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MARINE INSIGHT

JANUARY–APRIL 2025: TRACKING WHALE SHARK

SATELLITE TAGGED WHALE SHARK RETURNS BACK TO GUJARAT WATERS AFTER 100 DAYS OF TRACKING

Pioneered in India, satellite tracking of whale sharks (*Rhincodon Typus*) was initiated in 2011, through a collaboration between the Wildlife Trust of India and the Gujarat Forest Department with support from Tata Chemicals Ltd. The aim was to develop robust conservation strategies and establish long-term protection plans for this globally threatened species, which has seasonal aggregation in Gujarat waters.



Whale sharks are dependant on the marine environment on a global scale to meet their feeding and breeding needs. However, this wide-ranging migratory behaviour also exposes them to various threats ranging from targeted hunting to accidental deaths via commercial fishing operations.

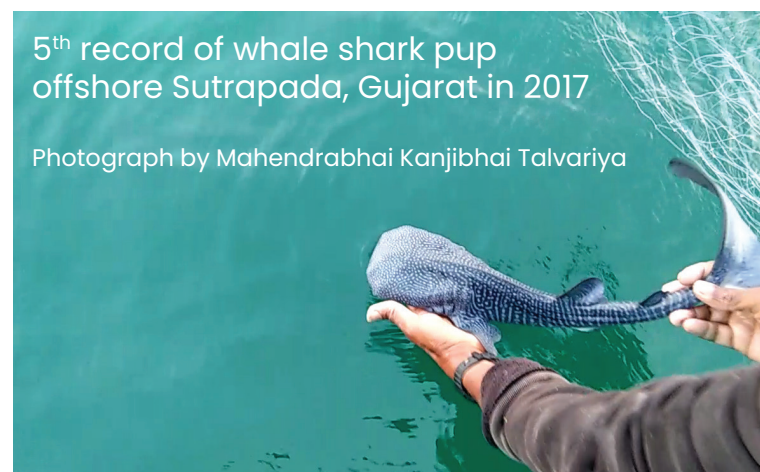
Gujarat's waters have been a preferred aggregation ground for whale sharks due to high availability of feed. These waters also offer them conducive environmental conditions for breeding, as confirmed through photographic evidence of whale shark pups captured by the local fishermen.

Known as the “**world’s largest fish**” the species is listed in Schedule – I of India’s Wild Life (Protection) Act, 1972.

WTI pioneered a satellite telemetry study in 2011 in an effort to understand the biological preferences and movement patterns of whale sharks aggregating in Gujarat. The team has successfully tagged a total of 11 whale sharks till date. The most recent tagging has been revealing fascinating insights. The tagged individual has already travelled approximately 4000+kms up to Lakshadweep Islands within the Arabian Sea before returning back to Gujarat’s waters.

5th record of whale shark pup offshore Sutrapada, Gujarat in 2017

Photograph by Mahendrabhai Kanjibhai Talvariya



Sr. No	Date	Tag Number	Size / Sex	Transmission Days	Distance Travelled
1	13.03.2011	102679	Male	41	~200 km
2	27.12.2013	102680	Female	07	287 nm
3	01.04.2015	120724	30ft / Female	01	10 km
4	09.05.2015	123179	18ft / Male	17	800 km
5	07.10.2015	123182	20ft / Female	07	72 km
6	23.12.2016	123178	27ft / Female	27 days	453 km
7	30.12.2016	123181	20ft / Female	306 days	6000+ km
8	11.11.2017	123180	22ft / Male	135 days	2000+ km
9	28.03.2024	253481	27ft / Male	1 day	No data
10	18.04.2014	253483	30 ft / Female	1 day	No data
11	22.12.2024	253485	28 ft / Male	100+ days (ongoing)	4000+ km (ongoing)

Deployment and monitoring the 11th satellite tagged whale shark

On 22nd December 2024, WTI’s team successfully tagged a 28-foot-long male whale shark off the coast of Veraval, Gujarat. The fish was fully healthy when released and was observed to actively move back to the waters.

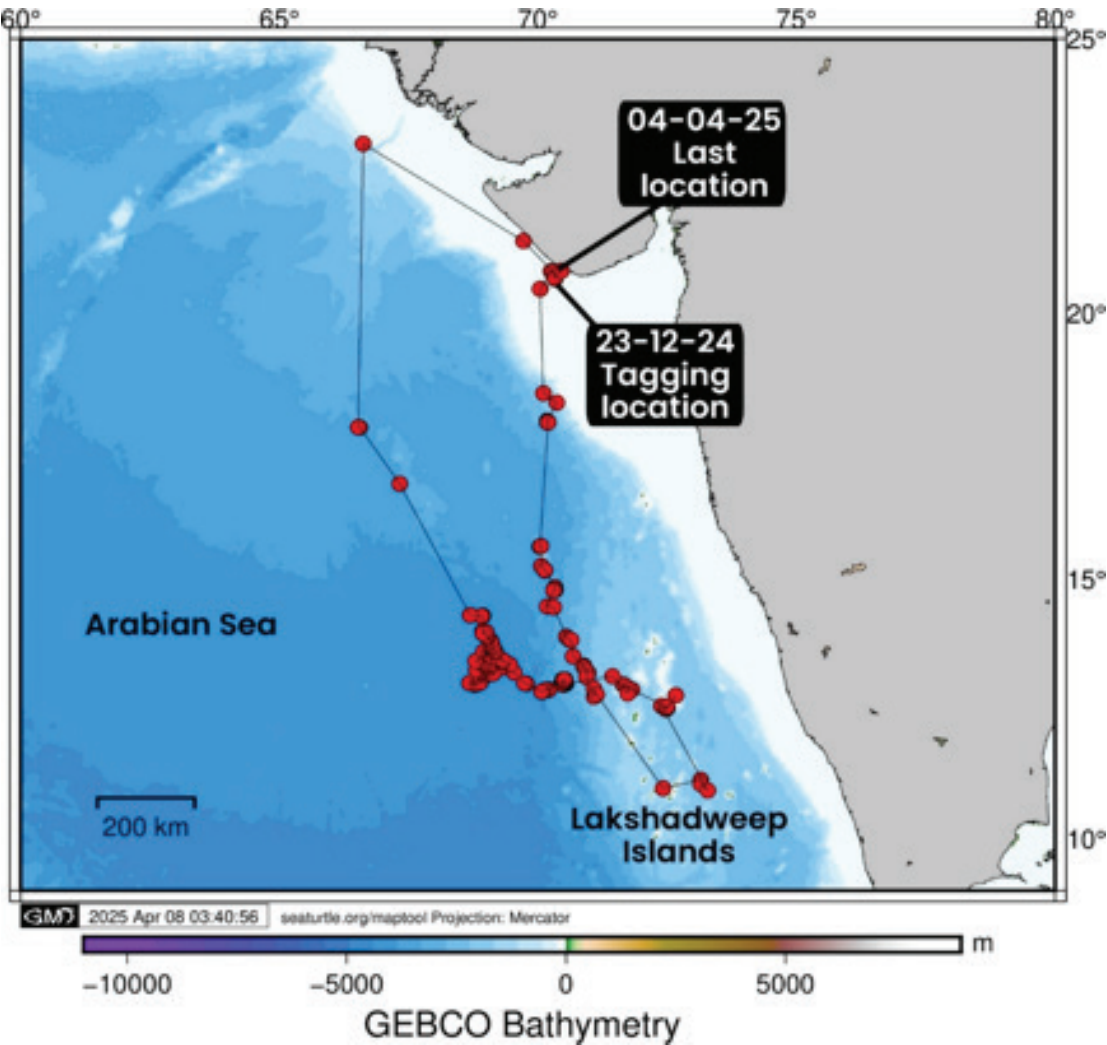
This tagging was carried out while releasing the individual that was accidentally entangled during the fishing operation of a OBM fiber (Pilani) gill net boat. The crew of fishers onboard were well trained in the appropriate offshore handling of whale sharks caught in nets during the tagging process.

The WTI field team conducted the tagging in adherence to all necessary protocols in presence of the Range Forest Officer of Veraval (Mr. Y.S. Kalsariya), Veterinary officer from Junagadh Forest Department (Dr. Vishal Chavda), WTIs’ intern biologist from college of Fisheries in Veraval, WTI field assistant (Mr. Prakash Doriya) and head of Veraval OBM boat association (Mr. Mohanbhai Bharavala).



On an average, the whale shark travelled about 37 km per day. The geo-spatial migration in correlation with Sea Surface Temperatures (SST) suggest that this animal preferred warmer temperatures in the range of 25⁰-30⁰ C.

Further, correlating the migration route in reference with the global distribution of phytoplankton also suggests that the tagged animal has shown preferred migration to areas with high availability of planktons.



Model: SPOT-257



Tags were procured from Wildlife Computers, USA with a tag model number **SPOT – 257 with 1290 Days life** (includes Geo-location and Temperatures data)

Left map:
Inter- continental migratory patterns of 11th Whale shark tagged during the period of Dec- March 2025.

SATELLITE TRANSMITTER & DEPLOYMENT DETAILS	
Tag PTT ID: 253485	Deployment Date: 22nd December-2024
Tag Serial Number #: 23U2488	Deployment Location: LATITUDE: 20°53'06.6"N LONGITUDE: 70°19'42.9"E
DETAILS OF THE TAGGED ANIMAL	
Lenth (approx.): 28 feet Weight (approx.): 7-7.5 MT	Sex: Male Health of the Animal: fully active & healthy
Boat Owner's Name: GANESH DEVJIBHAI VARIDUM Boat Number: IND-GJ-32-MO-3973 Boat Name: Satstang Sagar	Rescue Team: Mr. Y.S. Kalsariya (Range Forest Officer of Veraval) Dr. Vishal Chavda (Veterinary officer from Junagadh Forest Department) Mr. Farukhkha Bloch, Wildlife Trust of India Mr. Prakash Doriya, Wildlife Trust of India Mr. M. Bambhaniya, Field Biologist (Wildlife Trust of India)
Data transmission	This tag has been actively transmitting data since its deployment on 22nd December, 2024

Challenges and Constraints in Satellite tagging programme

- Tagging attempts on whale sharks along the Gujarat coast are highly opportunistic and can be only be undertaken when an individual is accidentally entangled in trawling nets. Furthermore, the location for the entanglement must be within communication range and reported promptly to the rescue/tagging team.
- Attempting a rescue during an entanglement also poses operational challenges. The distance from the water surface to the boat typically ranges between three and five metres and attempting tag deployment work from a small OBM fishing boat poses considerable risk to the rescue team as well as animal in the net.
- In trawl nets, the mouth of the whale shark gets fully trapped, compromising normal breathing and directly impacting its health. On the other hand, rescue and tagging efforts using OBM gillnet fishing boats offer a better opportunity to deploy the transmitter and rescue the whale shark safely. However, during the last two tagging operations, OBM gillnet fishing has been suspended by the fishers all along the Saurashtra coast of Gujarat due to poor fish yields.
- Delay in emergency response due to limitations in the communication network and lack of resources (speed boat,

communication channel, safety equipment for rescue team).

- Holding a stressed animal in the fishing net under rough and choppy sea conditions poses a high risk to both the animal and the rescuers.

Way Forward

The seasonal aggregation of whale sharks in Gujarat waters is expected to begin again in the month of April 2025. Hence, the tagging programme will resume in the 4th week of March 2025 and continue until the end of May 2025.

Tata Chemicals has extended its support by providing five additional satellite tags, which will be deployed during the upcoming aggregating season.

Pan-India Whale Shark Conservation Project

WTI's Pan-India Whale shark conservation project is being implemented in the state with an aim of conserving this unique species. This demands the active involvement of fishing community, a demographic that WTI has been continuously working alongside since the formal launch of the project in 2006. Over the years, more than 970 whale sharks have been rescued from accidental entanglement by the local fishing community.

SCAN TO KNOW MORE

