

**REPORT OF THE WORKSHOP ON
INTERACTIONS BETWEEN CETACEANS
AND LONGLINE FISHERIES**



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Cover photo: Sperm whales and killer whales around toothfish longliner, Crozet Islands, Indian Ocean, 2002. Photography by Jerome Maison



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Abstract: Fisheries-cetacean interactions in the Indonesian Seas

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The Republic of Indonesia is the world's largest archipelago with more than 17,000 islands, spanning 1/7th of the length of the Equator. A large variety of habitat types are available, and at least thirty different cetacean species have been observed in Indonesian waters. Cetacean habitats include large rivers and mangrove areas, as well as coastal and open-ocean environments.

Many forms of marine life move between the Indian and Pacific Oceans via the Indonesian archipelago. Because of its exceptional diversity of habitats and species, there is high potential in Indonesia for interactions between cetaceans and fisheries. Indonesia is seeking to establish a more decentralized and transparent system of governance. For fishery management, the two most notable changes already in effect are the introduction of laws related to regional autonomy and the establishment of a Ministry of Marine Affairs and Fisheries. The main characteristics of Indonesia's marine fisheries include:

- Annual catch estimated in 1997 at 4.5 million tonnes;
- Multi-species, multi-gear;
- Some 94% of capture by small-scale fishermen;
- Total fishing fleet currently estimated at 402,000 vessels (334,000 in 1988);
- 57% of fleet consists of non-powered boats, 55% of remainder use outboard engines.

The data needed for fishery management, including information on cetacean interactions, are either not publicly available or considered insufficiently reliable for stock assessment and estimation of sustainable harvesting levels. Since about 1990, there has been a very large increase in the number of Taiwanese longliners operating in the Indonesian EEZ and in territorial/nusantara (internal, archipelagic) waters of Indonesia. These boats catch yellowfin and are thought to compete with Indonesian coastal fishermen. Boats may be up to or in excess of 100 gross tonnes. The Indonesian longline fishery is centered along the western coasts of Sumatra, Java, Bali, and Nusa Tenggara. The main species targeted are bigeye and yellowfin. Some vessels use deep longline gear to target bigeye. As in other parts of the

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Indian Ocean, the area of operations for the Indonesian coastal longline fleet is expanding. Moreover, Indonesian/Korean joint-venture vessels are becoming more widespread, operating in waters outside the Indonesian EEZ.

Given the insufficiency and poor quality of data from the Indonesian tuna fisheries nationwide, information on the nature and extent of cetacean depredation is extremely limited. However, some reports from the 1970s note that such interaction was occurring frequently in Indonesian waters, especially in the Banda Sea tuna fishery. In addition, the diversity and relatively high abundance of cetaceans in these waters, together with the intensive fishing effort for tuna, suggest that cetacean depredation may be significant. A comprehensive assessment is obviously needed to characterize and quantify the problem. Research needs in relation to tuna longline fisheries in particular include:

- Additional field data (independent on-board observers in those fisheries likely to experience significant cetacean interactions);
- Reporting of cetacean by-catch rates and cetacean strandings where a fishery interaction is likely to have been involved (i.e. net or line entanglements);
- Interviews with fishermen and fishermen organizations;
- Fact-finding visits to key regional ports, e.g., Bena, Bitung, Kupang, other regional ports;
- Governmental/institutional capacity building;
- Monitoring of fishing areas with high cetacean diversity/abundance (such as the Flores and Banda Seas);
- Ecological research on cetacean species known or suspected to be involved in depredation.

Although data from Indonesia's fisheries are fragmentary and sparse, the combined information from various Southeast Asian countries indicates that bycatch and targeted catch represent the primary threat to small cetacean populations, both coastal and oceanic, some of which have been drastically reduced.

The extent of the problem in Indonesia is hard to quantify in the absence of relevant fisheries data and of any direct observer programs for the large-scale fleets (considered the only reliable way to obtain quantitative data on bycatch). An assessment of cetacean bycatch in commercial fisheries within the Indonesian EEZ is urgently needed.