Status and Management of Cetaceans in the Philippines

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Research, conservation and management of cetaceans in the Philippines
1. Survey and Research
2. Habitat and Resource Management
3. Policy
4. Public information and education and capacity building
## Confirmed Cetaceans in Philippine Waters

### Order Cetacea

#### Sub-Order Mysticeti (Baleen whales)

- **Rorquals (Balaenopteridae)**: 5

#### Sub-Order Odonticeti (Toothed whales/dolphins)

- **Sperm whales (Physeteridae)**: 1
- **Pygmy/Dwarf sperm whales (Kogiidae)**: 2
- **Beaked whales (Ziphiidae)**: 3
- **Dolphins (Delphinidae)**: 16

**Total**: 27
Balaenopteridae (3/5 sp.)

*Balaenoptera musculus*

*B. edeni*

*B. omurai*

Photo: B. Pitman

Map showing the distribution of *Balaenoptera musculus*, *B. edeni*, and *B. omurai* in the Philippine Sea, South China Sea, Sulu Sea, and Celebes Sea.
Balaenopteridae (2/5 sp.)

*Blænoptera physalus*

Photo: J. Gaudiano

*Megaptera novaeangliae*

Photo: J. Acebes
Physeteridae (1 sp.)

*Physeter macrocephalus*

Photo: L. Dolar
Kogiidae (2 spp.)

Kogia sima

Kogia breviceps

Photo: C. Wood
Ziphiidae (3 spp.)

- **Ziphius cavirostris**
- **Mesoplodon densirostris**
- **Indopacetus pacificus**

Photo: L. Dolar

Map showing the distribution of Ziphiidae species in the Philippine, South China, Sulu, and Celebes Seas.
Delphinidae: common 6/16 spp.

Spinner dolphin

Pantropical spotted dolphin

Short-finned pilot whale

Fraser’s dolphin

Bottlenose dolphin

Melon-headed whale

Photo: A. Bautista

Photo: L. Dolar

Photo: L. Dolar
Delphinidae: rare (4/16 spp.)

Rough-toothed dolphin

Indo-pacific dolphin

Irrawady dolphin

Striped dolphin
Surveyed Areas

- about 40% of Philippine coastal waters surveyed for cetacean species identification, distribution, abundance etc. thus far
Abundance Estimates

- uses survey method developed by Dr. Louella Dolar for developing countries

- **Sulu Sea**: spinner, pantropical spotted, Fraser’s, common bottlenose and Risso’s dolphins; short-finned pilot whale; melon-headed whale and dwarf sperm whale (Dolar et al., 1997);

- **Malampaya Sound**: Irrawaddy dolphin
Legal Protection: National Laws

Republic Act 8550 (Philippine Fisheries Code of 1998):
- provides for the development, management and conservation of the fisheries and aquatic resources

Republic Act 9147 (Wildlife Resources Conservation and Protection Act):
- provides for the conservation of the country’s wildlife resources and their habitats for sustainability

- provides for protection and promotion of the welfare of all animals in the Philippines

Presidential Proclamation 342
- declaration of Malampaya Sound as a Protected Seascape and Landscape
Legal Protection: Fishery Laws

Fisheries Administrative Order 185 series of 1992:
- ban on all dolphins

Fisheries Administrative Order 185-1 series of 1997:
- added whales and porpoises in ban

Fisheries Administrative 208 series of 2001:
- listed 20 cetacean species as “endangered” and are therefore protected by law
International agreements

Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES)

Convention on Migratory Species (CMS)

Convention on Biological Diversity (CBD)

Agenda 21 (UNEP’s Sustainable Development)
Jurisdictional Management

Department of Agriculture - Bureau of Fisheries and Aquatic Resources (DA-BFAR)

all declared aquatic critical habitats
all aquatic resources including but not limited to fishies, aquatic plants, invertebrates and all marine mammals except dugong

Department of Environment and Natural Resources – Protected Areas and Wildlife Bureau (DENR-PAWB)

all terrestrial plants and animals
all turtles and tortoise and wetland species waterbirds and all amphibians and dugongs
Because cetaceans are now protected by law, many directed catches (for food and bait) have stopped.

a. Enforcement  

b. By-catch
Incidental takes (by-catch)
Incidental takes (by-catch)

- examples of coastal areas in the Philippines where incidental takes of cetaceans have been reported
## By-catch vs. Sustainable Takes of 1-2% in the eastern Sulu Sea

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>BY-CATCH</th>
<th>Compared w/ Sustainable* take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinner dolphin</td>
<td>1,393</td>
<td>4 - 8 X higher</td>
</tr>
<tr>
<td>Fraser’s dolphin</td>
<td>465</td>
<td>5 - 10 X</td>
</tr>
<tr>
<td>Spotted dolphin</td>
<td>165</td>
<td>1.5 - 3 X</td>
</tr>
<tr>
<td>Bottlenose dolphin</td>
<td>41</td>
<td>5 - 10 X</td>
</tr>
</tbody>
</table>

*Sustainable take would be 1-2% of population size per year*
Phillippine Fisheries Observer’s Program (PFOP)

- Program lead by Bureau of Fisheries and Aquatic Resources
- Training of observer’s conducted in June, 2009; for deployment in August
- Collect data onboard commercial fishing fleets e.g. purse seines and ringnets on fish catch and by-catch of marine mammals, elasmobranch, seabirds etc.
Strandings or beaching
Strandings

- examples of coastal areas in the Philippines where strandings of cetaceans have been reported
Recent mass strandings of more than 200 melon-headed whales in Bataan, Northwestern Philippines; probably the largest in the history of the country.
Stranding Network

- BFAR Manila Office is center of network
- collaboration with other GOs e.g. DENR, NGOs, academe, LGUs, aquarium, private companies, civil society
Pamilacan Island, Bohol

Before

Whale and Dolphin Watching

Now
Whale and Dolphin Watching Activities

- regular tourist attraction in Tanon Strait and Pamilacan, Bohol
Cetacean Hotspots

- Identified key biodiversity areas for cetaceans based on survey, stranding and by-catch reports

- Need for more surveys
CASE STUDY:
IRRAWADDY DOLPHINS IN MALAMPAYA SOUND

Orcaella brevirostris

Photo: M. Matillano

Malampaya Sound

Photo: M. Matillano
Irrawaddy Population in Malampaya Sound

Best population estimate: 77 animals (CV = 27.4%)
Threats to Irrawaddy Dolphins

Demography
- 22 villages
- 27,828 human residents
  - >70% engage in fishing
- 6.65% annual growth rate

Fishery
- 30 Bottom set gillnets
- 81 Crab traps
- 82 Liftnets
- 169 Shrimp corals
- ? Ringnets
- Heavy boat traffic
1992: Philippine government established the National Integrated Protected Areas Program (NIPAP) System Act – to protect biodiversity.

- **Malampaya Sound, one of the sites selected** (has 21 endemic birds and 4 endemic mammals)

1998: Malampaya Sound dropped to low priority rank

1999: Surveys on Irrawaddy dolphin status help elevate priority rank of the Sound

2000: The Sound was declared a **Protected Seascape and Landscape** (Presidential Proclamation 342)
Specific Irrawaddy Dolphin Conservation Program

WWF – Philippines.
“Malampaya Research & Conservation”
*(Support from Shell Phil. Explorations since 2001)*

- Monitors dolphin by-catch
- Advocates for fishery regulation and modification
  - May 2005 – banning of the ringnet (caught 3 dolphins in 2004)
- Conservation education
- Institutional capacity building
- Continued monitoring of population size
IRRAWADY DOLPHINS

*Orcaella brevirostris*

Newly discovered population

Malampaya Sound

Guimaras Strait

Sulu Sea

Celebes Sea

South China Sea

Philippine Sea
Recommendation for future research work

1) Population modeling of Irrawaddy dolphins; habitat use and range; study of fishery interactions (by-catch) and gear modification in Malampaya Sound.
2) Research on Taiwanese-directed catch or bycatch in Babuyan islands, northern Luzon (through interviews or actual observation).
3) Species identification and stock identity of bottlenose dolphins in Malampaya Sound, Palawan and Babuyan islands.
4) Abundance of Fraser’s dolphins in Babuyan Islands, Bohol and Leyte.
5) Research on areas of “pamo” fisheries for large pelagics.
6) Further investigation of spinner dolphin population in Balayan Bay, Batangas.
7) Stock identity of Risso’s dolphins in Palawan, Bohol and Sulu sea through photo-identification.
8) Photo-identification of killer whales in Davao or Aliguey area.
9) Photo-identification of short-finned pilot whales in known areas of occurrence in the country.
10) Surveys of other sites in the Philippines that may harbor Irrawaddy dolphins.
11) Strategic survey of new sites for identification of species, threatened populations and habitats, and important conservation sites.
12) Sustained monitoring of areas that are known to have cetacean takes.
13) Socio-economic studies of fisheries with significant cetacean by-catch, and possible development of alternative livelihoods and whale watching.
14) Levels and effects of pollutants on populations.
15) Expansion of stranding networks to support research objectives and conservation goals.
16) Association of rough-toothed dolphins in Babuyan Islands with Taiwanese long-line fishery.
17) Genetic study of the Irrawaddy dolphin population in Malampaya Sound.
18) Broadscale survey of the remaining un surve yed areas in the Philippines.
Fig. 1. Marine mammal cruise survey sites in Sulawesi Sea
Acknowledgement

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