

# Conservation of leatherback turtles in the Andaman and Nicobar Islands and the Northern Indian Ocean

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# Dakshin Foundation's Turtle Programmes



Odisha



Lakshadweep Islands



Andaman and Nicobar  
Islands



# TAG and Data Portal

TAG  
Turtle Action Group - India



## Sea Turtles of India | Data Portal

Home

### Welcome!

Welcome to the Sea Turtles of India | Data Portal! You have successfully logged in. Please choose the appropriate form to fill/view data.

#### 1. Preliminary Data Sheets (Independent datasheets):

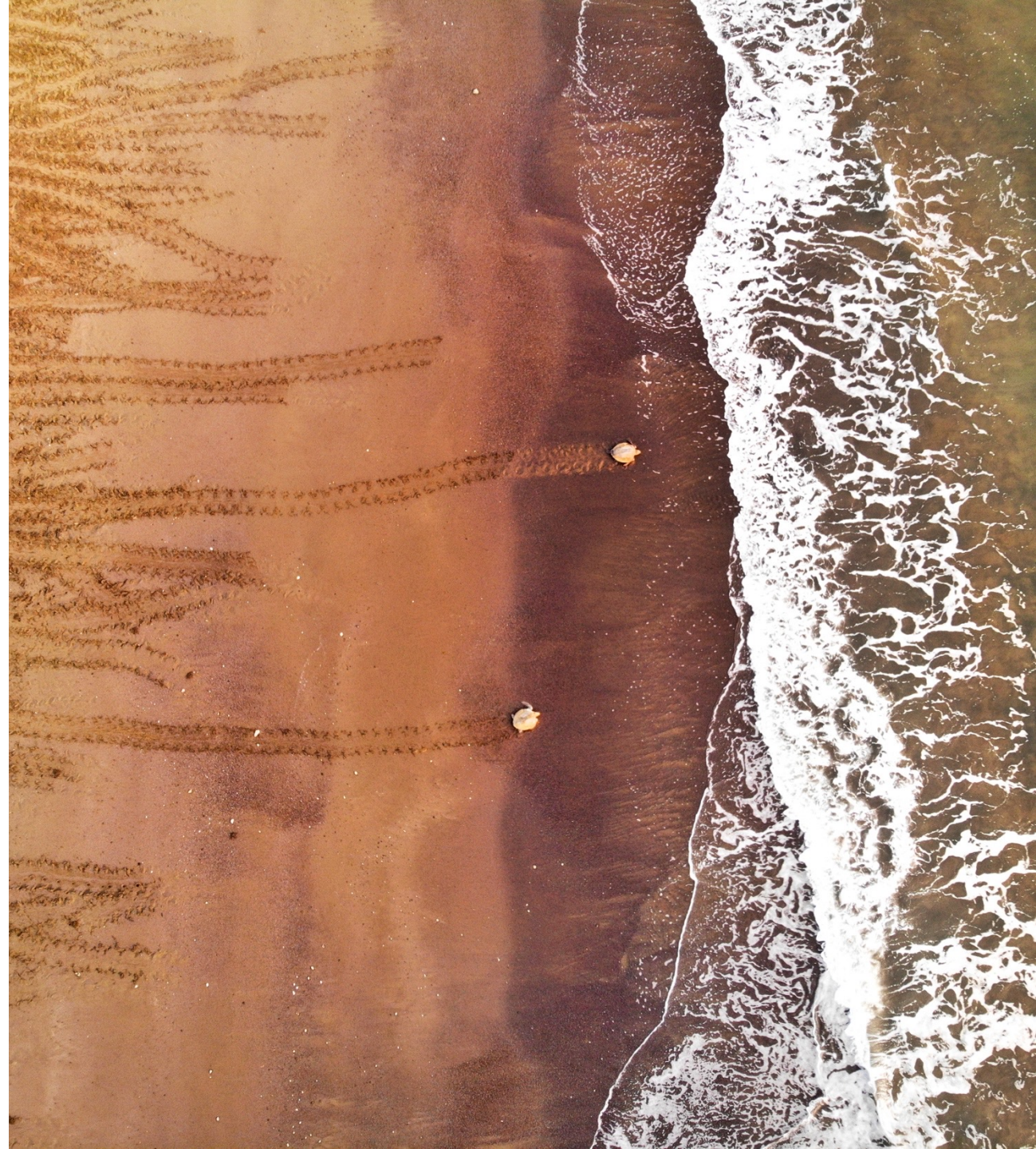
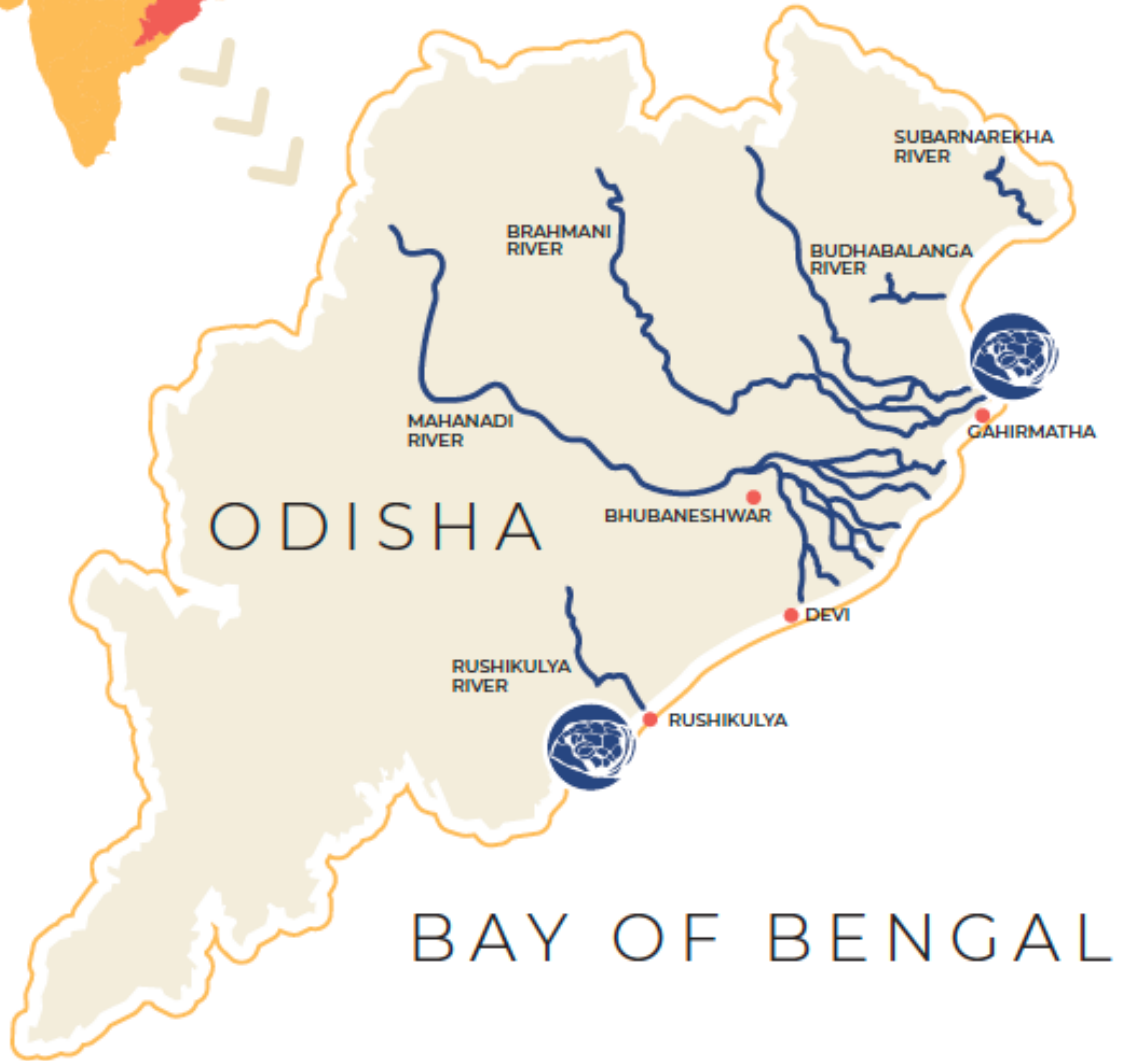
- [Beach Profile Data](#)
  - General profile of beach and its properties
- [Turtle Mortality Data](#)
  - Enter data if dead Turtle was encountered

#### 2. Secondary Data sheets (For nest encountered):

- [Enter Turtle Encounter Data](#)
  - Enter data if live Turtle was encountered first (Nest id is generated if turtle is nesting and entry is automatically made in nest encounter data)
- [Enter Nest Encounter Data](#)
  - Enter data if Nest was encountered first (Enter first only if turtle wasn't encountered) - Hatchery id generated if nest found in hatchery

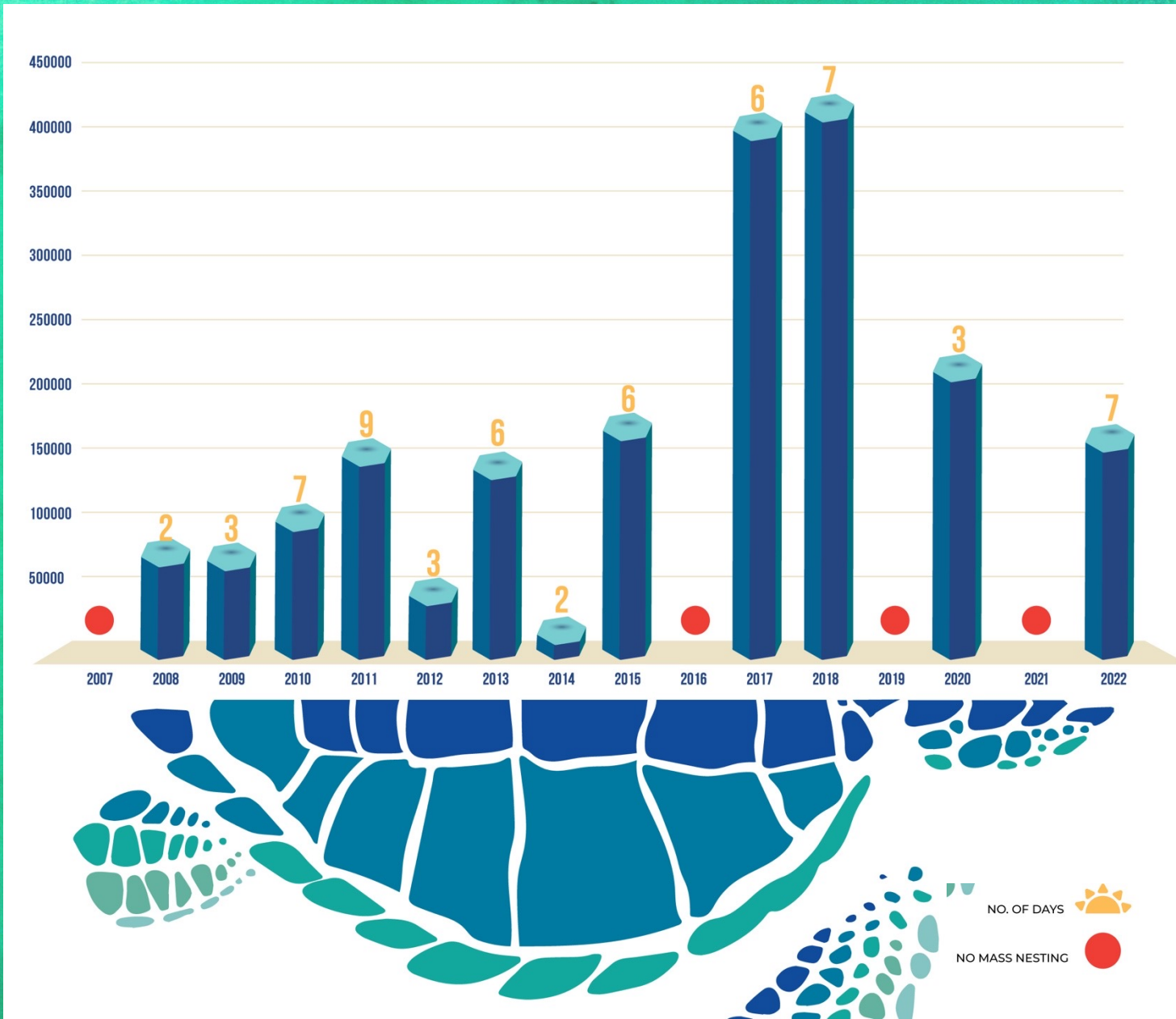


# Ridleys of Odisha

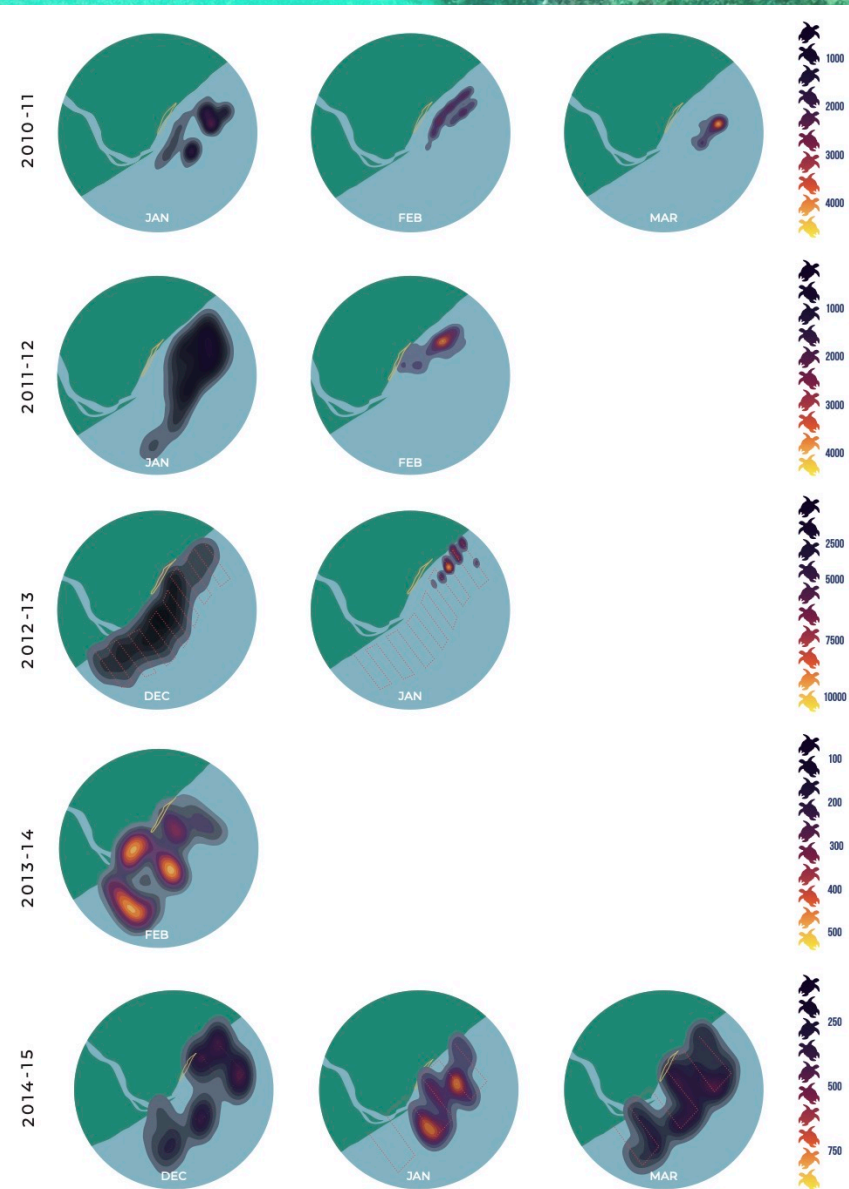


# Mass Nesting Population Estimates

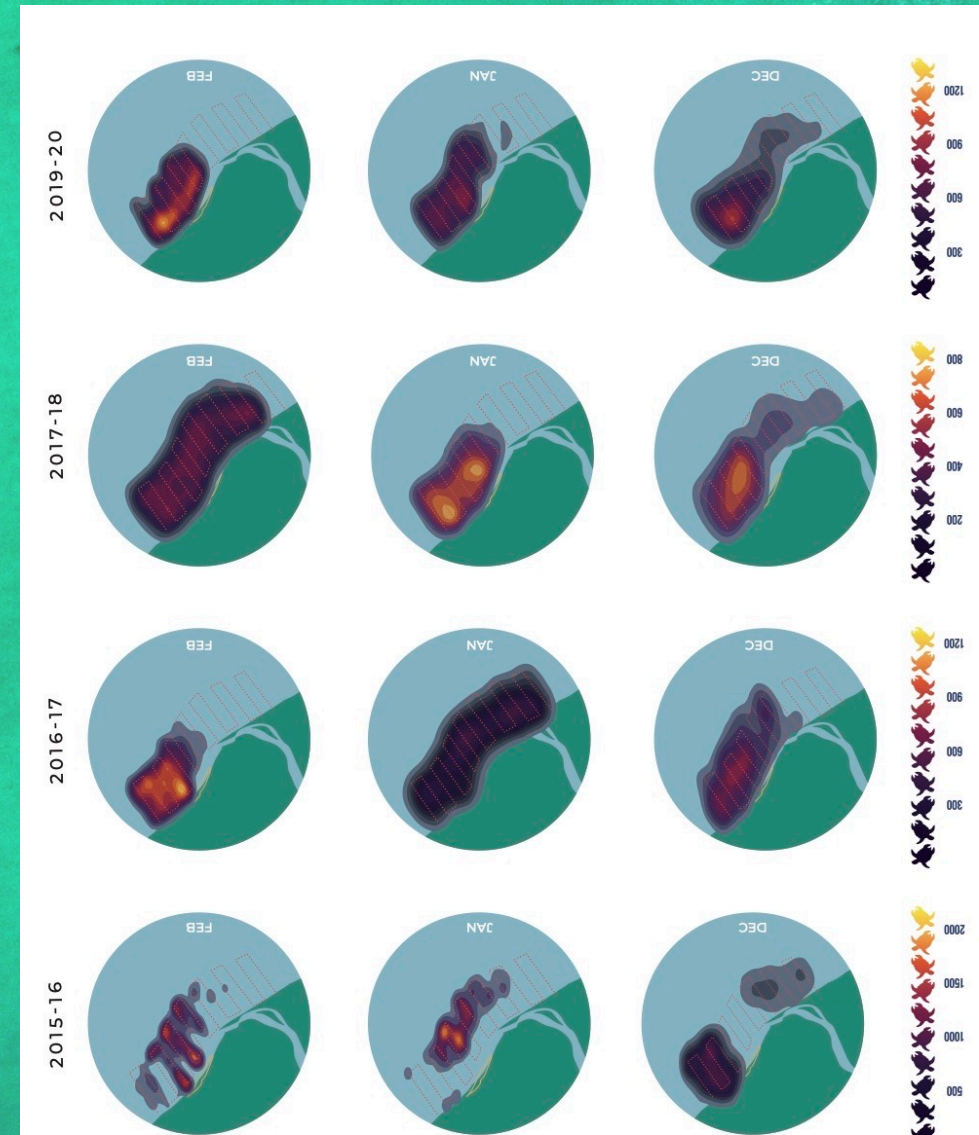
- Mass nesting occurs on a 4 km beach stretch extending north of the river mouth.
- *Arribadas* have occurred every year in Rushikulya since 2004 except in 2007, 2016, 2019, and 2021.
- There were two mass nesting events in 2018 that occurred two months apart.



# Offshore Distributions



- The size and location of these aggregations vary both within and between seasons.
- The abundance of turtles in offshore waters does not correlate with the size or occurrence of *arribadas*.



# Offshore Distributions

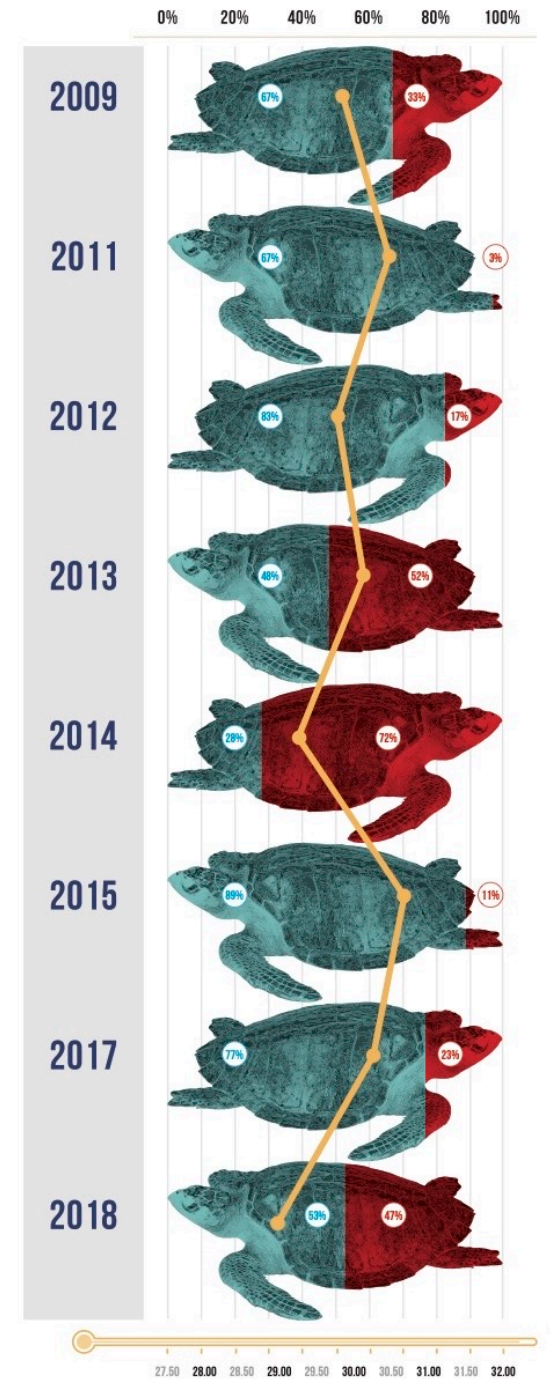
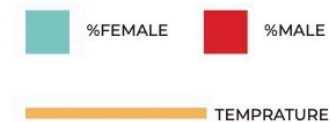
- The main aggregations form a very small part of the total designated no-fishing zone, which suggests that these zones need to be rationalised for more efficient protection of turtles with minimal impacts on small-scale fishing.



# Sex Ratios

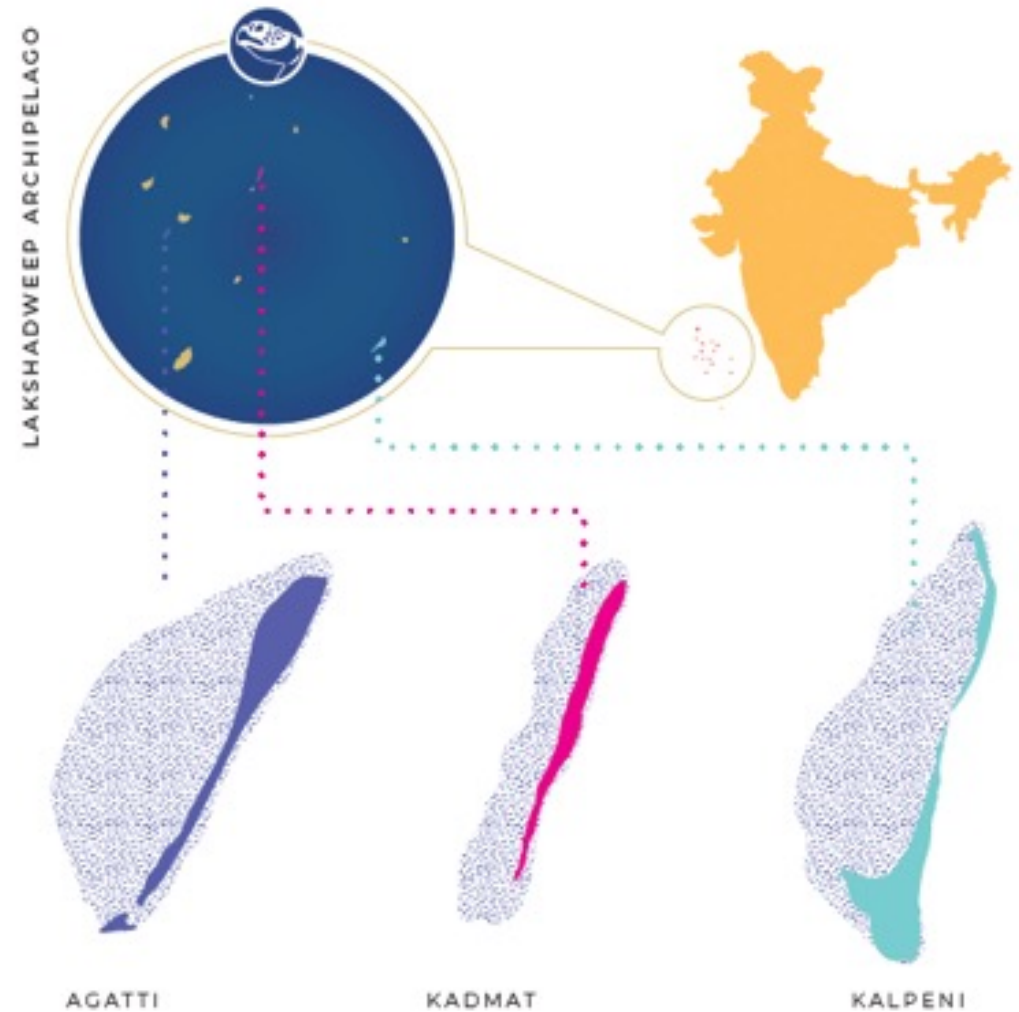
- Histological analysis revealed that the sex ratios are skewed towards females.
- The hatchling sex ratios at Rushikulya were found to be 65% female on average.
- While some years had extremely female-biased sex ratios due to the high nest temperatures, a few years produced heavily male-biased sex ratios.

SEX RATIO  
AND NEST  
TEMPRATURES

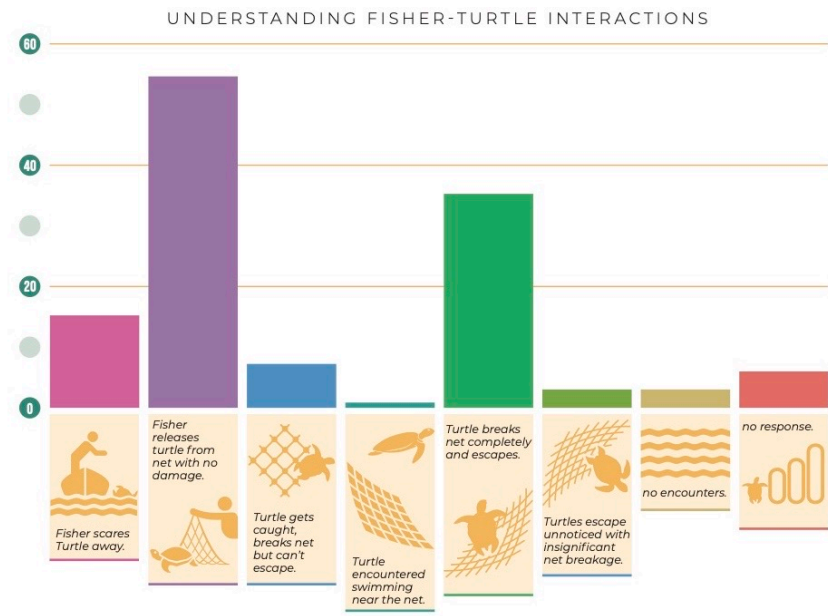
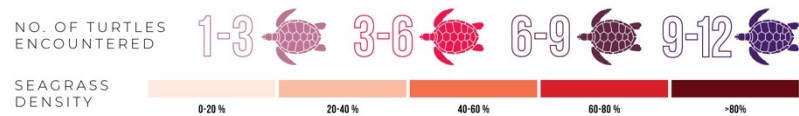
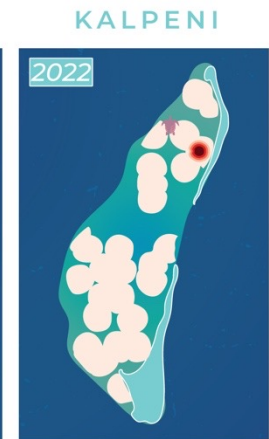
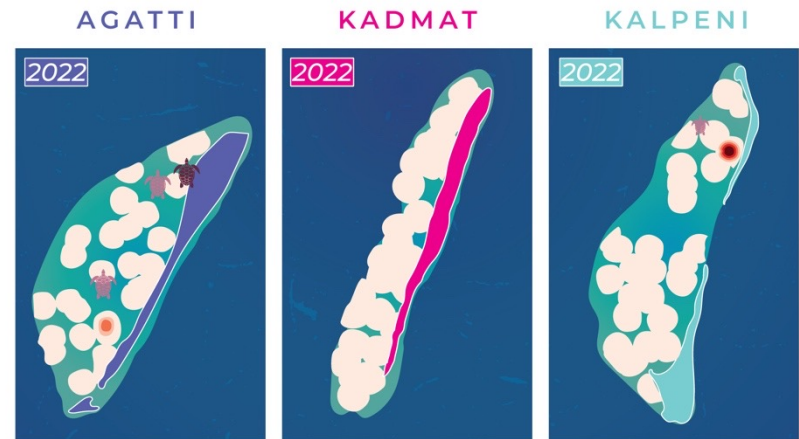
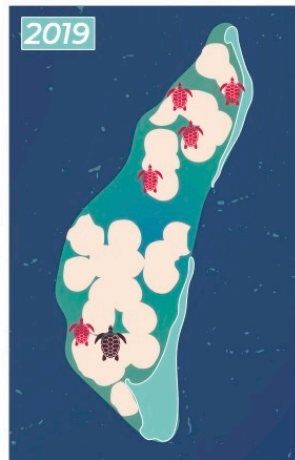
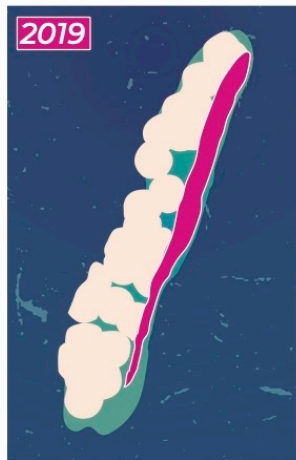
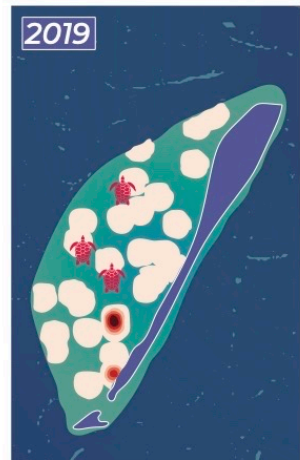
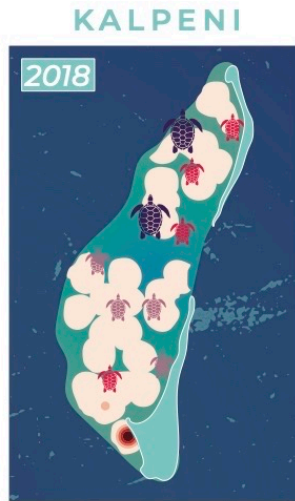
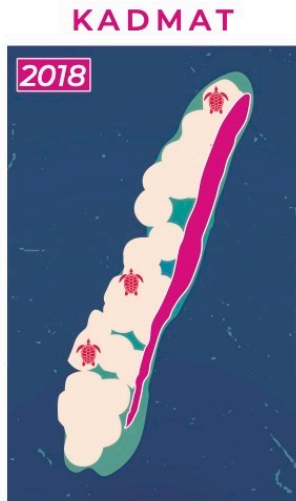
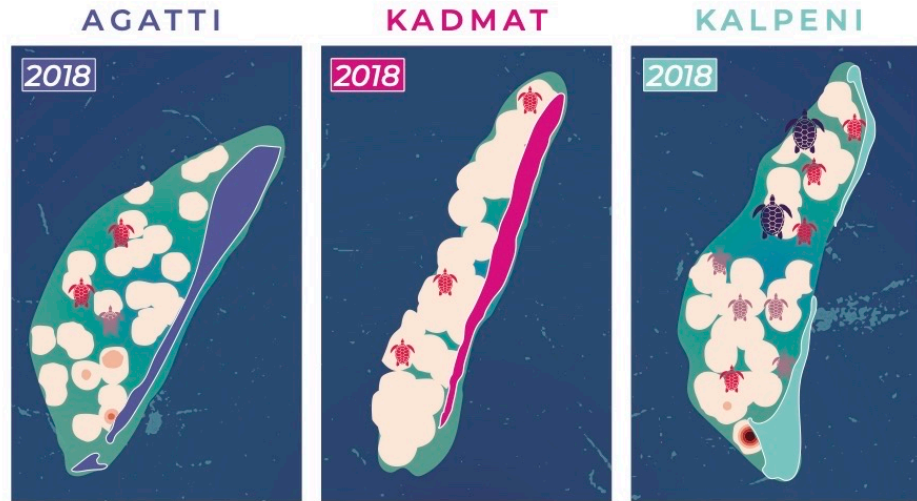




# Green Turtles of Lakshadweep Islands



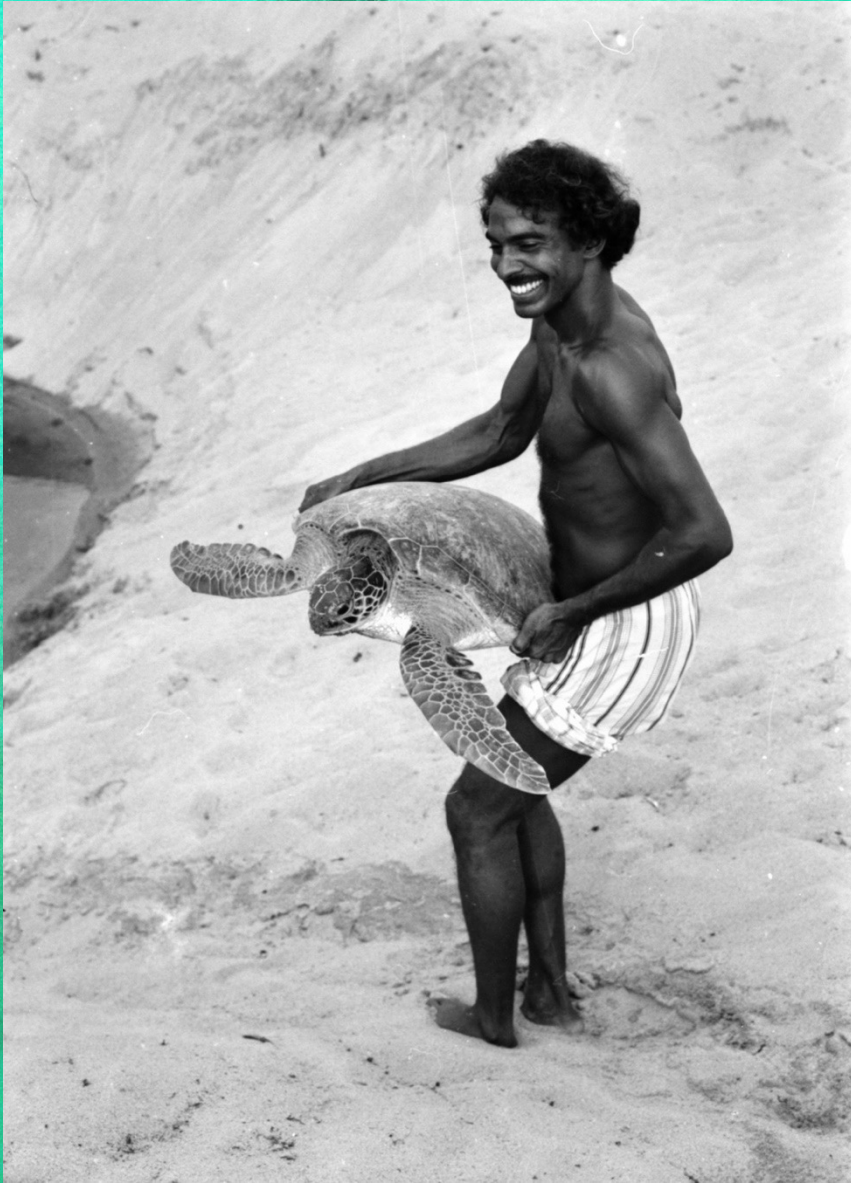
# Green Turtle Densities, Seagrass and Conflict



# Leatherbacks of the Andaman and Nicobar Islands



# Satish Bhaskar: The Turtle Man



Satish Bhaskar, a pioneer in sea turtle biology and conservation in India

Visited majority of the islands in the archipelago between 1978 and 1995

Many of the nesting beaches he surveyed are now recognised as important sites for protection



# Galathea: 2000-2004



# Objectives

## Research and Monitoring

- Beach monitoring, tagging and nest protection at critical nesting sites
- Post-tsunami status of other sea turtle nesting sites

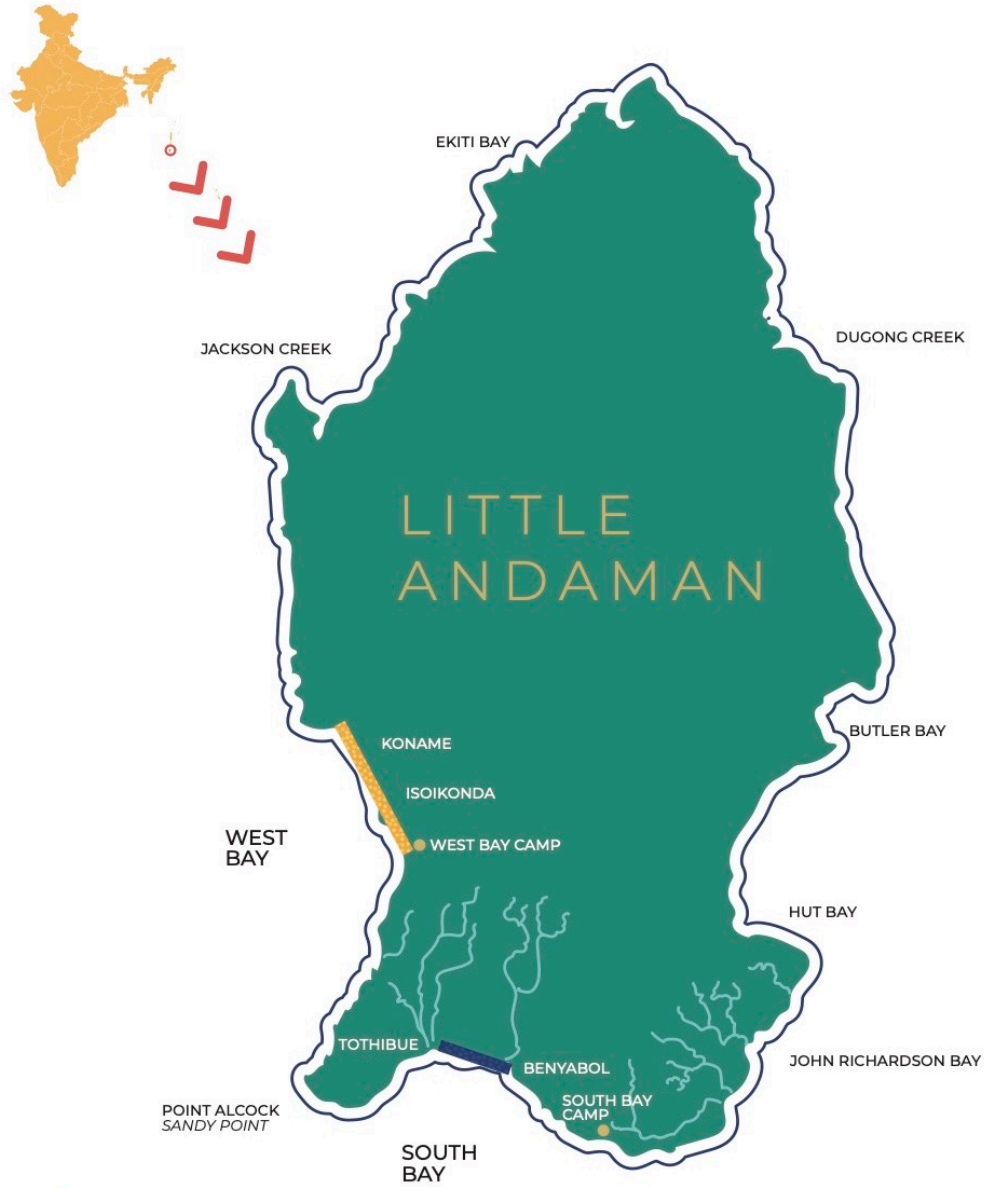
## Education, Capacity Building and Outreach

- Raise awareness and sensitise local communities and stakeholder groups
- Strengthen collaboration with ANI Forest Department
- Provide recommendations to the state departments and ministry

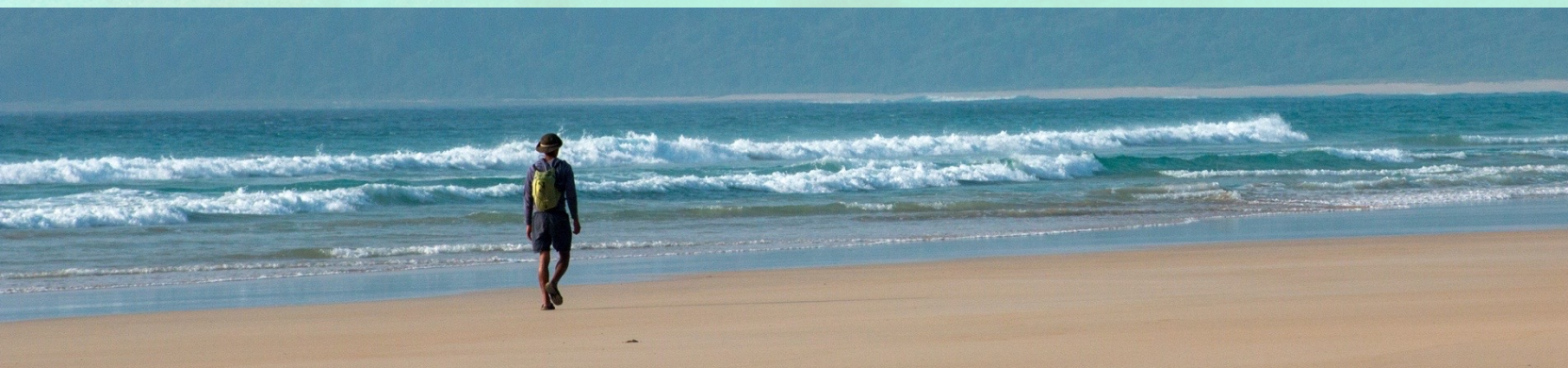
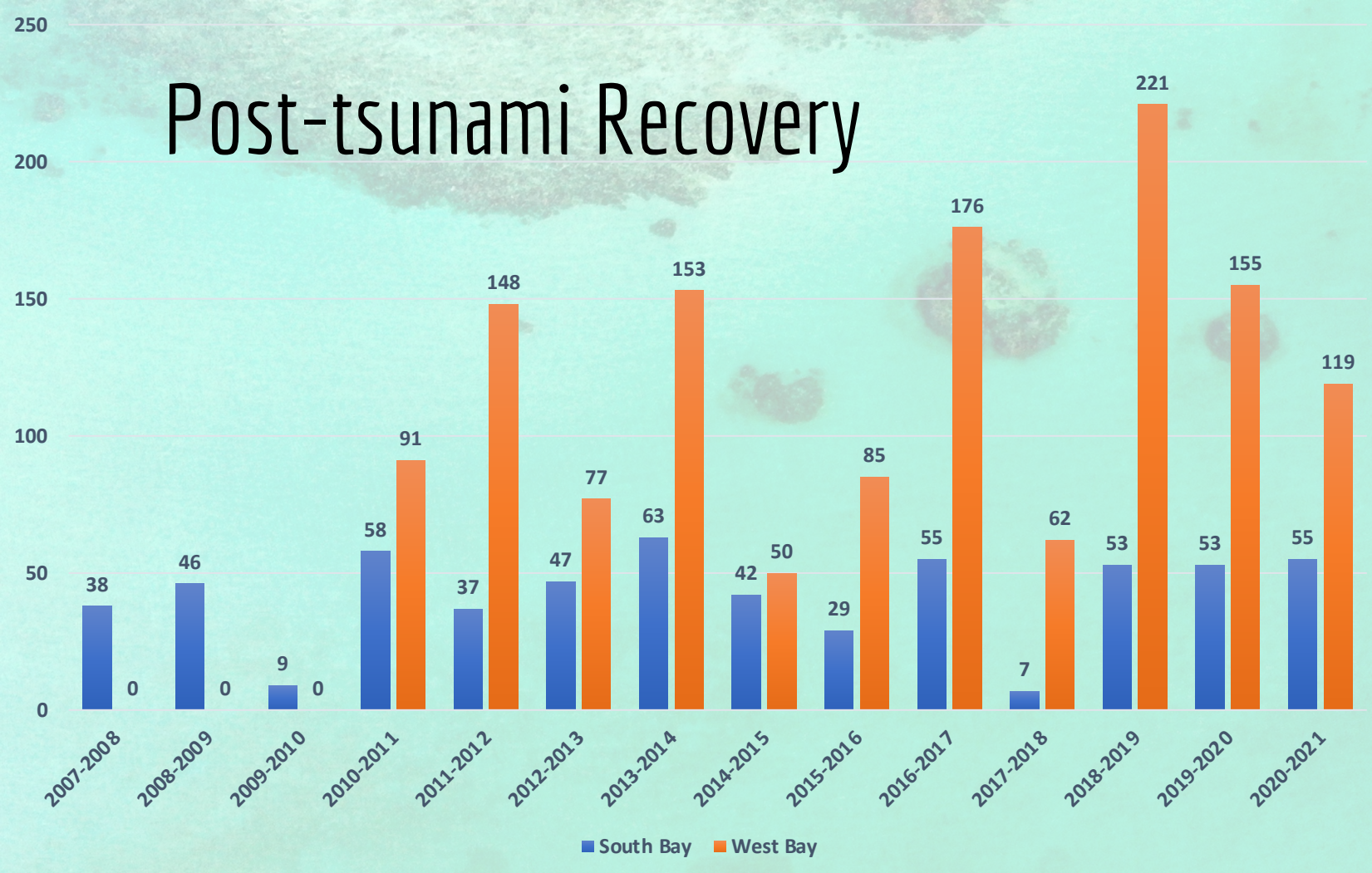
## Community Engagement

- Engaging with stakeholder groups and increasing opportunities for local communities

# Little Andaman Island

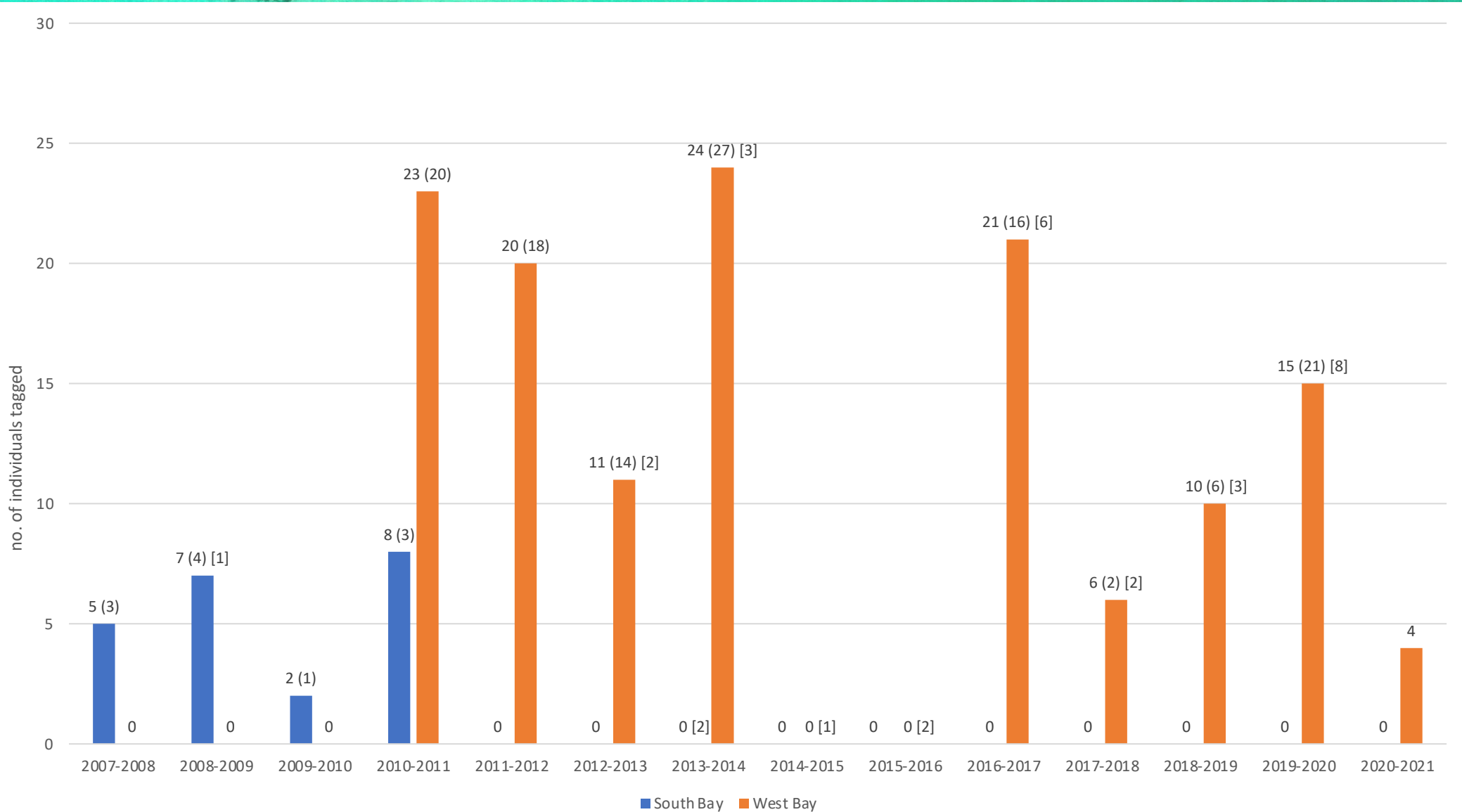


# Post-tsunami Recovery





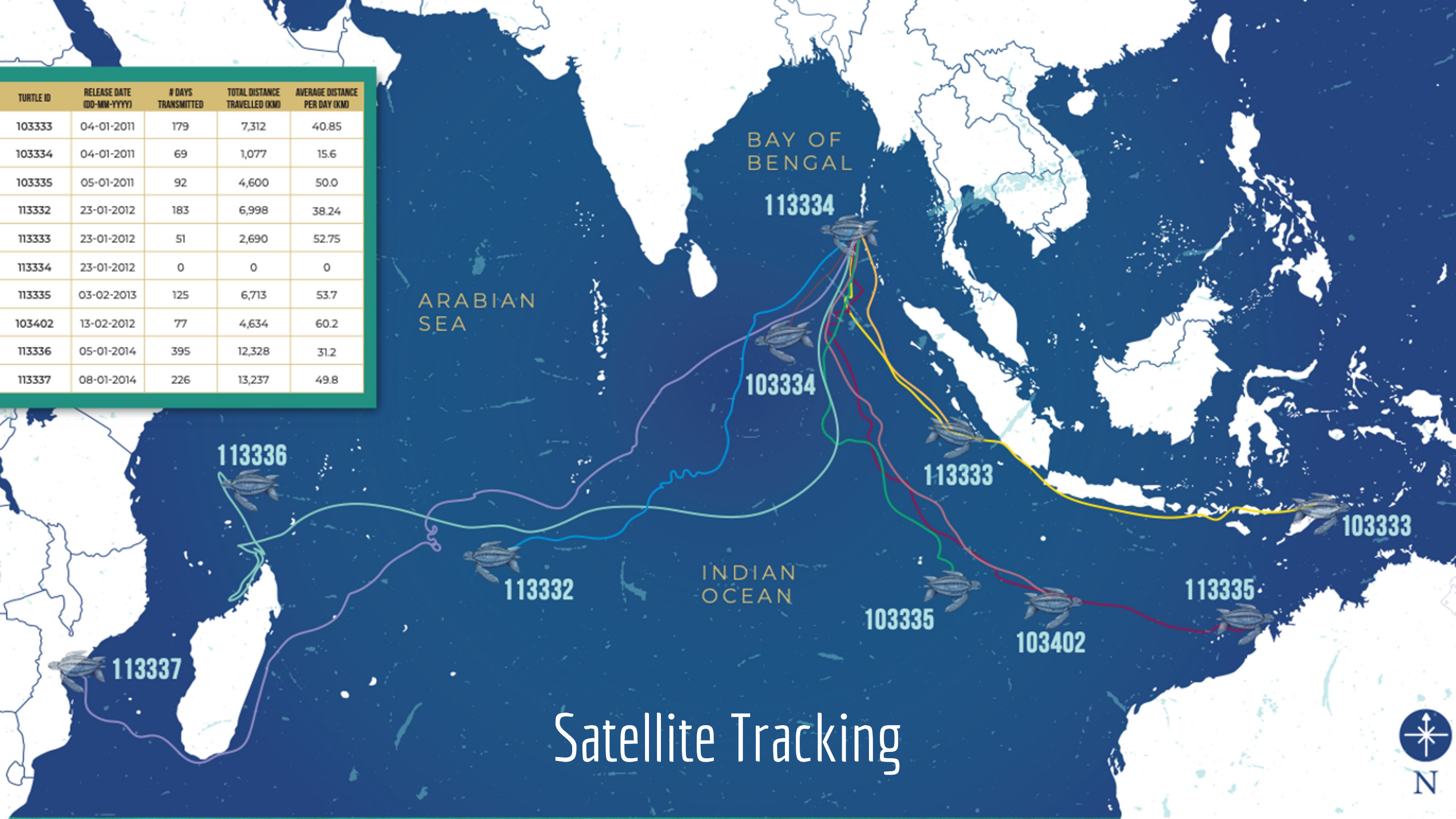
# Tagging Data



# Voyage of the Leatherback



TURTLE ID	RELEASE DATE (DD-MM-YYYY)	# DAYS TRANSMITTED	TOTAL DISTANCE TRAVELLED (KJM)	AVERAGE DISTANCE PER DAY (KJM)
103333	04-01-2011	179	7,312	40.85
103334	04-01-2011	69	1,077	15.6
103335	05-01-2011	92	4,600	50.0
113332	23-01-2012	183	6,998	38.24
113333	23-01-2012	51	2,690	52.75
113334	23-01-2012	0	0	0
113335	03-02-2013	125	6,713	53.7
103402	13-02-2012	77	4,634	60.2
113336	05-01-2014	395	12,328	31.2
113337	08-01-2014	226	13,237	49.8



# Satellite Tracking



# Nicobar Islands

Location	1978-1979	1981	1990-1991	1991-1992	1993-1994	1995-1996	1997-1998	2000-2001	2001-2002	2003-2004	2004-2005	2010-2011	2014-2015	2015-2016	2018-2019
<b>Great Nicobar Island</b>															
Galathea			46	158	237	282	124	524	425	575	84	146	7	410	380
Alexandria	80	55	146	343				866						66	64
Dagmar	80	8	82	171				362						166	177
<b>Little Nicobar Island</b>															
Pulo Kiyang			49			115									99
Bahua						50									40



# Hope in the Indian Ocean

- In 2021 a leatherback tagged in the Little Andaman Island was encountered nesting in Galathea.
- In 2022, an individual tagged in Galathea was found nesting 560 km away in Simeulue Island of Aceh province of Indonesia.
- They are also known to nest in the Mentawai Islands.
- During the COVID years, leatherbacks were even reported nesting around Phuket in Thailand.
- Forty years of research reveal that the leatherbacks nesting in the Andaman and Nicobar Islands is the most significant nesting population in the northeast Indian Ocean.



# Outreach



# Future Plans

## Research and Monitoring

- Continue long term monitoring in Little Andaman Island
- Satellite tracking
- Conduct periodic rapid surveys of GNI and LNI
- Conduct island wide surveys in the Andaman group of islands
- Mass nesting census

## Education, Capacity Building and Outreach

- Annual capacity building programmes
- Interpretation centres
- Outreach programmes in Educational Institutions
- Sea turtle photo exhibition

## Community Engagement

- Turtle Tours
- Coastal clean up
- Volunteer programme



# Funding



**Ministry of Environment,  
Forest and Climate Change**  
Government of India





# The Team



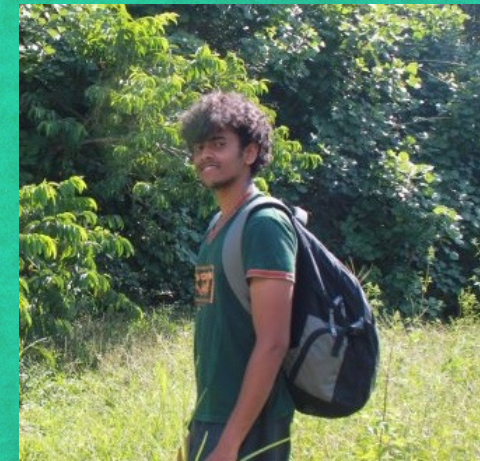
Kartik Shanker



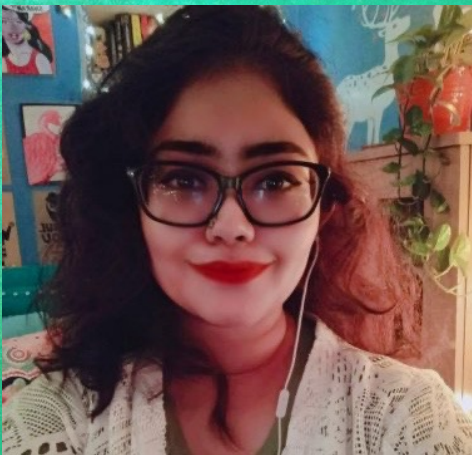
Chandana Pusapati



Vishrutha Rao



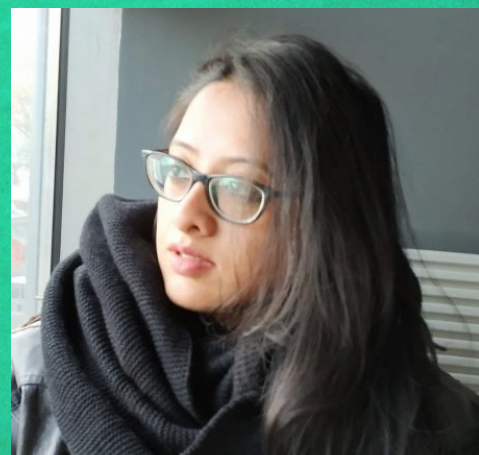
Hariprasath R



Debangini Roy



Rhea George



Srotoswini Majumdar

Muralidharan M

Advisors:

Andrea Phillott

Mark Hammann



Thank you