Presence and distribution of cetaceans in the northeastern Bohol Sea, Philippines: Identification of a new hot spot.

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The northeastern Bohol Sea is geographically characterized by the presence of an inshore deep trench, where the Mindanao Current generates an area of high productivity creating a major biodiversity hot spot within the Coral Triangle. More than a century of intense foreign and aboriginal whale and dolphin fisheries, the abundant use of drift nets, and illegal fishing methods such as dynamite fishing impose a serious threat to cetacean populations in the area. Since February 2010, we conducted 23 surveys along the northeastern Bohol Sea for a total of 128 hours of boat effort covering 1336 km. We were able to photograph and identify 11 species of cetaceans in four families, including the first systematic sighting of a blue whale (Balaenoptera musculus) in the Philippines and the first sighting of a rough-toothed dolphin (Steno bredanensis) in the Bohol Sea. The most common species encountered were melon-headed whales (Peponocephala electra) and Fraser’s dolphins (Lagenodelphis hosei), often present in mixed species groups. Other species seen include spinner dolphins (Stenella longirostris), Blainville’s beaked whales (Mesoplodon densirostris), dwarf sperm whales (Kogia sima), Risso’s dolphins (Grampus griseus), pantropical spotted dolphins (Stenella attenuata), short-finned pilot whales (Globicephala macrorhynchus), and a Bryde’s-like whale (Balaenoptera edeni or omurai). The Bohol Sea is a possible calving ground as neonatal and young calves have been observed in melon-headed whales, Fraser’s dolphins, Risso’s dolphins, spinner dolphins and pantropical spotted dolphins. These results are significant because it represents the first systematic study in these waters. Rapid tourism developments on the island underline the urgency to collect baseline data and to promote responsible dolphin watching practices. Seven more species have been reported to occur in the area, bringing the list up to 18 species and representing more than 70% of the total cetacean biodiversity in the Philippines, the highest in the country.

Methods

- Surveys were conducted using local 25-40 ft. wooden outrigger boats (bangkas) and driven by local fishermen.
- We conducted random non-linear surveys.
- Photo-Id was carried out until the whole group or subgroup was identified or the animals showed any sign of disturbance.
- Acoustics were recorded after each encounter, when possible.

Results

- On 23 survey days conducted between February and June in 2010 and 2011, a total of 11 species were encountered.
- Cetaceans were encountered during all but one survey (93%).
- 72 encounters were recorded during the surveys with 32% of these involving multiple species;
- Calves and neonates of many spp. were observed during most surveys.
- Most common species sighted in the area are melon-headed whales and Fraser’s dolphins.

Conclusions

- The area represents the highest cetacean biodiversity in the Philippines and one of the highest in South East Asia.
- The area could represent an important calving ground.
- Rapid tourism and industrial development of the island underline the urgency of collecting complete baseline data and more detailed studies.
- High sighting rates may provide an opportunity to develop responsible cetacean watching as an alternative livelihood for the local fishing communities.

Further research needed

More work is needed to assess the abundance of the populations, define their ranges and understand whether these species are resident or migratory. Further studies are also needed to assess the impact of human activities on these animals, especially in areas where use of illegal fishing methods are still abundant and dolphin meat is still regularly consumed by the local population.

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