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A Study On Dolphin Catches in Shri Lanka



A STUDY ON DOLPHIN CATCHES IN SHRI LANKA

by

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This report presents the results of a one-year study of dolphin catches in Sri Lanka. Very high estimates of dolphin landings, based on studies of limited coverage and questionable sampling techniques, had been made in the past and were causing much concern in the island. The study was, therefore, commissioned to obtain a reliable estimate of dolphin catches and their economic importance as well as to gather information on the attitudes to and perceptions of dolphin catching, trading and consumption.

The study, carried out from September 1991 to September 1992, included both bioeconomic and socioeconomic components. It was made by the National Aquatic Resources Agency (NARA) of Sri Lanka and was sponsored by a Bay of Bengal Programme (BOBP) project, "Small-Scale Fisherfolk Communities in the Bay of Bengal" (GCP/RAS/1 1 8/MUL). The authors gratefully acknowledge the assistance rendered by K. Sivasubramaniam, Senior Fishery Biologist, FAO/BOBP, in the technical supervision of the study, Inge Jungeling, Socioeconomist (APO), FAO/BOBP, for assisting in the socioeconomic component of the study and Kanthi Subasinghe, Mahendra Fernando and R. Samarakoon, Research Assistants of NARA, in monitoring the bioeconomic component of the study.

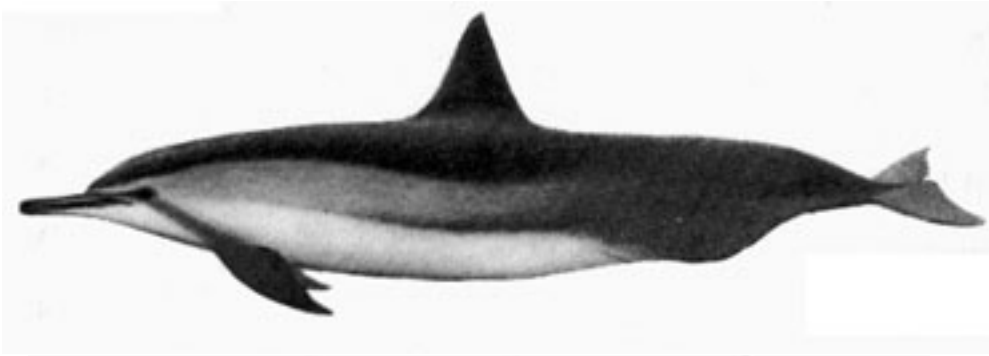
The Bay of Bengal Programme (BOBP) is a multiagency regional fisheries programme which covers seven countries around the Bay of Bengal — Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand. The Programme plays a catalytic and consultative role: it develops, demonstrates and promotes new technologies, methodologies and ideas to help improve the conditions of small-scale fisherfolk communities in member countries. The BOBP is sponsored by the governments of Denmark, Sweden and the United Kingdom, and also by UNDP (United Nations Development Programme) and AGFUND (Arab Gulf Fund for United Nations Development Organizations). The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).

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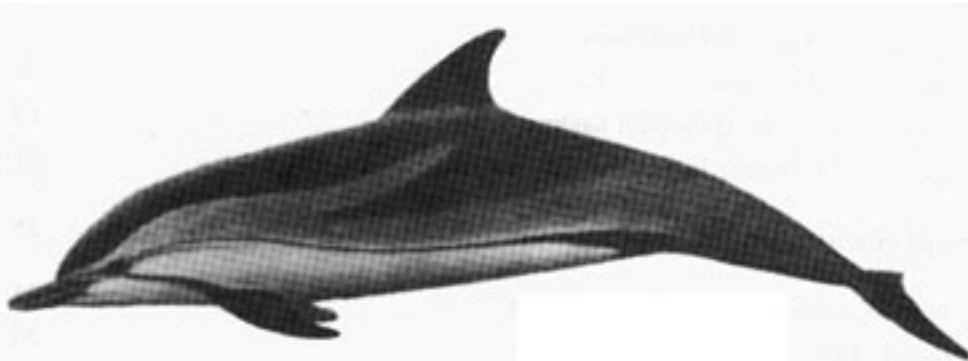
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Spinner Dolphin
Stenella longirostris



Bottle Nose Dolphin
Tursiops truncatus



Striped Dolphin
Stenella coeruleoalba



Spotted Dolphin
Stenella attenuata



Risso's Dolphin
Grampus griseus

SUMMARY

The results of a one-year study of dolphin catches in Sri Lanka reveal that various high estimates of the catch made in the past had been based on studies that suffered greatly from inadequate geographical coverage and improper assessment of any fishing effort likely to cause dolphin mortalities. The study was undertaken by the National Aquatic Resources Agency (NARA), with financial and technical support from the Bay of Bengal Programme (BOBP), as a consequence of the concern of the Ministry of Fisheries and Aquatic Resources (MOFAR) over the local and international exposure the 'dolphin issue' had received in recent years.

The study consisted of two components — a bioeconomics sampling programme and a socio-economic survey — covering all the coastal areas of the island except the North, where there are hardly any dolphin catches. The bioeconomic sampling programme was undertaken from September 1991 - September 1992 at 14 major fish landing centres around the island and indicated that a little over 5000 dolphins are caught annually. This figure was arrived at by estimating dolphin catch rates and fishing effort of different categories of fishing boats catching dolphins, on a monthly basis for different subareas, thereby significantly reducing the bias inherent in previous studies.

Multiday offshore boats of 10- 11 m length accounted for over 70 per cent of the catches, while the balance came from the 3.5 GT (9 m) coastal boats making daily fishing trips. Seventy per cent of the dolphins were incidentally caught in the large mesh driftnets used for tuna and shark. Harpooning was responsible for 30 per cent of the catches. The practice of harpooning of dolphins has not spread beyond the centres (essentially three) identified in earlier studies.

Eight species of dolphins and six species of small whale were identified from the landings. Five of the dolphin species contributed over 85 per cent of the total catch. Dolphin catch rates showed marked seasonality. The species composition indicated differences in the relative distribution between subareas and the distances from the coast.

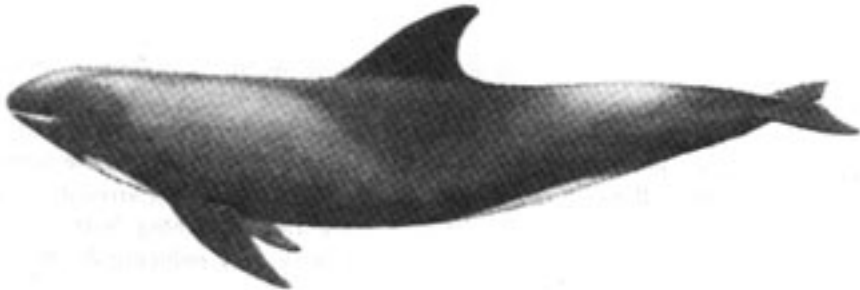
The socioeconomic survey did not identify fishermen as a strong consumer group for dolphin meat. It was found that harpooning was primarily started to provide bait for the shark longline fishery. But with the utilization of this meat by low income groups in rural areas, it became an additional source of income to the fishermen, particularly during the lean season for large mesh driftnetting. However, the income from fishing, in the areas where the intensity of harpooning is highest, is not very different to that earned by fishermen in other locations with little or no harpooning.

There is no available information on stock size or population of dolphins around Sri Lanka or in the Indian Ocean for assessment of the possible impact on stocks of fishery-related mortality. But in the eastern tropical Pacific, where during one year in the mid-1980s nearly 125,000 dolphins were caught incidentally in the tuna purse-seine fishing and where over 50,000 dolphins are still caught annually, dolphin stocks are not in any danger of extinction according to recent scientific studies. With about a dozen species of dolphins contributing to the 5000 or so dolphins landed every year in Sri Lanka, it can safely be assumed that none of the species is endangered.

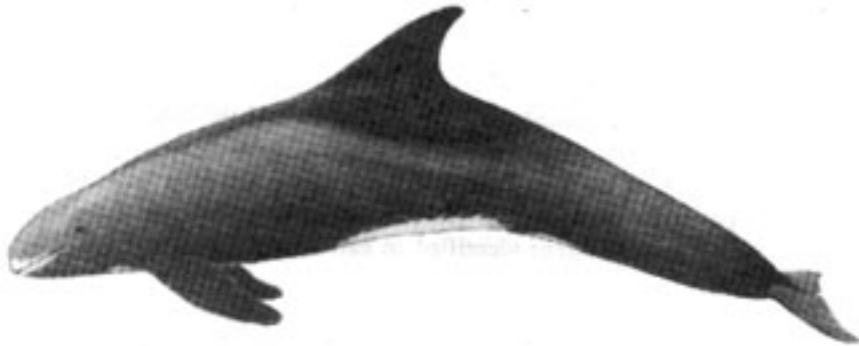
Suggestions have been made to completely ban the landing of dolphins in Sri Lanka. Since dolphins are a small by-catch of the driftnet fishery, such a measure could endanger the livelihood of thousands of fisherfolk in the island and result in a loss of production of about 20,000 t of offshore fish.



Rough Toothed Dolphin
Steno bredanensis



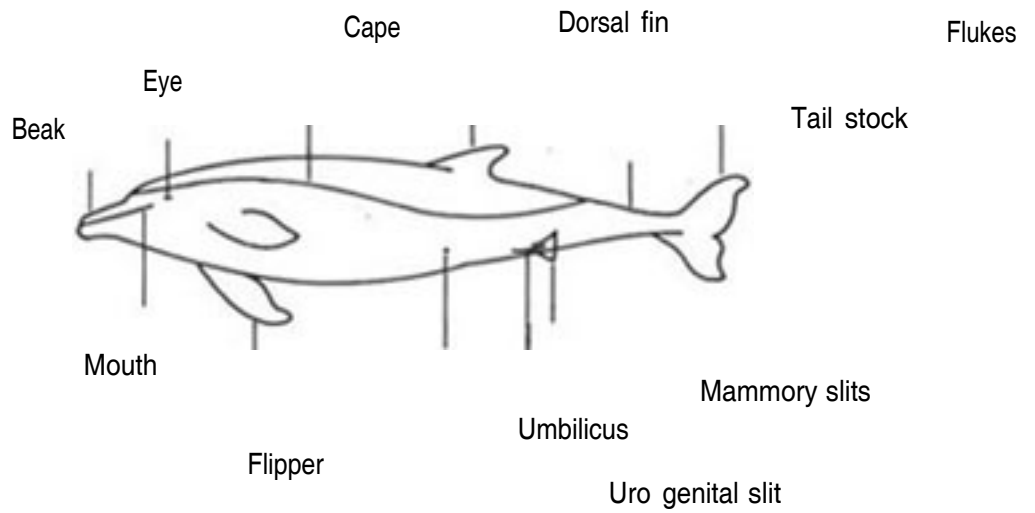
Melon Headed Whale
Peponocephala electra



Pygmy Killer Whale
Feresa attenuata



False Killer Whale
Pseudorca crassidens



1. GENERAL INTRODUCTION

There has been worldwide concern in recent years over the incidental deaths of cetaceans, as well as other marine mammals and nontarget species, in many different fishing operations around the world. Large-scale driftnetting is reported to be very destructive not only to pelagic fish resources but also to dolphins, birds and other animals; it is said that such destructiveness could affect the biotopes and ecosystems of the marine environment. In some of the most publicized examples involving cetaceans, e.g. the Japanese, Taiwanese and Korean far seas pelagic driftnet fisheries, primarily for salmon, squid and tuna and the domestic driftnet fisheries for tuna, billfish, shark etc. in other localities, the levels of cetacean mortality have been found to be high and the impact on their population is suspected as being significant. Consequently, the General Assembly of the United Nations, in December 1989, adopted by Consensus Resolution (44/25) a moratorium on all large-scale pelagic driftnet fishing in the high seas to come into effect by June 30, 1992.

Shri Lanka has a very large component of pelagic driftnetting in her small-scale fisheries in the inshore and offshore ranges of her EEZ. Considerable information on the finfish species caught by pelagic driftnetting is available and more work on this is underway. Incidental catching of dolphins during commercial fishing operations in Shri Lanka has a long history, with available literature dating back to the late 19th Century. A fishery using harpoons, and targeting dolphins, has also been reported in certain areas.

A preliminary review by the Bay of Bengal Programme (BOBP), of available estimates of the catches of dolphins around Shri Lanka showed that almost all previous estimates, ranging from 9,000 to 60,000 animals, suffered from inadequacy of area and seasonal coverages during the studies and that there were improper estimates of the fishing effort by fisheries likely to cause the mortality of dolphins. Further, it was found that very little attention had been paid to the economic importance of dolphins, to the attitudes of fishermen, consumers and nonconsumers to the catching and utilization of dolphins and to their perceptions of these activities.

Despite the limitations mentioned, the high estimates of dolphin catches reported had resulted in Shri Lanka being identified at international meetings dealing with conservation of marine mammals as one of the countries with a considerable by-catch of dolphins. In view of the ongoing offshore fisheries development in Shri Lanka, with considerable emphasis on driftnetting, and the pressure from environmental concerns for the implementation of measures to eliminate, or reduce, accidental catching of dolphins, the Government of Shri Lanka decided to make a reliable estimate of the numbers of dolphins caught through commercial fishing activities and study their utilization as well as the attitudes of people to dolphin meat.

The Bay of Bengal Programme assisted the National Aquatic Resources Agency (NARA) of Shri Lanka in conducting a closely monitored study over a period of one year to obtain the required information. The results of this study are reported here.

The term 'dolphin' in this report refers to small cetaceans, including species of dolphins and some species of small whales.

2. OBJECTIVES

The study focussed on three objectives;

Estimation of the total number of dolphins caught intentionally and incidentally.

- Assessment of the economic importance of dolphin catches to fishermen/fisherfolk and consumers.
- Assessment of attitudes and perceptions of fisherfolk, traders, consumers and nonconsumers, with regard to capture and utilization of dolphins.