanish Mediterranean with the aim of promoting the creation of marine protected areas (Universidad Autónoma de Madrid and Alnitak 2002). A follow-up of this project (LIFE02NAT/E/8610) started in the year 2002 to develop the management schemes required for these areas (Cañadas *et al.* in press; Raga *et al.* 2004).

- ♦ Based *inter alia* on the presence of common dolphins, the eastern Ionian area around the island of Kalamos has been included by the Greek Ministry of the Environment in the Natura 2000 network ("Sites of Community Importance") under the 9243 EEC "Habitats" Directive (Frantzis 1996). The area around the island of Kalamos has also been identified by ACCOBAMS (2002) as one where pilot conservation and management actions should be developed and implemented immediately to preserve common dolphin habitat. So far, however, no specific conservation actions have been taken.
- ♦ In the waters around Ischia, south-eastern Tyrrhenian Sea, the creation of a marine reserve dedicated to the rich cetacean fauna was proposed recently by the Italian Ministry of the Environment, which if finalised may lead to mitigation of at least some obvious threats such as harassment by pleasure boaters (Miragliuolo *et al.* 2004) and uncontrolled fishing (Mussi and Miragliuolo 2003).
- ♦ For the incoming 14<sup>th</sup> COP of the Barcelona Convention, Algeria will submit a proposal to include the Cap de Garde Marine Reserve and the Bancs des Kabyles (Jijel) Marine Reserve in the list of the Specially Protected Areas of Mediterranean Interest (SPAMI). Both of these protected areas may include important habitat for common dolphins.

While these types of designations may benefit common dolphins at least indirectly, measures to provide direct benefits, e.g., area-, season-, or fishery-specific reductions in fishing effort, curtailment of inputs of particular pollutants, etc., remain to be identified and implemented.

# 4.2 <u>International protection status</u>

A number of existing legislative instruments provide an important framework for the conservation of common dolphins and protection of their habitat.

International legal instruments that are directly or indirectly relevant to common dolphin conservation were identified and described in the ACCOBAMS Conservation Plan for short-beaked common dolphins in the Mediterranean Sea (Owen 2004).

These instruments include:

#### **A)** CMS and ACCOBAMS.

In the CMS, only the western Mediterranean population of *Delphinus delphis* is currently listed in Appendix II

Under ACCOBAMS the species is listed in Appendix II and fully protected.

# **B)** Wildlife treaties.

- 1) The Protocol of the Barcelona Convention concerning Specially Protected Areas and Biological Diversity in the Mediterranean, where the species is listed in Annex II (endangered or threatened species).
- 2) The Convention on the Conservation of European Wildlife and Natural Habitats, or "Bern Convention", where the species is registered in Appendix II (strictly protected fauna species).
- 3) The Agreement for the creation of a sanctuary for marine mammals in the Mediterranean Sea (Pelagos Sanctuary, 1999).
- 4) CITES, where the species is included in Annex II.

- C) International treaties pertinent for the conservation of *Delphinus delphis* and/or its habitats, including:
- 1) The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the Barcelona Convention) and its protocols;
- 2) The FAO Code of Conduct for Responsible Fisheries;
- 3) The "United Nation Straddling Stocks Agreement";
- 4) The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas; and
- 5) The Agreement for the Establishment of the General Fisheries Commission for the Mediterranean (GFCM).
- **D**) Two European Community instruments that are binding for EU Member States are worth mentioning here among the many existing, due to their relevance to common dolphin conservation: Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, or "Habitats Directive" whose annex IV protect all cetaceans species.

#### 4.3 Additional protection needs

In addition to compliance with existing obligations such as those listed above, a series of actions were recently envisaged by ACCOBAMS to specifically address the protection needs of Mediterranean common dolphins. These were outlined in the comprehensive ACCOBAMS Conservation Plan for short-beaked common dolphins in the Mediterranean Sea (Bearzi *et al.* 2004b). Actions relevant to the conservation of common dolphins in the Mediterranean were based on a strategy that includes the following steps: 1) enact management measures aimed to ensure that sufficient gene flow is maintained across the Mediterranean basin; 2) prevent the depletion of key common dolphin prey and maintain biodiversity and ecosystem resilience in common dolphin habitat; 3) identify areas where conflicts with fisheries or other human activities are particularly acute, and design local and basin-wide strategies aimed at reducing dolphin mortality and exposure to various risk factors; 4) implement research and monitoring programmes to obtain scientific information necessary to inform management; 5) support capacity-building initiatives and facilitate access to information, particularly in the southern and eastern portions of the Mediterranean basin, to encourage studies of common dolphins in those areas; and 6) promote science-based awareness and education programmes aimed to reduce conflict in problem areas and to set the stage for management actions aimed at common dolphin conservation.

The most conspicuous single action likely to produce immediate benefits for common dolphins is probably represented by the complete ban of driftnets<sup>4</sup> from the Mediterranean. Although such a ban was vigorously advocated by a number of international and regional institutions including the United Nations, the European Union, ICCAT and the General Fisheries Council for the Mediterranean, and political will to stop driftnetting has been expressed for decades, pelagic gillnets still plague the Mediterranean and threaten its biodiversity, including common dolphins (e.g. see Tudela *et al.* 2005).

A clear need exists for revising and updating the current framework for cetacean conservation in light of recent findings on the endangered status of Mediterranean common dolphins. Some legislative instruments do not recognise the specific need to protect Mediterranean common dolphins and a revision should be considered in light of recent information on their conservation status. There is a need to examine the national legislation of Parties and other Mediterranean Riparian States, and ensure that common dolphins are included among the species to be protected. In addition, the 9243 EEC "Habitats" Directive includes only common bottlenose dolphins (*Tursiops truncatus*) and harbour porpoises (*Phocoena phocoena*) in its Annex II ("Animal and plant species of Community interest whose conservation requires the designation of special areas of conservation"). Current knowledge of the existence of very important habitat for common dolphins within the European Union's coastal waters, which may not have been available to European lawmakers in the early '90s, clearly emphasizes the need for the establishment of SACs for this species.

<sup>&</sup>lt;sup>4</sup> Whatever they might be called: *spadare*, *ferrettare*, *alalungare*, *thonaille*, *melveras*, etc. and whatever expedient might be devised to get around bans.

# 5. Range States<sup>5</sup>

ALBANIA, Algeria, Bosnia-Herzegovina, CYPRUS, CROATIA, EGYPT, FRANCE, GREECE, ISRAEL, ITALY, Lebanon, LIBYAN ARAB JAMAHIRIYA, MALTA, MONACO, MOROCCO, SLOVENIA, SPAIN, SYRIAN ARAB REPUBLIC, TUNISIA, Turkey, UNITED KINGDOM special status territories (Gibraltar, sovereign bases in Cyprus), Yugoslavia.

# **6.** Comments from Range States

A Conservation Plan for short-beaked common dolphins in the Mediterranean has been recently produced by the UNEP's Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS). This comprehensive 90-page document - the first of its kind in the Mediterranean region - was strongly welcomed by the Contracting Parties to the Agreement, that met in November 2004 in Palma de Mallorca, Spain. Relevant parts of the Resolution (2.20) adopted by the Parties to the Agreement show below.

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area, on recommendation of the ACCOBAMS Scientific Committee:

"Aware that the short-beaked common dolphin has declined in the last few decades, and has almost completely disappeared from large portions of its former range; taking into account the IUCN Red List of Threatened Animals, that in 2003 classified the Mediterranean common dolphin population as Endangered;

Conscious that most of the factors that are responsible for the decline of common dolphins in the Mediterranean are likely to derive from human activities that are unsustainable and/or illegal (e.g., overfishing, use of driftnets, habitat degradation); Considering that the principal management measures that will benefit common dolphins are already embedded in existing legislation and treaties;

*Convinced* that if all such measures, invoked by the existing international, regional and national legal instruments for the management of the Mediterranean Sea, were to be fully implemented and enforced, the decline of common dolphins would likely cease;

# Recalling:

- Resolution 1.9 of the Implementation Priorities, and in particular Action #7 on the common dolphin conservation plan, and Action #4 on pilot conservation and management actions in well-defined key areas containing critical habitat for populations belonging to priority species;
- Resolution 2.14 on Protected Areas and cetacean conservation;
- 1. *Strongly welcomes* the Conservation Plan for Mediterranean common dolphins (MOP2/Doc 49); (...)
- 3. *Invites* Parties and Riparian States to implement appropriate parts of the Conservation Plan for Mediterranean common dolphins without prejudice to other international obligations; introduce relevant activities into their national action plans; and report on these efforts to the ACCOBAMS Permanent Secretariat;

(...)

Furthermore, the Parties to ACCOBAMS adopted the Recommendation 2.3 in which the Meeting of the Parties:

- 1. *Urges* Parties, which are Parties to CMS, to ask for harmonisation of the Appendices of the two intergovernmental tools and for this purpose, to organize close coordination between their CMS and ACCOBAMS Focal Points;
- 2. Takes already note of the following inconsistencies concerning cetacean species listed in Appendix II:

\_

<sup>&</sup>lt;sup>5</sup> CMS Parties in capitals.

9 / 12 **Proposal I/2 and II/4** 

- a) Grampus griseus: add Mediterranean population;
- b) Tursiops truncatus, Stenella coeruleoalba, Delphinus delphis: change from "western Mediterranean population" to "Mediterranean population".

#### 7. Additional remarks

No additional remarks.

#### 8. References

- Aguilar A., Borrell A., Reijnders P.J.H. 2002. Geographical and temporal variation in levels of organochlorine contaminants in marine mammals. Marine Environmental Research 53:425-452.
- Amaha A. 1994. Geographic variation of the common dolphin, *Delphinus delphis* (Odontoceti: Delphinidae). Ph.D. thesis, Tokyo University of Fisheries. 211 pp.
- Barabasch I.I. 1935. *Delphinus delphis ponticus* subsp. n. Bull. Moskovskogo Obshchestva Ispytateley Prirody (Biol. Div.) 44(5):246-249. (in Russian).
- Bearzi G. 2005. Action Plan for the conservation of cetaceans in Libya. Regional Activity Centre for Specially Protected Areas (RAC/SPA), Tunis. 51 pp.
- Bearzi G., Holcer D., Notarbartolo di Sciara G. 2004a. The role of historical dolphin takes and habitat degradation in shaping the present status of northern Adriatic cetaceans. Aquatic Conservation: Marine and Freshwater Ecosystems 14:363-379.
- Bearzi G., Notarbartolo di Sciara G., Reeves R.R., Cañadas A., Frantzis A. 2004b. Conservation Plan for short-beaked common dolphins in the Mediterranean Sea. ACCOBAMS, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area. 90 pp.
- Bearzi G., Politi E., Agazzi S., Bruno S., Costa M., Bonizzoni S. 2005. Occurrence and present status of coastal dolphins (*Delphinus delphis* and *Tursiops truncatus*) in the eastern Ionian Sea. Aquatic Conservation: Marine and Freshwater Ecosystems 15:243-257.
- Bearzi G., Reeves R.R., Notarbartolo di Sciara G., Politi E., Cañadas A., Frantzis A., Mussi B. 2003. Ecology, status and conservation of short-beaked common dolphins (*Delphinus delphis*) in the Mediterranean Sea. Mammal Review 33(3):224-252.
- Bianchi C.N., Morri C. 2000. Marine biodiversity of the Mediterranean Sea: Situation, problems and prospects for future research. Marine Pollution Bulletin 40(5):367-376.
- Borrell A., Cantos G., Pastor T., Aguilar A. 2001. Pollution by organochlorine compounds in common dolphins *Qelphinus delphis*) from the Atlantic and Mediterranean waters off Spain. Environmental Pollution 114(2):265-274.
- Briand F. (ed.) 2000. Fishing down the Mediterranean food webs? CIESM Workshop Series. Kerkyra, Greece. 26-30 July 2000.
- Briand F. (ed.) 2003. Mediterranean biological time series. CIESM Workshop Monographs 22.
- Cañadas A., Sagarminaga R, de Stephanis R., Urquiola E., Hammond P.S. In press. Habitat selection modelling as a conservation tool: proposals fro MPAs for cetaceans in southern Spain. Aquatic Conservation: Marine and Freshwater Ecosystems.
- Cañadas A., Sagarminaga R., García-Tiscar S. 2002. Cetacean distribution related with depth and slope in the Mediterranean waters off southern Spain. Deep Sea Research I 49(11):2053-2073.
- Forcada J., Hammond P.S. 1998. Geographical variation in abundance of striped and common dolphins of the western Mediterranean. Journal of Sea Research 39:313-325.
- Fossi M.C., Marsili L., Neri G., Casini S., Bearzi G., Politi E., Zanardelli M., Panigada S. 2000. Skin biopsy of Mediterranean cetaceans for the investigation of interspecies susceptibility to xenobiotic contaminants. Marine Environmental Research 50:517-521.
- Fossi M., Marsili L., Neri G., Bearzi G., Notarbartolo Di Sciara G. 2004. Are the Mediterranean cetaceans exposed to the toxicological risk of endocrine disrupters? European Research on Cetacean 15:338.
- Frantzis A. 1996. Cetaceans and cetology in the Hellenic Seas. European Research on Cetaceans 10:114-118. Frantzis A., Alexiadou P., Paximadis G., Politi E., Gannier A., Corsini-Foka M. 2003. Current knowledge of the cetacean fauna of the Greek Seas. Journal of Cetacean Research and Management 5(3):219-232.

- Frantzis A., Herzing D.L. 2002. Mixed species associations of striped dolphin (*Stenella coeruleoalba*), short-beaked common dolphin (*Delphinus delphis*) and Risso's dolphin (*Grampus griseus*), in the Gulf of Corinth (Greece, Mediterranean Sea). Aquatic Mammals 28(2):188-197.
- Heyning J.E., Perrin W.F. 1994. Evidence for two species of common dolphins (genus *Delphinus*) from the eastern North Pacific. Contributions in Science, Natural History Museum of Los Angeles County 442:1-35.
- IWC. 1994. Report of the workshop on mortality of cetaceans in passive fishing nets and traps. Pp: 1-72 in: W.F. Perrin, G.P. Donovan, J. Barlow (eds.), Gillnets and Cetaceans. Report International Whaling Commission, Special Issue 15.
- Jackson J.B.C., Kirby M.X., Berger W.H., Bjorndal K.A., Botsford L.W., Bourque B.J., Bradbury R.H., Cooke R., Erlandson J., Estes J.A., Hughes T.P., Kidwell S., Lange C.B., Lenihan H.S., Pandolfi J.M., Peterson C.H., Steneck R.S., Tegner M.J., Warner R.R. 2001. Historical overfishing and the recent collapse of coastal ecosystems. Science 293:629-638.
- Jefferson T.A., Van Waerebeek K. 2002. The taxonomic status of the nominal dolphin species *Delphinus tropicalis* Van Bree, 1971. Marine Mammal Science 18(4):787-818.
- Kleinenberg S.E. 1956. Mammals of the Black and Azov Seas: Research experience for biology and hunting. USSR Academy of Science Publication House, Moscow. 288 pp. (in Russian).
- Miragliuolo A., Mussi B., Bearzi G. 2004. Risso's dolphin harassment by pleasure boaters off the island of Ischia, central Mediterranean Sea. European Research on Cetaceans 15:168-171.
- Miragliuolo A., Mussi B., Bearzi G. In press. Observations of driftnetting off the island of Ischia, Italy, with indirect evidence of dolphin bycatch. European Research on Cetaceans 16.
- Mussi B., Miragliuolo A. 2003. I cetacei della costa nord occidentale dell'isola d'Ischia (Canyon di Cuma). Pp. 213-232 in M.C. Gambi, M. De Lauro, F. Jannuzzi (eds.), Ambiente marino e costiero e territorio delle isole Flegree (Ischia, Procida e Vivara Golfo di Napoli): risultati di uno studio multidisciplinare. Memorie dell'Accademia di Scienze Fisiche e Matematiche, Società Italiana di Scienze, Lettere e Arti in Napoli Vol. 5. Liguori Editore, Napoli.
- Mussi B., Miragliuolo A., Bearzi G. In press a. Short-beaked common dolphins around the island of Ischia, Italy (Southern Tyrrhenian Sea). European Research on Cetaceans 16.
- Natoli A. 2004. Molecular ecology of bottlenose (*Tursiops* sp.) and common (*Delphinus* sp.) dolphins. Ph.D. dissertation, University of Durham, UK.
- Natoli A., Cañadas A., Vaquero C., Politi E., Fernandez-Piqueras J., Hoelzel A.R. 2001. Phylogeography of Mediterranean and North Atlantic common dolphin populations. European Research on Cetaceans 15:315.
- Owen, D. 2004. Legal instruments of relevance to the conservation of common dolphins in the Mediterranean Sea. Pp. 61-85 in G. Bearzi, G. Notarbartolo di Sciara, R.R. Reeves, A. Cañadas, A. Frantzis (eds.) Conservation Plan for short-beaked common dolphins in the Mediterranean Sea. ACCOBAMS, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.
- Öztürk B., Öztürk A.A. 1997. Preliminary study on dolphin occurrence in the Turkish straits system. European Research on Cetaceans 11:79-82.
- Pauly D., Christensen V., Guénette S., Pitcher T.J., Sumaila U.R., Walters C.J., Watson R., Zeller D. 2002. Towards sustainability in world fisheries. Nature 418:689-695.
- Perrin W.F., Brownell R.L., Jr. 1994. A brief review of stock identity in small marine cetaceans in relation to assessment of driftnet mortality in the North Pacific. Report International Whaling Commission, Special Issue 15:393-401.
- Pitcher T.J. 2001. Fisheries managed to rebuild ecosystems? Reconstructing the past to salvage the future. Ecological Applications 11:601–617.
- Raga J.A., Cañadas A., Aguilar A., Gómez de Segura A., Tomás J., Sagarminaga R., Gazo M., Borrell A., Urquiola E. 2004. Spain's Mediterranean cetacean marine protected areas project. European Research on Cetaceans 15:200.
- Rosel P.E., Dizon A.E., Heyning J.E. 1994. Genetic analysis of sympatric morphotypes of common dolphins (genus *Delphinus*). Marine Biology 119:159-167.
- Sala E. 2004. The past and present topology and structure of Mediterranean subtidal rocky-shore food webs. Ecosystems 7:333-340.
- Silvani L., Gazo M., Aguilar A. 1999. Spanish driftnet fishing and incidental catches in the western Mediterranean. Biological Conservation 90:79-85.
- Topaloglu B., Öztürk B., Colak A. 1990. Species of dolphins that occur in the western Black Sea, the Sea of Marmara and the Aegian Sea. Rapport Commissione Internationale Mer Méditerranée 32(1):238.

- Tudela S. 2004. Ecosystem effects of fishing in the Mediterranean: an analysis of the major threats of fishing gear and practices to biodiversity and marine habitats. Report by the General Fisheries Commission for the Mediterranean. 58 pp.
- Tudela S., Kai Kai A., Maynou F., El Andalosi M., Guglielmi P. 2005. Driftnet ?shing and biodiversity conservation: the case study of the large-scale Moroccan driftnet ?eet operating in the Alboran Sea (SW Mediterranean). Biological Conservation 121:65-78.
- Universidad Autónoma de Madrid & Alnitak. 2002. Identificación de las áreas de especial interés para la conservación de los cetáceos en el Mediterráneo español. Memoria final. Dirección General de Conservación de la Naturaleza, Ministerio de Medio Ambiente. 603 pp.
- Vella A. In press. *Delphinus delphis* (common dolphins) status in the central and southern Mediterranean around the Maltese islands. European Research on Cetaceans 16.
- Vella A. 1998. Cetacean surveys around the Maltese islands and Maltese sea-user cetacean questionnaire study. European Research on Cetaceans 12:66-73.