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**Sightings of Whales in the Northern Arabian Sea along the Coast of Pakistan in 2020**

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# Sightings of Whales in the Northern Arabian Sea along the Coast of Pakistan in 2020

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## ABSTRACT

An observer programme to monitor tuna gillnet operations in the coastal and offshore waters of Pakistan was initiated by WWF-Pakistan in 2012. Among other things, these observers were assigned to report observations of whales encountered during fishing operations. The programme formally concluded in September 2019. However, some of the observers continued to provide information on voluntary basis, ensuring continued information about the spatial and temporal distribution of whales in the Northern Arabian Sea. During 2020 a total of 5 sightings of Arabian Sea humpback whales, 1 sighting of blue whale, 1 sighting of killer whale and 12 sightings of unidentified whales were made.

Fewer whales were recorded through the programme in 2020 (19 sightings) than previous years when a total of 47, 95, 35 and 26 recorded sightings of whale during 2016 to 2019 respectively. This disparity in sighting during 2020 is mainly because of major reduction in number of observers during 2020.

## INTRODUCTION

Pakistan's Arabian Sea coast is known to have a well-diversified whale 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 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 brydei*) have been reported from Pakistan, whereas toothed whales include sperm whales (*Physeter macrocephalus*), killer whales (*Orcinus orca*), dwarf sperm whales (*Kogia sima*), Longman's beaked (or tropical bottlenose (*Indopacetus pacificus*) and Cuvier's beaked whales (*Ziphius cavirostris*). Between 2016 and 2018, Moazzam and Nawaz (2017, 2018, 2019) and Moazzam *et al.*, (2020) have provided details of the observations made by fisheries crew-based observers of baleen whales and some toothed whales occurring along the Pakistan coast. Crew based observer programme continued till September 2019, however, some of the observers continued to provide information on voluntary basis enabling to have some information about the spatial and temporal distribution of whales during 2020 in the Northern Arabian Sea. This paper provides an update on whale sightings during 2020 based on the information provided by fishermen on voluntarily basis.

## MATERIAL AND METHODS

The data collection of whales was described in detail by Moazzam (2019) and Moazzam and Nawaz (2017, 2018, and 2019). Data was provided voluntarily by at least 37 captains of tuna gillnet fishing vessels who were previously participated in WWF-Pakistan's Crew Based Observer Programme. These observers were trained by WWF Pakistan. These tuna vessels have the necessary materials (GPS, Android mobile phones or camera) to accurately record their observations. Species identifications were considered positive only if supporting photographic or video evidence was available for the authors to inspect. In all other cases, identifications were considered unconfirmed. Limited information about 10 whale sightings is received as tuna fleet has shifted to Gwadar on the west coast of Pakistan where internet facilities are not adequately available. This information will be obtained once fishing season closes in late May 2021 and fishing boats will be shifted to their base port at Karachi.

## RESULTS

### Whale sightings

During 2020 a total of 5 sightings of Arabian Sea humpback whales, 1 sighting of blue whale, 1 sighting of killer whale and 12 sightings of baleen whales. Fewer whale sightings were recorded for the year 2020 as compared to 2016 to 2019 when a total of 47, 95, 35 and 26 sightings of whale were recorded respectively.

### Arabian Sea humpback whales

During 2020, only 3 sightings of Arabian Sea humpback whales (Fig. 1-2) were made from Pasni and Shumal Bundar Area along Balochistan coast whereas 2 sightings were recorded from the continental shelf area along Sindh coast (eastern coast of Pakistan) (Fig. 3). At least two Arabian Sea humpback whales were observed to be breaching (Fig. 1a) and flipper slapping (Fig. 1b) between Ras Zarrin and Astola Island on 9 December 2020. Astola Island is the only Marine Protected Area (MPA) in Pakistan and known to be an important area for Arabian Sea humpback whale. This sighting was not made by any observer but a fishermen who happened to be navigating in the area, has provided the video clips and other relevant information.

On 27 September, 2020, a mother and calf of Arabian Sea humpback whale were observed near Shumal Bundar Area, Balochistan. The calf was observed to be flipper slapping. In addition another, Arabian Sea humpback whale on 11 January 2020 was observed in almost same area of Shuman Bundar which was identified from its diving pattern, however, no photograph or video could be taken.

Two Arabian Sea humpback whales were observed along Sindh Coast; One of them was observed on 22 April 2020 off Keti Bundar whereas other was seen on 11 November 2020 off Khajar Creek near Indian border. There were no sightings of Arabian Sea humpback whales from the central part of the Arabian Sea in 2019 whereas, 4 ASHW were reported that area during 2018 season.



Fig.1. Arabian Sea humpback whale breaching at Ras Zarrin, Pasni Balochistan on December, 9. 2020 (a) breaching; (b) flipper splashing



Fig.2. Arabian Sea humpback whale mother and calf at Shumal Bunadr Balochistan on September 27. 2020. Flipper slapping by calf

## Blue whales

There was only one sighting of a blue whale on September 18, 2020 from the offshore waters of Sapat, Balochistan (Fig. 3). In addition, some of the whale sightings from the area that could not be assigned to species level may include blue whales.



Fig. 3. Blue whales sighted at Sapat Balochistan on September 18, 2020.

## Killer Whales

A pod of three killer whales (*Orcinus orca*) was observed off Taq, Ormara Balochistan by Observer Muhammad Muneeb on October 23, 2020. According to the observer, these killer whale are swimming in the eastward direction. This observer has previously reported first confirmed sighting of killer whale from off Churna Island on November 19, 2017.

## Unidentified Whales

There were 12 sightings of whales during 2020. Of these there were 2 sightings on which whales could not be assigned to any specific baleen whale species because of their distance from the boat and only spouts were seen. There are 10 additional sightings of whales from offshore waters of Balochistan but detailed information about their location, species and other details are still awaited from the observers. In these cases photographs and video clips are available but since the tuna fleet which used to be based in Karachi has shifted to Gwadar since August 2020, therefore, it was not possible to obtain information about these sighting because of limited communication available in Gwadar. These observers will return to Karachi in the last week of May 2020 before close season in June 2020 and will provide details of these sightings, photographs and video clips.

## DISCUSSION

Whale sightings reported from 2016 to 2019 were generally higher than those reported in 2020: 47 sightings of baleen whales in 2016 (Moazzam and Nawaz, 2017), 95 in 2017 (Moazzam and Nawaz, 2018), and 35 in 2018 (Moazzam and Nawaz, 2019), 26 in 2019 (Moazzam *et al.*, 2020). In 2020 only 19 sighting were recorded (Fig. 4). It may be pointed out that this reduction in sighting is mainly on account of closure of the WWF-Pakistan's Crew Based Observer Programme which was closed on September 30, 2019. Limited information about 10 whale sightings is received as tuna fleet that has shifted to Gwadar on the west coast of Pakistan where limited internet facilities are available. This

information will be available once fishing season closes in late May 2021 and fishing boats will be shifted to their base port at Karachi.



Fig. 4. Whale sightings in 2020 in the northern Arabian Sea

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

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

No major seasonal trend in whale sightings was observed during 2020.

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 whale off the coast of Pakistan are clearly very valuable, as highly limited information about the population of this whale is available. While the programme officially ended on September 30, 2019, however, some observers sighting of cetaceans on voluntary basis, and 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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