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## A report on baleen whale records and recent developments in marine mammal research and conservation policy - update from India

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**A Report On Baleen Whale Records And Recent Developments In Marine  
Mammal Research And Conservation Policy - Update From India**

IWC Grant 71481

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**ABSTRACT**

Twelve baleen whale reports were collected from June 2018 to May 2019. Of these seven were of live sightings reported by participatory fisher and diver networks along the coast, including two Bryde's whale groups, and two separate humpback whale sightings of one individual each. The rest were unidentified baleen whale sightings. These reports are summarised here. Five 'hotspot areas' of the west coast, were identified, where information was gathered by interviewing fishers and inviting them to be part of a growing participatory reporting network. . We plan to continue this work in 2019-20 with passive acoustic monitoring using SoundTraps in two of the five hotspots. At the National level the Ministry of Environment, Forests and Climate Change, New Delhi has developed a National Arabian Sea Humpback whale Research and Recovery program. National and State-level programs are being developed, with support from the author and a wider research network in India. We recommend dedicated baleen whale surveys and collaborative efforts with local teams, to carry out long term research and conservation, including a net disentanglement workshop.

**KEYWORDS**

INDIA, ARABIAN SEA, HUMPBACK WHALES, BRYDE'S WHALES, BLUE WHALES, VOCALISATIONS, STRANDINGS, SIGHTINGS

**BACKGROUND**

Records of baleen whales (Blue whales, Bryde's whales, Humpback whales) reported from the west coast of India with details of confirmed sightings and strandings from 2001 to May 2018 have been reported as Primary Papers at past IWC SC meetings (e.g. Sutaria et al., 2017; Sutaria, 2018).

Based on the information from 2016-2018, five hotspots were identified – Veraval, Gujarat; Grande island, Goa, Netrani island, Karnataka; Thrissur-Alleppey, Kerala and Kanyakumari, Tamil Nadu. In this note we update the same information and also provide new information on participatory networks formed in Karnataka and Kerala, and interview surveys conducted between Goa and Kanyakumari. This work is being carried out with funding from the IWC grant number 71481Res and is provided under agenda item 10.2 .1, 'Humpback whales in the NIO including Arabian Sea', and agenda item 24.1.2, 'Funded proposals in previous years still ongoing'.

**UPDATED Results and insight into baleen whale distribution**

Twelve baleen whales were reported from the west coast of India between June 2018 and May 2019 (Table 1). Of these seven were of live sightings reported by participatory fisher and diver networks along the coast. The details of these and other species reported by the network can be found on the national database of marine mammal sightings and strandings at [www.marinemammals.in](http://www.marinemammals.in) . In several cases stranded balaenopterid carcasses could not be identified to species level due to an advanced state of decomposition when the whale was reported and/or the authorities swift burial of the carcass before it could be examined by qualified experts.

**Gujarat:** One humpback whale sighting by fishermen off the coast of Veraval in December 2018 was reported and supported by a video captured on a smartphone. The sighting may have involved more than one individual whale. Furthermore, two unidentifiable baleenopterid whale carcasses washed ashore,

one in Sutrapda, Saurashtra, and another in Okha. These relate to database records entered by Sutaria 2018 and Pathan 2018.

**Maharashtra:** A whale was sighted by fishermen far offshore from Mumbai city, supported by video from a smartphone. However, species identification has not been possible as the whale is underwater all through the video. This corresponds to the database entry by Jamalabad 2019

**Goa:** A sighting of four Bryde's whales was reported by a pelagic bird-watching group off the coast of Goa, and has been entered on the database (Dharwadkar 2018). One unidentified balaenopterid whale was washed ashore dead in Mandrem, Goa and is entered on the Database as Sutaria 2018.

**Karnataka:** Two whales were sighted on different dates within a 1 km radius of Netrani island, but both were unidentified balaenopterids. One humpback whale was photographed and song was recorded by a free diver also at Netrani island (entered in the database by Sutaria 2018, 2019). The video and audio files have been shared with the Dr. Sal Cerchio for analysis. Interviews suggest that Bryde's whales and Blue whales are common in Karnataka.

**Kerala:** A local scientist on an offshore bird survey sighted two Bryde's whales in one pod. Additionally, two whales washed ashore dead, one in south Kerala and another in Thrissur, north Kerala. These were entered in the database by Nameer PO 2019, Nishanth HP 2018 and Biju Kumar 2018.

**Tamil Nadu:** While interviews suggest that the area of Kanyakumari is rich in baleen whales, including humpback whales, we have not received any videos from the fishers here. However, in one interview a fisherman describes a singing whale and how it behaved around his vessel.

Year	Total Number of records	Mortalities	Sightings
2018-19	12	5	7
2017-18	10	8	2
2016	23	20	3
2015	24	16	8
2014	2	1	1
2013	3	2	1
2012	4	4	0
2011	4	4	0
2010	1	0	1
2009	2	2	0
2008	3	3	0
2006	2	2	0
2005	3	2	1 (3)
2004	4	4	0
2003	1	1	0
2001	3	3	0

Table 1. Number of baleen whale records per year from the west coast of India from 2001 to 2019

State	Number of records
Goa	6
Gujarat	17
Karnataka	13
Kerala	14
Maharashtra	40
Tamil Nadu (west)	1+lubaan

Table 2. State-wise records of baleen whales from the west coast of India from 2001 to 2019.

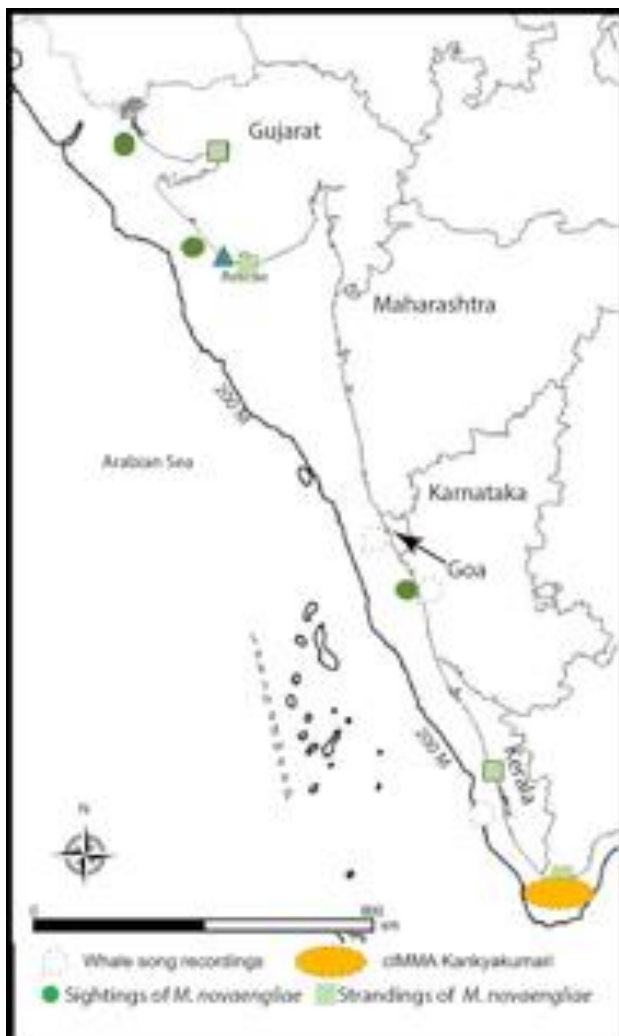


Figure 1. Map of the west coast of India showing regions where humpback whales have been sighted (3 locations), stranded (4 locations) or songs (3 locations) have been recorded.

#### Participatory network and interviews

Areas for Participatory networks were identified based on live sightings reported over the past years, as well as strandings, acoustic recordings, and the known movements of Luban, the humpback whale tagged off the coast of Oman in November 2017, and the author spent several weeks off the coast of India between December 2016 and April 2019 (Sutaria et al., 2017; Willson et al., 2018).

In **Gujarat**, network members were visited to collect any new records, and five interviews were carried out. All interviewed fishers reported sighting whales, including humpback whales, in the past year, with a reported peak in March-July. When asked about their perception of whether numbers of whales are increasing, decreasing, or stable, fishers suggested that whale sightings in shallower waters of 20-40m have reduced by 80% in the past 20 years, and that this decrease was due to an increase in large vessel traffic.

In **Goa**, network members were visited to collect any new records. Four fishermen were interviewed in Betul and two in Malim, Goa, all of whom have sighted whales in the past year, but based on their descriptions, these appear to be mostly Bryde's whales. These fishermen also suggested that sightings nearer to shore have reduced drastically in the past 15 years.

In **Karnataka**, we set up a local fisher network by visiting the villages of Karwar, Kumta, Honnavar, Bhatkal, Shirori, Manki, Murudeshwar, Baidur, Marvanthe and Kundarpura. Seventeen fishermen were interviewed individually and group discussions took place at fishing harbours. All people we met had seen whales in the last year, with sightings of Bryde's whales in every month. Humpback whales were not as common with 8 out of 17 fishers stating they had seen humpback whales. Our diver network in Karnataka reported three whale sightings (one humpback whale and two unidentified whales) in 2018-19.

In **Kerala**, we met with fishermen in Puthenthoda and Allepey, where three interviews were carried out. All three had seen whales in the past year but descriptions were more consistent with Bryde's whales.

In **Kanyakumari**, we interviewed seven fishermen all of whom had seen whales in the past year, and one person described a singing whale. We also had a gathering of fishermen in Muttom, to whom we gave a presentation on Arabian Sea humpback whales and how they could help collect important information regarding whales.

## **RESEARCH AND CONSERVATION POLICY**

In 2018, India's IWC Nodal Officer supported the proposal for a CMP for Arabian Sea humpback whales (ASHW), and has been in touch with officials in other countries in an effort to build support for this in conjunction with the CMS ASHW Concerted Action.

In 2018, the Ministry of Environment, Forests and Climate Change, New Delhi formally designated the ASHW as a Priority Species and has proposed the development of a National Arabian Sea Humpback whale Research and Recovery program. National and State-level programs are currently being developed along with a funding mechanism.

## **FUTURE WORK**

Logistic constraints as well as security concerns have prevented the research team in India from being able to conduct boat-based surveys as originally envisaged in the research proposal to the IWC. The interview surveys conducted thus far have been considerably less expensive than vessel-based research would have been, and as such, a portion of the original sum granted in the budget has been used. Recent interviews with fishers, as well as recordings by divers and the Indian Military suggest that humpback whales regularly sing off the west coast of India (Mahanty et al., 2015; Madhusudhana et al., 2018). The use of passive acoustic monitoring provides the most efficient way to collect data on whale presence, especially in circumstances where whale densities are potentially low, and logistics and security constraints preclude vessel-based surveys. Furthermore, Passive acoustic research has been identified a high priority to better understand the (seasonal) distribution of humpback whales off the coast of India and the possible connections between whales occurring in India and Oman, and this work would follow from specific recommendations made by the IWC in 2018 (Cerchio et al., 2018; IWC, 2018)

We propose that the remaining funds from IWC Grant 71481 be used to procure SoundTraps for deployment at Netrani island, Karnataka and Kanyakumari, Tamil Nadu (west). Suggest that the SoundTraps are placed in Netrani Island, Karnataka and Kanyakumari. Dive companies have agreed to support our project in this activity.

Under the aegis of the National ASHW program, we shall continue building participatory networks for secondary reporting of sightings and build a systematic survey program.

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**Details of sighting and stranding reports are available on [www.marinemammals.in](http://www.marinemammals.in)**

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