DETAILS OF PROPOSED ACTIONS

A. Preparatory actions, elaboration of management plans and/or of action plans

Action A.1	Gather all relevant biotic and abiotic oceanographic data available
Description (what, how, where and when): (max. 10.000 characters)	

The development of this project proposal is based on the EC Guidance Document "Guidelines for the establishment of the Natura 2000 network in the marine environment", particularly Sections 4.3 and 4.4 which deal specifically with locating and assessing Annex II species and the rationale for the selection of sites for these species, and using examples presented in Appendix 4.

The project will start by collecting all available relevant data such as habitats maps, maps of ocean currents, bathymetric charts, salinity and temperature maps, migratory routes of fish prey, gathering information on fisheries interactions and by-catch of both the loggerhead and the bottlenose dolphin as well as other protected areas in the vicinity. Most of this data is already available at other entities and authorities such as the Malta Centre for Fisheries Sciences, Transport Malta, the Malta Operational Centre of the International Oceanographic Institute. Discussions will be held with these entities in order for the data to be made available to the project within the first 2 months.

The data will include:

- climatological 2D fields of sea temperature, salinity and currents around the Maltese Islands with a horizontal resolution of at least 1/32Deg and discretization in the vertical at selected depths according to the needs of the project. These fields will be produced from dedicated runs of a numerical hydrodynamical model over a number of years, and will be prepared in the form of seasonal and annual averages. The fields will be provided both as raw data in ASCII format for further elaboration as well as in the form of maps for integration into a GIS interface.

 - climatological 2D fields of sea temperature, salinity and currents at selected depths will be also provided for specific days according to the project needs in order to enable the comparison of sightings with marine conditions at the time of the sightings. These fields will be prepared with the same formats as described above, with a temporal resolution of at least 6 hours.

- a bathymetric map providing gridded information on the sea depths around the Maltese Islands to be used exclusively on this project. This data will be prepared in the form of a separate GIS layer.

These data sets will be transformed in to GIS layers which will be superimposed to create a map providing an indication as to where the likely hotspots for further consideration could be. An analysis of the data will also indicate where knowledge gaps exist, and therefore provide an indication of what further data needs to be collected during the boat-based observations and surveys.

Other local data, particularly data about cetaceans specific to the Maltese Islands, also has to be purchased since it is not readily available.

By-catch is an intrinsic phenomenon of fishing; very few types of fishing gear are mono-specific, meaning that various species, including the species this project is focusing on, are captured together with the target species. In the case of cetaceans and sea turtles in the Mediterranean, relevant fishing gear identified include gillnets, surface drifting fishing lines and trawling. The second type of tackle seems to be a significant problem in Malta and hence gathering this information directly from fishermen and other sea-user using such gear is critical.

In order to assess the impact of fishing gear on the populations of turtles and marine mammals, a significant amount of information is required. The information available both locally and on a regional scale is limited and it is necessary to identify the factors resulting in by-catch for the different types of fishing gears in order to develop measures to mitigate the impact on the populations of dolphins and turtles. The project will seek out available regional data, also referring to ACCOBAMS, GFCM and FAO and other Mediterranean countries which may have developed action plans for conserving turtles and/or Bottlenose dolphins since such actions usually include by-catch studies and methods to reduce it.

There is considerable knowledge of the interaction of numerous species with drift nets, currently forbidden in EU countries, and numerous studies have identified pelagic trawling as the reason behind the dolphin by-catch. Studies on the by-catch of the purse seine fisheries for 'yellow fin tuna' in the Pacific Ocean have shown their high catch rate due to the relations of tunnids with dolphin pods. Their use in the Mediterranean Sea for catching red tuna does not seem to have any resemblance with the Pacific fisheries. Moreover, numerous projects around the Mediterranean exist which have carried out pilot projects utilising other modified gear which may lessen incidental captures of turtles. The most common examples are the use of the circular hook and the use of different bait and/or modification of depth and other physical parameters of the gear. The project aims to gather this data where possible.

In view of the limited direct literature that may exist on by-catch and fisheries interaction, the information to be gathered would be mostly based on direct queries to fishermen/sea-users during the stakeholders meetings/seminars or the voluntary participation in action E11. Other data may result from the photo-identification work in Action A3, which may show typical marks or scars indicating physical contact between individuals, predator attacks, collision with inanimate objects and/or 'indirect' human-interactions (e.g. cuts inflicted by boat propellers or fishing nets).

Reasons why this action is necessary: (max. 2.000 characters)
Although it is understood that Malta provides a strategic position for the conservation of Caretta caretta and Tursiops truncatus because of its central position in the middle of the Mediterranean and because of the presence of habitats that are important for particular stages in the life of these species, the sizes of the populations of these species, and the routes used by them are as yet unknown. Since the local territorial waters span an area of 300,000ha, this action is necessary to better guide the project actions to the more relevant areas. The data on by-catch and other fisheries interactions is fundamental to prioritize the impacts resulting from such threats. If, for example, a given mortality of dolphins is detected due to by-catch in fishing gears, it is necessary to know what proportion of the population is affected in order to identify whether it is a conservation problem for the population, and guide management actions. Fishermen in many areas around the Mediterranean perceive the bottlenose dolphin as a threat to livelihood, since it is known to take advantage of the human fishing tackle to acquire food more easily. Although its feeding strategies, which mainly consist in encircling the preys, also increase the catch in the fishing gear itself, the bottlenose dolphin has often become a victim of a desperate situation in the fishing sector in the Mediterranean, the result of unsustainable exploitation.

Beneficiary responsible for implementation:
MEPA

Expected results (quantitative information when possible): (max. 2.000 characters)
Relevant data such as habitats maps, maps of ocean currents, bathymetry, salinity and temperature, migratory routes of fish prey, and other protected areas in the vicinity, will be obtained by the project within the first 2 months.

Cost estimation (verify consistency with F forms): (max. 2.000 characters)
climatological 2D fields of sea temperature, salinity and currents - €39,000 bathymetric map - €6,000 purchase of other local data - € 10,000 Personnel costs are being subsumed under action F1. Total = €55,000.00

Pictures (If you wish to add a table or a picture, save it as an image file and upload it)	☐