Balearic Islands Shelf and Slope Important Marine Mammal Area – IMMA

Description of qualifying criteria

Criterion A - Species or Population Vulnerability

The Mediterranean sperm whale population is classified as an "Endangered" subpopulation in the IUCN Red List of Threatened Species based on the inference that, "in the absence of effective management to mitigate ongoing threats," the population is continuing to decline (Reeves and Notarbartolo, 2006; Notarbartolo di Sciara et al., 2014). The principal threats are from ship strikes and entanglement in driftnets, followed by ingestion of plastic debris, anthropogenic noise, chemical pollution, and disturbance by poorly managed whale watching operations (Rendell and Frantzis, 2016).

The area has had almost a decade of annual dedicated research cruises in the area. The data used to provide evidence on the importance of this area for the sperm whales come primarily from the previously referred surveys (Pirotta et al., 2011; Rendell et al., 2014).

Criterion C: Key Life Cycle Activities
Sub-criterion Ci: Reproductive Areas

The area is one of the few regions in the western Mediterranean basin in which social groups and singleton males are both sighted regularly - indicating it is an important area for contact between mature males and

Area Size
22,708 km²

Qualifying Species and Criteria
Sperm whale - *Physeter macrocephalus*
Criterion A; C (i, ii)

Marine Mammal Diversity
[Stenella coeruleoalba, Tursiops truncatus, Grampus griseus, Globicephala melas, Delphinus delphis]

Summary
The deep-water shelf and slope areas of the eastern Balearic archipelago contain a high density of Mediterranean sperm whales (*Physeter macrocephalus*). Both social units and mature males are consistently observed here. This ecologically important area thus also has an important role as one of the known breeding grounds for the species in the Mediterranean. The species is distributed from the deeper continental shelf to waters of 2,000-2,500m depth. The Mediterranean sperm whale sub-population is Endangered and is threatened in the area mainly by net entanglement and ship strikes.
reproductive females. Calves are also regularly sighted with the female groups.

**Criterion C: Key Life Cycle Activities**

**Sub-criterion Cii: Feeding Areas**

Bathymetric features and the hydrodynamic processes in the area act to concentrate prey for sperm whales and evidence suggests that the south-face continental shelf slopes are an important foraging habitat for this population. Acoustic data confirm the activity of feeding. Sperm whales in the area concentrate in areas where the bottom aspect is approximately between 0° and 210° (Pirotta et al., 2011), i.e. where the shelf is oriented north-eastward, eastward or southward. Depth might be associated with the bathymetric zonation of cephalopod assemblages, while slope aspect likely interacts with north-flowing Atlantic water drawn by the Balearic Current to determine the down welling/upwelling movements that are believed to influence the availability and concentration of sperm whale prey.

**Supporting Information**


Reeves, R. and Notarbartolo di Sciara, G. 2006. The status and distribution of cetaceans in the


Acknowledgements

Annex I

Supplementary Maps
# Annex II

**List of Primary and Secondary Species**

## Primary Species – Meet the IMMA Selection Criteria

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name of Species</th>
<th>Population / Subpopulation Name</th>
<th>IUCN Red List Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Physeter macrocephalus</em></td>
<td>Sperm whale</td>
<td>Mediterranean subpopulation</td>
<td>Endangered</td>
</tr>
</tbody>
</table>

## Secondary Species – Do not individually meet the IMMA Selection Criteria but are present within the area

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name of Species</th>
<th>Population / Subpopulation Name</th>
<th>IUCN Red List Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Stenella coeruleoalba</em></td>
<td>Striped dolphin</td>
<td>Mediterranean Subpopulation</td>
<td>Vulnerable</td>
</tr>
<tr>
<td><em>Tursiops truncatus</em></td>
<td>Common bottlenose dolphin</td>
<td>Mediterranean Subpopulation</td>
<td>Vulnerable</td>
</tr>
<tr>
<td><em>Grampus griseus</em></td>
<td>Risso’s dolphin</td>
<td>Mediterranean subpopulation</td>
<td>Data Deficient</td>
</tr>
<tr>
<td><em>Globicephala melas</em></td>
<td>Long-finned pilot whale</td>
<td>Mediterranean subpopulation</td>
<td>Data Deficient</td>
</tr>
<tr>
<td><em>Delphinus delphis</em></td>
<td>Common dolphin</td>
<td>Mediterranean subpopulation</td>
<td>Endangered</td>
</tr>
</tbody>
</table>