

SC/68D/CMP/03

Sub-committees/working group name: CMP

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Sightings of whales in the Northern Arabian Sea along the coast of Pakistan in 2021

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ABSTRACT

WWF-Pakistan initiated an observer programme to monitor tuna gillnet operations in the coastal and offshore waters of Pakistan in 2012. In addition to collecting information about tuna and tuna like species, observers were assigned to report observations of whales encountered during fishing operations. Funding for the programme expired in September 2019. However, some of the observers are still providing information on voluntary basis, enabling WWF-Pakistan to document sightings of whales in the coastal and offshore waters of Pakistan, in the northern Arabian Sea. During 2021 a total of 4 sightings of Arabian Sea humpback whales, 1 sighting of a blue whale, 1 stranding of a Bryde's whale and 28 sightings of unidentified whales were made. The number of whales reported during 2021 (34 reports) is higher than 2019 and 2020 when fewer whales sightings (26 and 19 respectively) were recorded. This may attributed to more active outreach to the volunteer observers as well as a major shift in operation of tuna gillnet vessels in coastal waters over continental shelf during 2021 as compared to previous years when most of the vessels were operating in deeper oceanic waters.

INTRODUCTION

Pakistan's Arabian Sea coast is known to have a diverse cetacean fauna which includes both baleen and toothed whales documented by a number of studies including Gore *et al.* (2012), Kiani and Siddiqui (2009), Kiani (2014, 2015a, 2015b), Mikhalev (1997; 2000), Minton *et al.* (2015), Moazzam (2021), Moazzam and Nawaz (2017, 2018, 2019), Moazzam *et al.* (2020) and Notarbartolo-di-Sciara *et al.* (2021). Among baleen whales, three species including Arabian Sea humpback whales (*Megaptera novaeangliae*), blue whales (*Balaenoptera musculus*) and Bryde's whales (*Balaenoptera brydeii*) have been reported from Pakistan, whereas toothed whales include sperm whales (*Physeter macrocephalus*), killer whales (*Orcinus orca*), dwarf sperm whales (*Kogia sima*), pygmy sperm whale (*Kogia breviceps*), Longman's beaked (or tropical bottlenose (*Indopacetus pacificus*) and Cuvier's beaked whales (*Ziphius cavirostris*). Information about sightings of whales in Pakistani waters were documented by Moazzam (2021), Moazzam and Nawaz (2017, 2018, 2019) and Moazzam *et al.*, (2020) which is based mainly on the information generated through the crew-based observers programme initiated by WWF-Pakistan. This crew-based observer programme started in 2012 and continued until September 2019. Although funding for the programme has expired, some of the observers still collect and provide information on voluntary basis yielding insight into the spatial and temporal distribution of whales during 2021 in the Northern Arabian Sea. This paper provides an update on whale sightings during 2021 based on the information provided by observers on voluntarily basis.

MATERIAL AND METHODS

The procedure adopted for sightings of whales in the waters of Pakistan was described in detail by Moazzam (2019, 2021) and Moazzam and Nawaz (2017, 2018, and 2019). During 2021, sighting data was provided on voluntarily basis by 24 observers/captains of tuna gillnet fishing vessels who previously participated in WWF-Pakistan's Crew Based Observer Programme. These observers were trained by WWF Pakistan and have the necessary equipment (GPS, Android mobile phones) to accurately record their positions and observations. Species identifications were considered positive only if sufficient evidence was available for the authors to confirm identification. In all other cases, identifications were considered unconfirmed as recorded as unidentified whales.

RESULTS

Whale sightings

During 2021, a total of 4 sightings of Arabian Sea humpback whales, 1 sighting of a blue whale, 1 stranding of a Bryde's whale and 28 sightings of unidentified baleen whales were made. More whale sightings were recorded for the year 2021 as compared to 2019 to 2020 when a total of 26 and 19 sightings of whale were recorded respectively.

Arabian Sea humpback whales

During 2021, only 4 sightings of Arabian Sea humpback whales were made from coastal waters along Balochistan coast (Fig. 1). On 16 March, an Arabian Sea humpback whale was observed to be breaching and flipper slapping in the offshore waters of Bal, off Ormara. Although no photographic evidence was available, observers reported either their typical hump, diving pattern and in one case breaching and flipper slapping. Moazzam (2021) reported a similar breaching and flipper slapping in 2020 about 75 km east of Astola Island, between Ras Zarrin and Astola Island. Astola Island is the only Marine Protected Area (MPA) in Pakistan (Moazzam, 2020). Present sighting is reported about 75 km east of last year report.

On 11 January 2021, an Arabian Sea humpback whale was observed near Sapat, east of Ormara, Balochistan. It was identified from a description of its diving pattern, although no photograph or video could be taken. In addition, two sightings of Arabian Sea humpback whales were made from offshore waters of Shumal Bundar and Pushukan, both in Balochistan in February 2021 which were identified from their typical humps and shape of tail. No photograph could be taken as the observers did not have cameras. In addition, some of the whale sightings from the area that could not be assigned to species level may include Arabian Sea humpback whales.

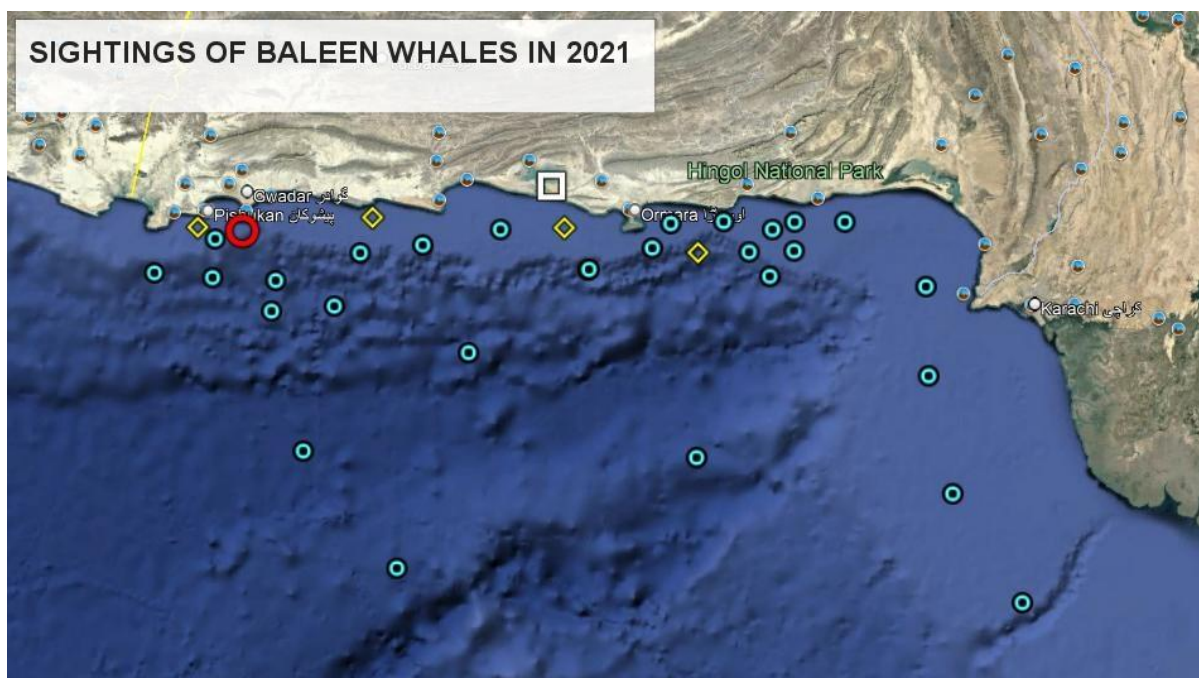


Fig. 1. Sighting of Baleen Whales along the Pakistan coast during 2021. Arabian Sea humpback whales (yellow rectangle), Blue whales (red circle), Bryde's whales (white square) and unidentified baleen whales (blue circle).

Blue whales

There was only one sighting of a blue whale on 7 October, 2021 from the offshore waters of Gwadar, Balochistan. According to Abdullah, an observer, the blue whale approached their fishing vessel during the night surfacing many times along the boats and then diving depicting its typical tail. The fishermen tried to take photograph but because of darkness could not succeed. There may be other sightings of blue whales which may be included in the sightings of unidentified whale from the area but because of limited information cannot be assigned to blue whales.

Bryde's Whales

A Bryde's whale was stranded at Sirki, Khor Kalmat near Ormara on 21 October 2021. The fishermen butchered this whale in search for ambergris but later on the whale was washed away by receding tides. Another dead Bryde's whale was found floating near Churna Island on 25 January, 2022 and a third dead Bryde's whale drifted in Karachi Port on 8 March, 2022 which was later towed to Karachi Fish Harbour. The latter two strandings are not included in the totals described in the tables and abstract of this report as it primarily focuses on sighting/strandings in 2021. There may be other sightings of Bryde's whales which may be included in the sightings of unidentified whale from the area but because of limited information cannot be assigned to Bryde's whales.

Unidentified Whales

There were 28 sightings of unidentified whales during 2021. During all these sightings whales could not be assigned to any specific baleen whale species because only their blows were seen at a significant distance from the boat, and lack of other evidence (such as dive pattern) prevented a species ID (Fig. 3). In these cases photographs and video clips are not available, as observers do not carry a digital camera. From August 2020 onward, the tuna fleet which used to be based in Karachi, has shifted to Gwadar because of poor catches and high prices of

fuel and low prices of tuna in Karachi. Operating from Gwadar enables them to sell their catch directly to Iranian traders and also get cheaper Iranian diesel. Obtaining information from observers about whale sightings is difficult because of limited communication facilities available in Gwadar



Fig. 2. Bryde's whale stranded at Sirki (Kalmat Khor) on 21 October, 2021

Because using Gwadar as base station, most of the tuna gillnetters operated in coastal and offshore waters along Balochistan coast. This is the reason that more observation of sighting from western part of Balochistan coast is reported (Fig. 1) as compared to previous years.

DISCUSSION

A higher number of whale sightings were reported from the Pakistan crew-based observer programme during 2016 to 2018 (47, 95 and 35 respectively) whereas during 2019 and 2020, the number of sighting dropped to 26 and 19 (Table-I). In 2021, 34 sightings were reported. The increase in 2021 is likely due to targeted outreach to the volunteer captains in relation to other fisheries work, which prompted reports that they might not have volunteered otherwise, as well as a shift in the main fishing grounds. The fleet targets tuna which are migratory in nature: whereas two main tuna species yellowfin and skipjack are found in offshore waters, a few neritic species including longtail tuna, kawakawa, frigate tuna, bullet tuna and striped bonito are found mainly in coastal waters over continental shelf. In order to catch main species i.e. yellowfin and skipjack, vessels have more commonly operated in the offshore deep waters where whales are not commonly found, thus these are only seldom encountered by the observers. In periods when catches of yellowfin and skipjack decreases in the offshore waters, the tuna vessels move inshore towards continental shelf and coastal waters where chances of encountering whales are higher. This area is a part of North East Arabian Sea IMMA and is known to be a hotspot for baleen whales, especially during March and April. During this period,

major part of the tuna fleet operates in coastal areas of Balochistan, thus frequency of sightings are much higher from the area.



Fig. 3. Unidentified whale spout observed off Sapat

It may be pointed out that the WWF-Pakistan's Crew-based Observer Programme formally ended on September 30, 2019, resulting in a decrease of reported sightings since then. It may further be added that only limited records of baleen whales were made from Sindh Coast or offshore waters of Pakistan (Exclusive Economic Zone) which is mainly due to major concentration of operation of tuna vessels in coastal waters of Balochistan (Fig. 1).

Table 1. Summary of Sightings of whales recorded from Pakistan Coast (Arabian Sea) recorded by

Year	AHBW	Blue Whale	Bryde's Whale	Unidentified Baleen Whale	Sperm Whale	Killer Whale	Cuvier's Beaked whale	Total
2016	12	0	3	32	0	0	0	47
2017	42	13	5	30	4	1	0	95
2018	13	2	1	15	4	0	0	35
2019	7	1	1	8	6	0	3	26
2020	5	1	0	12	0	1	0	19
2021	4	1	1	28	0	0	0	34

WWF-Pakistan's Crew-based Observer Programme has provided a platform for collection of information about cetaceans of the northern Arabian Sea along the coast of Pakistan and in the adjacent ABNJ. New sightings of whales especially records of the Arabian Sea humpback whales off the coast of Pakistan are clearly very valuable, as highly limited information about the population of this population of whale is available. While the programme officially ended on September 30, 2019, WWF-Pakistan is endeavouring to secure funds to ensure the continuation of the Crew-Based Observer Programme, even with limited number of observers.

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