

Article

Distribution and Abundance of the Blue Whale (*Balaenoptera musculus indica*) off Sri Lanka during the Southwest Monsoon 2018

Liyanage U. S. P. Kirumbara ^{1,*}, Jayasinghe R. P. P. Krishantha ² , Krakstad Jens-Otto ³
and Arulananthan Kanapathipillai ²

- ¹ National Aquatic Resources Research and Development Agency (NARA), Regional Research Center, Kapparahota, Weligama 81700, Sri Lanka
² National Aquatic Resources Research and Development Agency (NARA), Crow Island, Mattakkuliya, Colombo 15, Sri Lanka
³ Institute of Marine Research, Postboks 1870 Nordnes, 5817 Bergen, Norway
* Correspondence: upulliyanaage@hotmail.com; Tel.: +94-718360025

Abstract: Blue whales *Balaenoptera musculus* are the most abundant and widely distributed cetacean species in Sri Lankan waters. A vessel-based opportunistic line transect survey focusing on marine mammals was conducted in Sri Lankan waters between 24 June to 12 July 2018, while an ecosystem survey was performed by the R/V Dr. Fridtjof Nansen. The entire transect length was 2090 km within an area of 3895 km². Overall, 72% (n = 57) of blue whale observations were group assemblages ranging between 1 and 5 individuals out of a total of 79 sightings. The largest aggregations of blue whales were recorded at the intersection of the submarine canyon off the coastline of Mirissa and busy shipping lanes between Dondra Head and Galle, where previous ship strikes were recorded. Overall, the average observed group size was 2.64 (CV, 12.34%; 95% CI, 2.07–3.38), the average group density was 0.0029 km⁻² (CV, 35.96%; 95% CI, 0.00145–0.00610), and the total blue whale abundance within the survey area was 513 individuals (CV, 38.02%; 95% CI, 243–1083). These survey results fill vital knowledge gaps regarding the abundance and distribution of blue whales in Sri Lanka, which is essential for the establishment of management and conservation strategies.

Keywords: blue whale; *Balaenoptera musculus*; distribution; abundance; ship strikes; Sri Lanka



Citation: Kirumbara, U.S.P.; Krishantha, J.R.P.P.; Jens-Otto, K.; Kanapathipillai, A. Distribution and Abundance of the Blue Whale (*Balaenoptera musculus indica*) off Sri Lanka during the Southwest Monsoon 2018. *J. Mar. Sci. Eng.* **2022**, *10*, 1626. <https://doi.org/10.3390/jmse10111626>

Academic Editor: Songhai Li

Received: 3 September 2022

Accepted: 10 October 2022

Published: 2 November 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © FAO and IMR, 2022 Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by-nc-sa/3.0/igo/>).

1. Introduction

The blue whale has been reported as the most frequently encountered large cetacean species in the Northern Indian Ocean (NIO) [1,2]. The spatial and temporal occurrence of this species in some areas of Sri Lankan waters is well documented [3–6]; however, little is known about their total abundance, distribution and migration patterns [7].

The International Union for Conservation of Nature (IUCN) “Red List of Threatened species-2020” has categorized the blue whales in the NIO as “not assessed” and the population trend as “not specified” [8]. Globally, the blue whale has been categorized as “endangered”, with populations that were subjected to heavy commercial exploitation during the whaling era still far below the initial abundance levels [9]. In some areas, such as around South Georgia, recovery has been slow [10], but globally, the population trend is assessed as “increasing” [9,11]. The NIO blue whales were not as heavily exploited as in the Antarctic region, although they were subject to whaling in waters off Somalia, Maldives, Sri Lanka and Oman [2,12,13]. Recently, there are indications that the NIO population may have been increasing gradually [14].

Blue whales are found in the Arabian Sea [2,15,16]; however, no records are known from the Bay of Bengal [17,18] except from the east coast of Sri Lanka [3,16,19]. Two subspecies of blue whales (Pygmy blue whale, *Balaenoptera musculus breviceauda*, and the