# REPORT OF THE 2ND MEETING OF THE NORTHERN INDIAN OCEAN MARINE TURTLE TASK FORCE

**Colombo, Sri Lanka**

**29-30 January 2018**

**Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia**

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# 2nd Meeting of the Northern Indian Ocean Marine Turtle Task Force

## Draft Report

Contents

Opening ..... 2
1. Adoption of Agenda ..... 2
2. Introduction to IOSEA and outcomes of the NIO-MTTF-1 (Malé, Maldives) ..... 3
3. IOSEA Site Network ..... 3
4. Status and development of NPOA for sea turtles in task force countries in NIO and challenges ..... 3
5. Country presentations ..... 4
6. IUCN MTSG Country Reports ..... 4
7. Research and conservation projects for collaboration ..... 4
8. Programme of work for NIO MTTF for 2017-2020 ..... 5
9. Task Force Membership and Roles ..... 14
10. Wrap-Up ..... 14
Annex 1: List of Participants ..... 15
Annex 2: Agenda ..... 18
Annex 3: Country Presentations ..... 20

### Opening

In order to take concerted efforts for conservation of marine turtles, in October 2015 the Northern Indian Ocean Marine Turtle Task Force (NIO-MTTF) was established by the CMS IOSEA Marine Turtle MOU. The NIO-MTTF held its second meeting hosted by the Department of Wildlife Conservation, Sri Lanka in Colombo from 29 to 30 January, with an excursion on 31 January.

The meeting was opened by Douglas Nanayakkara, Secretary, Ministry of Sustainable Development and Wildlife, Sri Lanka after a traditional oil lamp lighting ceremony. Mr Nanayakkara informed the meeting about Sri Lanka's inter-ministerial approach to wildlife conservation in the region.

### 1. Adoption of Agenda

Muralidharan Manoharakrishnan, Chair of the NIO-MTTF, introduced the proposed agenda for the second meeting of the Task Force taking into account the action plan that was proposed at the last meeting conducted at Male in October 2015. The main themes that were discussed with regards to priorities in the region that the first workshop were:

- Reducing mortalities of adult turtles in fishing gear
- Protection of onshore habitats
- Improved research and monitoring techniques
- Increased public awareness

## 2. Introduction to IOSEA and outcomes of the NIO-MTTF-1 (Malé, Maldives)

Heidrun Frisch-Nwakanma (UNEP/CMS Secretariat), the Coordinator for the MOU, then introduced the MOU and its Conservation and Management Plan (CMP). She also provided an update with regards to the IOSEA website, which was currently being moved to the CMS system, since the old website was no longer functional. All the members were requested to complete a survey to help prioritize the migration of the various online tools and databases to the new website. The platform for the submission of national reports also had to be changed and there would soon be an opportunity to start preparing the next round of reports.

Ms Frisch-Nwakanma further reminded participants of the purpose of a Marine Turtle Task Force under IOSEA and the structure and terms of reference agreed for the one in the Northern Indian Ocean. She also recalled the main outcomes of the first meeting of the NIO-MTTF, which had established the task force and agreed a first list of tasks.

## 3. IOSEA Site Network

Ms Frisch-Nwakanma briefed the participants of the meeting about the IOSEA Network of Sites of Importance for Marine Turtles in the Indian Ocean region (IOSEA Site Network). There were currently ten sites that had been declared (five in the WIO, three in the NWIO and two in SEA). The necessity to include sites from the NIO was discussed and the importance of co-operative filling of the site information sheet in the presence of the Government bodies and the NGO/scientists in the region.

She explained that the process for simplifying the nomination criteria was ongoing, and results should be awaited before more nominations could be made. It would however be useful for MTTF Members to start thinking about potentially suitable sites. Participants proposed conducting national meetings for filling in the forms.

Muhammad Samar Hussain Khan (Governmental Member Pakistan) and Umair Shahid (NGO Member Pakistan) suggested including a procedure for delisting sites. The rationale behind the idea was discussed and it was decided to consider this at a later date with the Advisory Committee, which was leading on the process. The Chair suggested that a delisting process could be used as a mechanism for a quality check at the sites to remain being listed as part of the IOSEA site network. Further, it was discussed to make the process for the nomination and delisting more transparent and for the regional task forces to play an active role in the process, with the aim of ensuring that pressures on the site are mitigated as required in order for the site to maintain its status as an important site for marine turtles.

Thushan Kapurusinghe (Turtle Conservation Project) queried the tangible benefits of naming such sites under different categories (Heritage, Ramsar, etc) and the actual on-ground benefits to local communities and conservation. This could be managed through regular co-ordination and co-operation between the different agencies through the formation of local committees and networks.

## 4. Status and development of NPOA for sea turtles in task force countries in NIO and challenges

Mr Shahid presented information of the different international instruments relevant for marine turtle conservation that the member countries of the task force were signatories to and the status of implementation of the process involved in them. This included large international agreements such as UNCLOS and CITES and also region-specific agreements such as IOTC.

The necessity of the development of NPoAs for reducing mortality of sea turtles, seabirds and sharks in fisheries operations using FAO's guidelines were discussed in detail. A comparison of the status of the preparation of these guidelines of all the member countries was also displayed.

Channa Suraweera (Governmental Member Sri Lanka) updated the Task Force with regard to the current process in updating these documents in Sri Lanka. The necessity for creating both short and long-term goals for these plans was mentioned by Mr Shahid to form a benchmark for the comparison of these baselines. There was also agreement on the need to translate these documents into regional/local languages for a wider readership. It was also discussed whether also to include budgets during the preparation of National Action Plans covering the activities for the implementation which was seen as the major stumbling block in the execution of these plans.

## 5. Country presentations

Each of the participating countries was given a 15-minute period to discuss updates, new research projects, and status of works to mitigate the high impact threats that were identified in the 1st meeting conducted at the Maldives. The complete presentations made by the member countries can be read in Annex 3.

## 6. IUCN MTSG Country Reports

Andrea Phillott (IUCN Marine Turtle Specialist Group Regional Vice-Chair, Middle East and South Asia), updated the NIO-MTTF members with regard to the recently submitted country reports. Several NIO countries had not submitted their reports, and Ms Phillott offered additional support to the regional members in clarifying the details in the completion of their data forms. Some of the main identified gaps in information concerned biological information on the species found in the region, as well as the lack of comparative data on historical numbers to the current populations. Some of the other missing details of information included the quantification of both on-shore and offshore threats to turtles, the lack of long-term monitoring programmes and information with regards to post-release mortality of turtles from bycatch and hatchery programmes in the region.

## 7. Research and conservation projects for collaboration

This session was intended to initiate dialogues for potential regional collaborative projects that could be initiated within the region. Incidental mortality due to bycatch was identified as one of the major threats to marine turtle populations by all the member countries in the last workshop.

Mr Shahid presented some details on the work being carried out by WWF Pakistan as well other global projects that looking into these threats. This included information on reduction of fishing effort per trip and limits on amount of bycatch that could be landed. On-board observer programmes had a number of drawbacks. This has been remedied by using crew-based data collection and alternatively supplementing that with low-cost cameras. The data being collected in Pakistan was based on the IOTC data template and the forms were simplified for enabling easier collection by the on-board fisher crew. Some of the reasons for the local success of these programmes have been due to recognition of local fishers' status in the conservation sector. The draft guidelines of the protocol would be shared with the task force members with regards to the data collection on small-scale fisheries as well safe release practices for turtle encounters from fishery operations.

The Chair raised a query with regard to the legality of handling/rescuing of scheduled species including the reporting of mortalities in the member countries. Pakistan responded that since these incidents largely came under fisheries laws, they were not regarded as a wildlife offence. Ibrahim Naeem (Maldives) also mentioned that the ban on handling of protected species was currently being relaxed to support the rescue operations being carried out by different agencies especially with regards to ghost net entanglements of turtles.

Mr Shahid then gave a presentation on trials being carried out in Pakistan on bycatch reduction mechanisms for gill net operations using LED sticks as prescribed largely by the work of John Wang of NOAA. Trial operations were carried out in coastal populations which at its initial phases had been successful with regards to reduction in marine turtle bycatch without impacting the target catch in the operations. Mr Shahid mentioned the challenges faced due to net entanglements in the LED sticks during operations in high currents and also the necessity to further experiment with the trials at different times of the day (day vs night operations) as well differing depth, turbidity as well target and non-target species, including other taxa than turtles. Sri Lanka expressed interest in experimenting with LED lights in their fisheries.

The idea of setting up a discussion forum for the region was raised, allowing for easy exchange of turtle-related information within the MTTF and region. Ms Frisch-Nwakanma demonstrated the “online workspace” used by the CMS Scientific Council, which was tailor-made for exactly this purpose. Other scientific and advisory bodies of CMS Family instruments (Agreements and MOUs) also used this system on separate platforms. She said that if there was interest, such a platform could easily be prepared for the IOSEA Marine Turtle MOU, and each MTTF could get its own discussion area within this workspace. The meeting agreed that this option might merit further exploration.

## 8. Programme of work for NIO MTTF for 2017-2020

The proposed work plan that was created at the end of the NIO-MTTF-1 was reviewed by the meeting to look at the status of the work as well as review the difficulties in the implementation of the proposed work in the region. It was largely accepted that while the Task Force considered each issue as important, it was logistically unfeasible to address all the issues/tasks at once. They would continue to be listed as identified threats but with lower priority within the agenda of this task force.

Table 1 highlights the list of regional tasks identified as an immediate priority, followed by a detailed list of issues/tasks (Table 2) that had been completed at the 1st meeting and issues that would be carried out in the future years.

**Table 1:** Regional challenges to be addressed for 2018-19

| **Country** | **Priority Tasks** |
|---|---|
| **Bangladesh** | Communication gaps between the regional partners |
| | Common platform to update information |
| | Engage neighbouring countries like Myanmar |
| | Sharing satellite tracking information in the region |

| | |
|---|---|
| **Sri Lanka** | What ground level staff can expect from large regional MOUs |
| | Lack of information on loggerheads in the region (Genetics) |
| | Lack of genetic information on regional genetic stocks |
| | Foraging population of hawksbills in the region to be monitored |
| | Gap in information on nesting/habitat surveys in northern. Sri Lanka |
| | Decision on leaving wild nests in PA's even under threat of predation/inundation |
| **Pakistan** | Communication gaps between the regional partners (Email groups/social media) |
| | Non-nesting of Olive Ridleys (Genetics, satellite telemetry) |
| | Impact of climate change on breeding of species |
| | Engagement of local fisher communities (Govt and NGO's for safe release and tagging) |
| | Replication of crew based observer schemes |
| | Hatchery management objectives |
| | Extent of poaching of eggs and other life stages |
| **Maldives** | Larger regional threats for turtles (Impacts due to fishing, ghost nets, poaching) |
| | Communication channels (Social media group instead of portals) |
| | Pollution prevention (Focus on ocean dumping) |
| | Increased intervention on natural nesting processes for conservation purposes |
| **India** | Hatchery management objectives |
| | Tagging information lacking in the region |
| | Best practices for incentives for protection/alternate livelihoods for local communities |

**Table 2:** Detailed issues/tasks identified by the taskforce according to priority, status of completion and identified volunteer to oversee the completion (I - Initiated, NI - Not Initiated, RT - Requires training, RF - Require funding, TT - Transfer of technology, NA – Not Applicable)

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| **Current High Priority Tasks** | | | | | | | |
| **(Large scale, mechanised) Fisheries/bycatch:** | | | | | | | |
| Training of observers (separate for trawlers/ gill nets, smaller outboard fisheries in large quantities) | | I+RT | I | NI, RT, TT | I | National volunteers | SL: Small scale fisheries not large fisheries |
| Soak time (needs preliminary data collection) | NI | NI | I | NI | NA | National volunteers | |
| Training for safe releases | I | I | I | I | I | National volunteers | Collate regional practices |
| Reduction technologies (TEDs) | I | NI | I | I | NA | National volunteers | Check compliance levels |
| Reduction technologies (LED lights) | NI, RT, TT | NI, RT, TT | I | NI, RT, TT | NA | National volunteers | |
| Delimiting net sizes (needs preliminary data collection) | NI | NI | I | NI | NA | National volunteers | |
| Enforcing compliance with fishing regulations | | | | | | National volunteers | Workshops to be conducted with fisheries/environment ministry to clarify details on regulations |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| Taking a multi-species approach (Sea birds, marine mammals, sea snakes, protected elasmobranchs) | I | I | I | I | I | National volunteers | |
| **Standardized monitoring protocol:** | | | | | | | |
| Hatchery and head-starting practices | I | I | I | I | I | Andrea | To be published soon |
| In-water studies (photo identification, etc.) | NI | NI | I | I | I | To be identified | |
| Strandings and mortality (data collection, database) | I | I | I | I | I | Murali | |
| Tissue sampling | I | I | I | I | I | Andrea | Published,<br>Philott, A. D., & Gamage, R. N. (2014). A summary of sea turtle genetic studies in the Indian Ocean and Southeast. *Indian Ocean Turtle Newsletter*, *20*, 19-35.<br>FitzSimmons, N. N., & Limpus, C. J. (2014). Marine turtle genetic stocks of the Indo-Pacific: identifying boundaries and knowledge gaps. *Indian Ocean Turtle Newsletter*, *20*, 2-18. |
| Determining sex ratios | | | | | | Andrea | In Process |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| **Ghost nets:** | | | | | | | |
| Direct dialogue/surveys with fishermen | I | NI | I | NI | I | ORP / Martin Stelfox | In Process |
| **Collaborative research** | | | | | | | |
| Regional flipper tagging database/addressing gaps | | I | | | | | Priority |
| **Citizen science:** | | | | | | | |
| Educate on data collection and species identification, etc. | NI | I | NI | I | NI | | |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| **Lower priority/to be addressed in the future** | | | | | | | |
| **(Large scale, mechanised) Fisheries/bycatch:** | | | | | | | |
| Gear modification (hook/net modification) | | | | | | | |
| Promotion of low impact fishing gear (needs preliminary data collection) | | | | | | | |
| Bycatch monitoring (need to collect secondary data from fisheries) | | | | | | | |
| Identifying gear/nets being used; (need to collect secondary data from fisheries) | | | | | | | |
| **Collaborative research on and protection of all species:** | | | | | | | |
| Genetics | | | | | | | |
| Satellite telemetry | | | | | | | |
| Satellite telemetry – indicating if one is deploying transmitters | | | | | | | |
| Providing link to tracks, if possible (if donors are willing to share, can use seaturtle.org) | | | | | | | |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| Identifying high-use foraging grounds | | | | | | | |
| Identifying key nesting, foraging, developmental habitats and migratory corridors | | | | | | | |
| Maintaining long-term index monitoring sites | | | | | | | |
| **Sustainable eco-tourism:** | | | | | | | |
| Establishing guidelines | | | | | | | |
| Determining areas where eco-tourism might need to be promoted | | | | | | | |
| Can be used as research centres | | | | | | | |
| **Head-starting practices:** | | | | | | | |
| Review the extent of head-starting practices in each country and determine areas of improvement/alternatives | | | | | | | |
| **Coastal development and bio-illumination:** | | | | | | | |
| Each country to provide information to the IOSEA Secretariat, which will then be discussed with governments | | | | | | | |
| Best practices from other countries to be made available to the NIO (for example information on this from Florida) | | | | | | | |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| Focal points should be encouraged to use local consultants/experts rather than international consultants/experts for EIAs | | | | | | | |
| **Socio-economic issues:** | | | | | | | |
| Alternative livelihoods | | | | | | | |
| Community participation/partnership | | | | | | | |
| Increased stakeholder involvement in sea turtle conservation/data collection | | | | | | | |
| Determine best practices (social sciences – literature review) | | | | | | | |
| **Impact of climate change:** | | | | | | | |
| Sand/pivotal temperatures | | | | | | | |
| Review of climate change data in the literature | | | | | | | |
| **Marine pollution:** | | | | | | | |
| Review of micro/macro-plastics | | | | | | | |
| Literature review | | | | | | | |
| Successful case studies of reducing beach pollution | | | | | | | |
| Education and awareness | | | | | | | |

| **Issues/ Tasks** | **BGD** | **LKA** | **PAK** | **IND** | **MDV** | **Overseen by** | **Comments** |
|---|---|---|---|---|---|---|---|
| Beach clean-ups | | | | | | | |
| Engaging recycling companies | | | | | | | |
| Impact of oil/hydrocarbons on marine turtles (Pakistan has found contamination of turtles and eggs) | | | | | | | |
| Determining how plastics/marine debris can be used by local communities to create handicrafts, useable items (e.g. solar lamps), etc. | | | | | | | |
| Campaigns to discourage use of plastics | | | | | | | |
| **Citizen science:** | | | | | | | |
| Engaging recreational divers | | | | | | | |
| **Others** | | | | | | | |
| Review sustainable use and the need for it to persist | n/a | | | | | | |
| Illegal, unregulated and unreported (IUU) fishing: a regional approach in the engagement with RFMOs | Beyond the capacity of the MTTF | | | | | | |

## 9. Task Force Membership and Roles

The task force membership details were discussed and due to the change in responsibilities for the IOSEA MOU in the Maldives, the previous Co-Chair Khadeeja Ali could no longer function in her capacity with the NIO-MTTF. With a consensus vote of the participating members it was decided that Mr Muhammad Samar Hussain Khan, the Governmental Member of Pakistan, would be taking on this role for the next term. The role of the Chair of the Task Force was discussed as the duration of the term was coming to an end and the task force unanimously re-elected Mr Manoharakrishnan as the Chair for the next term as well.

Sri Lanka formally nominated Channa Suraweera from the Department of Wildlife Conservation to be the Governmental Member. The NGO Member for the Task Force would be nominated shortly.

## 10. Wrap-Up

The Governmental Member of Bangladesh indicated his country's interest in hosting the next meeting, pending confirmation. If held in Bangladesh, the meeting should be timed so that it could be held after the national elections.

# List of Participants

## Task Force Members / Country Representatives

| Governmental | Non-governmental |
|---|---|
| **Bangladesh** | |
| Dr Md. Mohiuddin<br>Joint Secretary<br>Ministry of Environment and Forests<br>Building No. 6, Bangladesh Secretariat<br>Dhaka<br>Bangladesh<br>Email: dr.mohiuddin2011@gmail.com<br>Tel: +88 01817766851<br>Fax: +88 02 9540149 | Mr Mohammad Zahirul Islam<br>Executive Director<br>Department of Marine Conservation<br>Marinelife Alliance<br>Sayeman Road<br>Bangladesh<br>Email: marinelife.al@gmail.com<br>Tel: +88 01716624310 / +88 01778665533 |
| **India** | |
| *Not present* | Mr M. Muralidharan (CHAIR)<br>Field Director<br>Dakshin Foundation<br>C-305, Samriddhi Gardenia Apartments,<br>88/3, Byatarayanapura,<br>Near Sahakaranagar, 'A' Block<br>Bangalore-560 092<br>India<br>Email: murali@dakshin.org<br>Tel: +91 80 42113509 |
| **Maldives** | |
| Mr Naeem Ibrahim<br>Director General<br>Environmental Protection Agency<br>Green Building 3rd Floor<br>Handhuvaree Hingun<br>Maldives<br>Email: ibrahim.naeem@epa.gov.mv<br>Tel: +96 07781461<br>Fax: +96 03335953 | *Not present* |

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## Agenda

| Time | Agenda Item | Description | Presenter / Lead |
|---|---|---|---|
| **DAY 1: 29 January 2018** | | | |
| 9:45 | Opening | Welcoming words by the Host Government | Dept. of Wildlife Conservation, Sri Lanka |
| 10:00 | 1. Adoption of Agenda | Draft annotated agenda to be presented to participants, comments/additional requests | Chair/Vice Chair |
| 10:30 | 2. Introduction to IOSEA and outcomes of the NIO-MTTF-1 (Malé, Maldives) | Introduce the MOU, present the outcomes of the first meeting in 2015 | IOSEA Secretariat |
| 11:00 | 3. IOSEA Site Network | Discuss the guidelines and where the IOSEA site network stands, status of revision of criteria and process, identification of potential sites | IOSEA Secretariat |
| 11:30 | 4. Status and development of NPOA for sea turtles in task force countries in NIO and challenges | Highlighting the status of protection of sea turtles in NIO task force countries | Chair and Vice Chair |
| 12:00 | 5. Country presentations (15 minutes per TF Member) | Country updates, new research, status of work to mitigate high impact threats | TF Members (governmental and non-governmental) |
| 13:00 | Lunch | | |
| 15:00 | 5. Country presentations (15 minutes per TF Member) | Country updates, new research, status of work to mitigate high impact threats | TF Members (governmental and non-governmental) |
| 17:00 | 6. IUCN MTSG Country Reports | Update on IUCN MTSG Country Reports | Invited Expert |

| Time | Agenda | Description | Session Chair |
|---|---|---|---|
| **DAY 2: 30 January 2018** | | | |
| 10:00 | 7. Research and conservation projects for collaboration | Mitigation trial commitments from NIO-MTTF –<br>• LED light sticks<br>• Use of observers/camera's on-board, tuna gillnets to record bycatch<br>Project presentations | Umair Shahid / Invited Experts |
| 11:00 | 8. Programme of work for NIO MTTF for 2017-2020 | Update and revision of the work plan agreed at the first meeting<br>Synergies with IOTC WPEB programme of work on sea turtles | Discussion |
| 13:00 | Lunch | | |
| 15:00 | 9. Task Force Membership and Roles | Sri Lanka nominating members for the NIO-MTTF<br>Nomination of Vice-Chair | IOSEA Secretariat |
| 16:30 | 10. Wrap-Up | Summary and endorsement of outcomes of the meeting | Chair and Vice Chair |

| **DAY 3: 31 January 2018** |
|---|
| Field visit to marine turtle hatchery and Hikkaduwa National Park |

## Country Presentations

– see following pages –

# SEA TURTLE MONITORING & CONSERVATION STATUS IN BANGLADESH

NIO-MTTF REGIONAL MEETING –SRI Lanka

GALADARI HOTEL, COLOMBO

29-30 JAN 2018

**Dr. Md. Mohiuddin, Joint Secretary, MOEF,**

**M. Zahirul Islam, Executive Director, MLA**

# Sea Turtle Program location

# Nesting Turtles

## *Olive Ridley*

***Lepidochelys olivacea***

## *Green Turtle:*

***Chelonia mydas***

Critically endangered

***Hawksbill Turtle***

**Stranded in ghost net forage in our nearshore water**

Parki
Gohira
Kutubdia
Dalghata
Sonadia
Najirartek
Laboni
Kolatoli
Himchari
Pechardwip
Sonarpara
Inani
Ruppati
Monkhali
Shilkhali
Teknaf
Sahporirdwip
St. Martin Island
Char
Tuphania
Sib Char
Kuakata
Sonar
Char
Bara Baisdia

# Sea Turtle Project location

Kuakata

Kutubdia

Sonadia

Inani

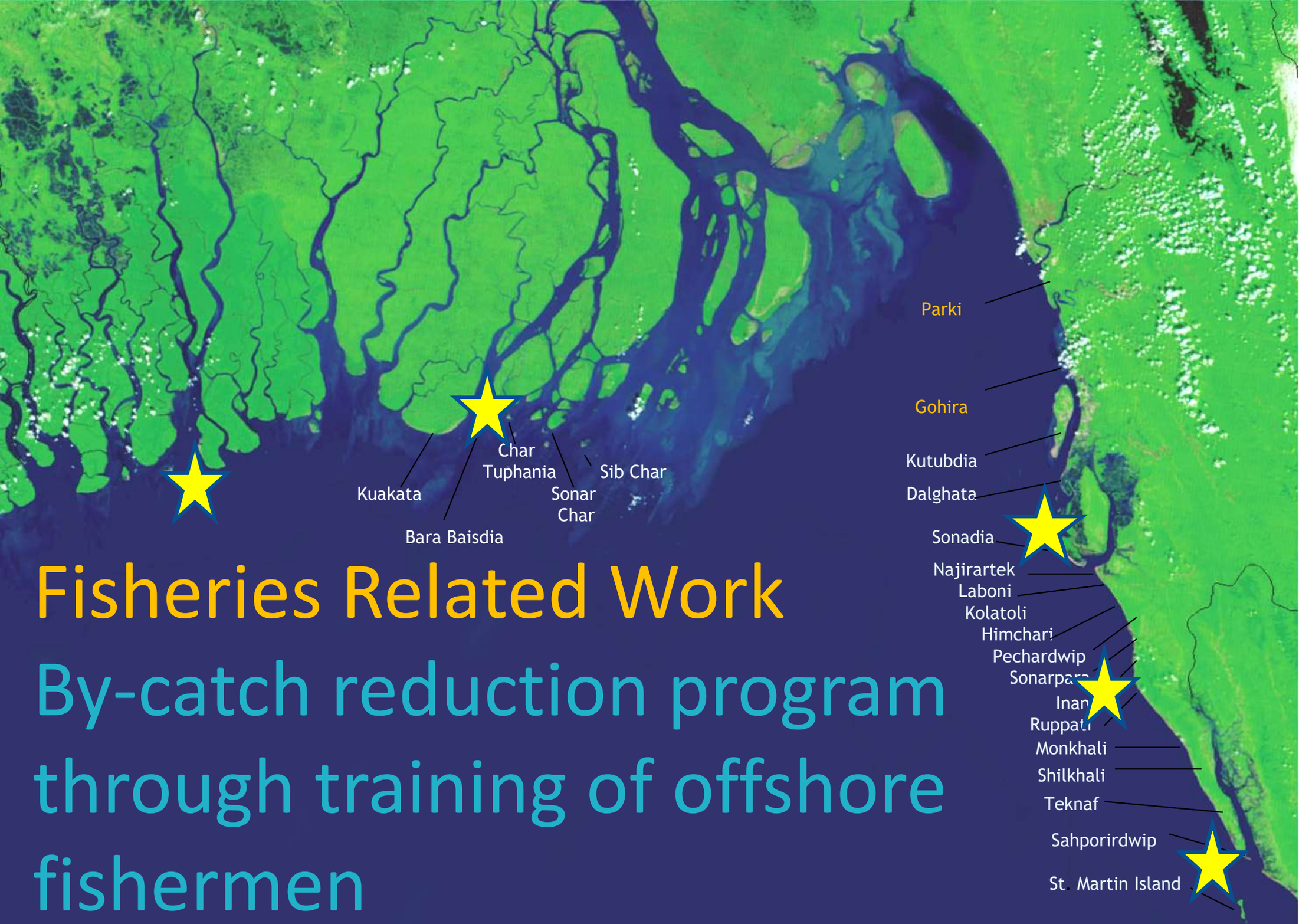
St. Martin Island

# SONADIA ISLAND

# Nesting Beach
# Haser Char (Dholghata)

# LAWS RELATING TO MARINE TURTLE CONSERVATION AND LIMITATIONS OF THE LAW

- WILDLIFE (CONSERVATION & SECURITY) ACT, 2012,
- SCHEDULE-1
- 24 DRAFT RULES ALREADY PREPARED
- LIMITATIONS:
- -IN GENERAL BUT NOT SPECIFIC
- PUNISHMENT – 50,000 BD TAKA AND 1 YEAR IMPRISONMENT-INSUFFICIENT
- EXECUTION OF LAW
- -TIME CONSUMING
- -LACK OF COORDINATION AMONG THE LAW ENFORCING AGENCIES
- -LACK OF AWARENESS REGARDING LAW AMONG THE STAKEHOLDERS




# Fisheries Related Work

## By-catch reduction program through training of offshore fishermen

# INWATER RESEARCH

## Satellite Tagging Locations

# DURATION OF SEA TURTLE WORK IN BANGLADESH

- 1996-99:
- St. Martin Island: Nest monitoring and conservation
- 2000-05:
- Teknaf Peninsula & St.Martin Island: Nest monitoring and conservation.
- 2005-13:
- Teknaf Peninsula, St.Martin Island and Sonadia Island: Nest monitoring, conservation and Satellite tracking.
- 2013-16:
- Teknaf Peninsula, St.Martin Island and Sonadia Island, Kutubdia Island, South central coast(Kuakata) : Nest monitoring, conservation and Satellite tracking (SRCWPP/BFD).
- 2016-present:
- Teknaf Peninsula, St.Martin Island and Sonadia Island, Kutubdia Island, South central coast(Kuakata) , Sundarban mangrove coast: Nest monitoring, conservation and Satellite tracking.

# ONGOING PROJECTS ON SEA TURTLE IN BANGLADESH

- **Community based sea turtle restoration project in Bangladesh.**
- **Working area: South Central coast and south east coast, Sundarban coast (south west coast)**

**Activities:**

- **Nest monitoring and conservation**
- **Offshore fishermen training on by-catch reduction**
- **School (22 no.)education on sea turtle and marine megafauna**
- **Satellite tracking on olive ridley & green turtle**
- **Community awareness program**
- **Population study, GIS and habitat mapping,**
- **Training among community for sea turtle and monitoring**
- **Orientation, workshop for BFD staffs in the sea turtle project area**

# Nesting sea turtle monitoring & conservation work

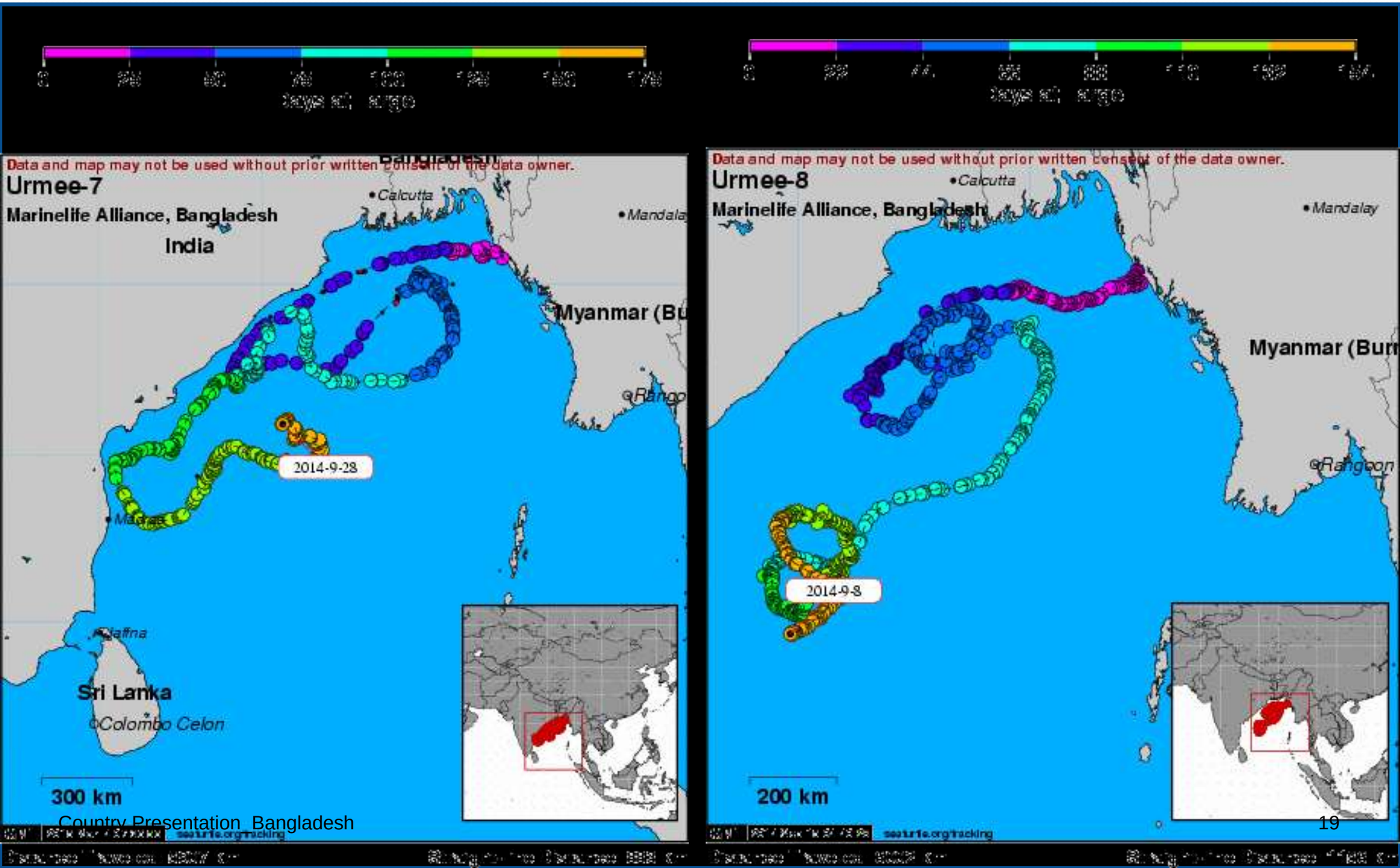
# Satellite Tagging Process

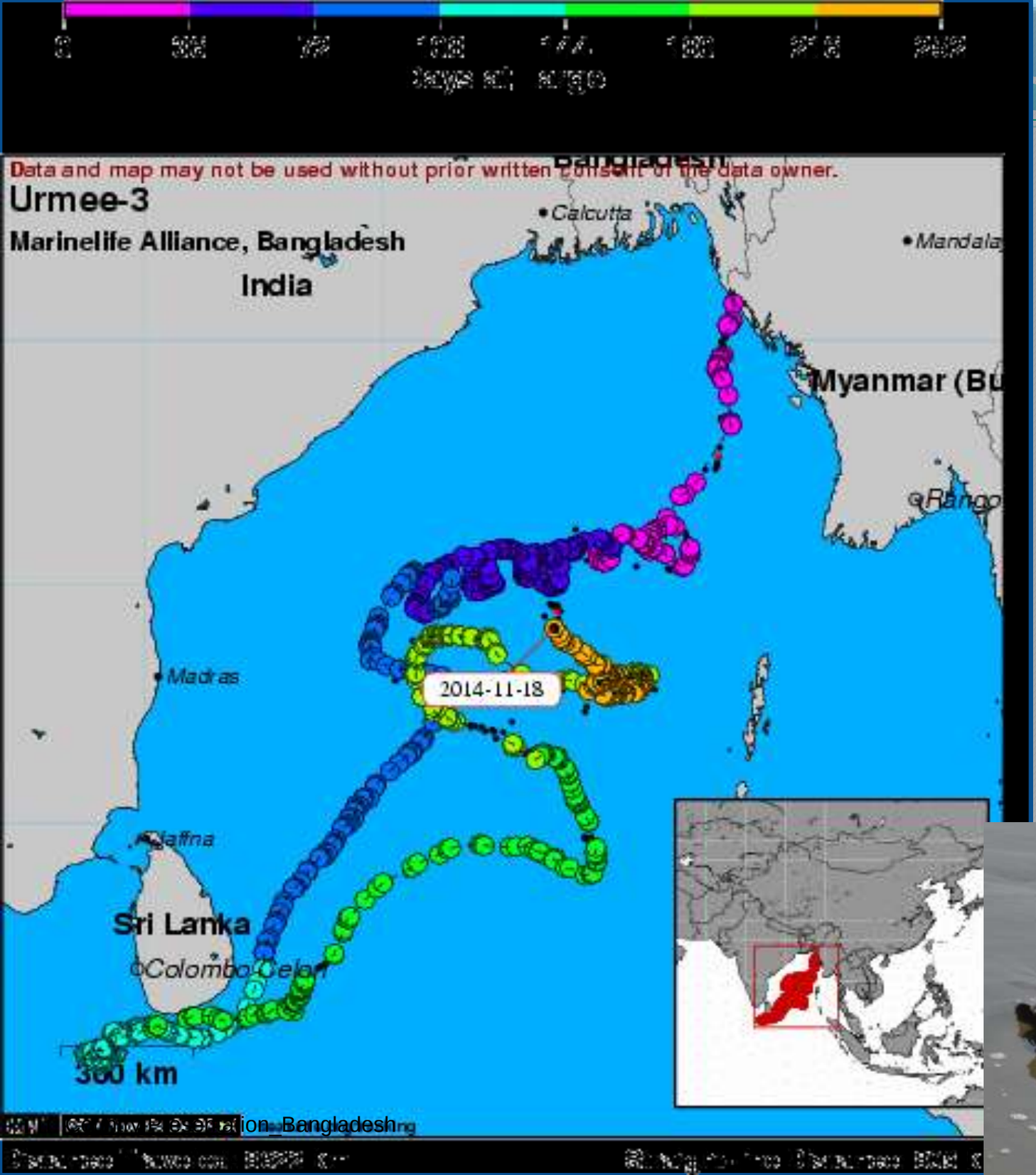
# Satellite Tagging

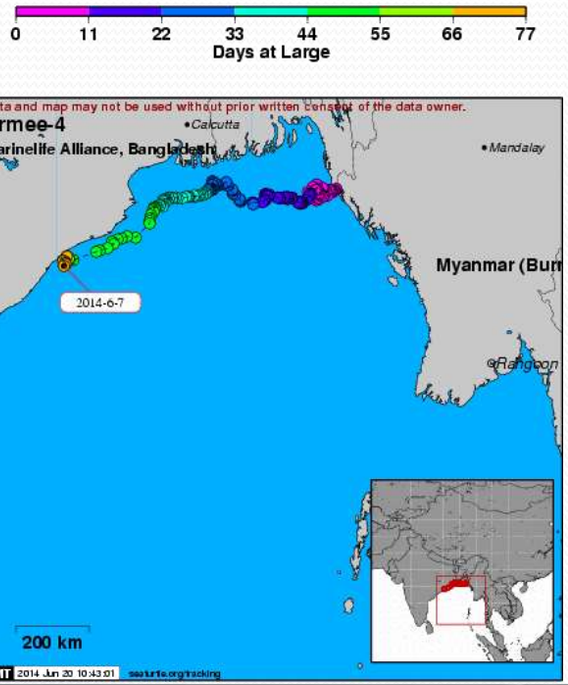
# Satellite Tracking Olive Ridley

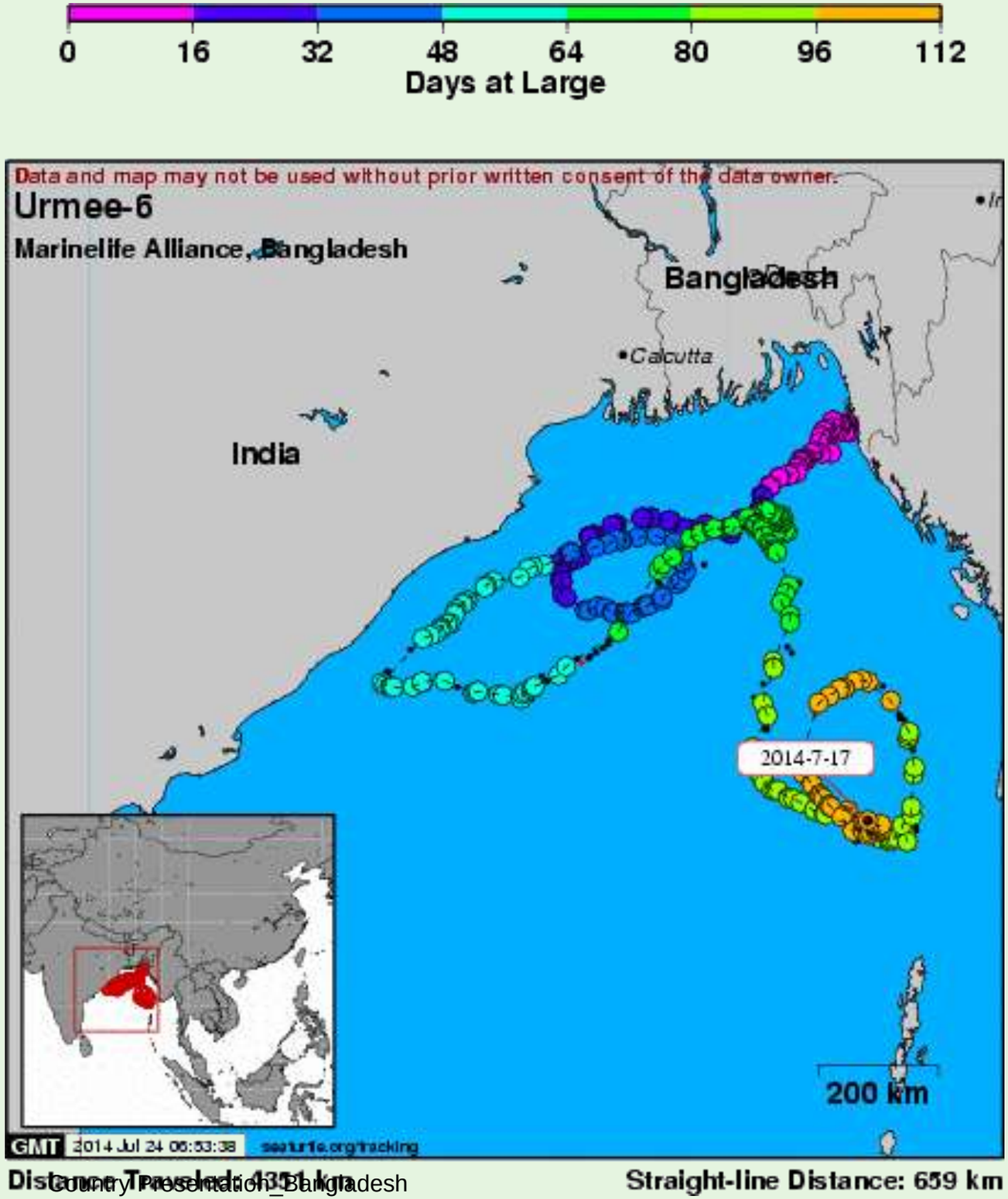
# Satellite Tracking

# Satellite Tracking



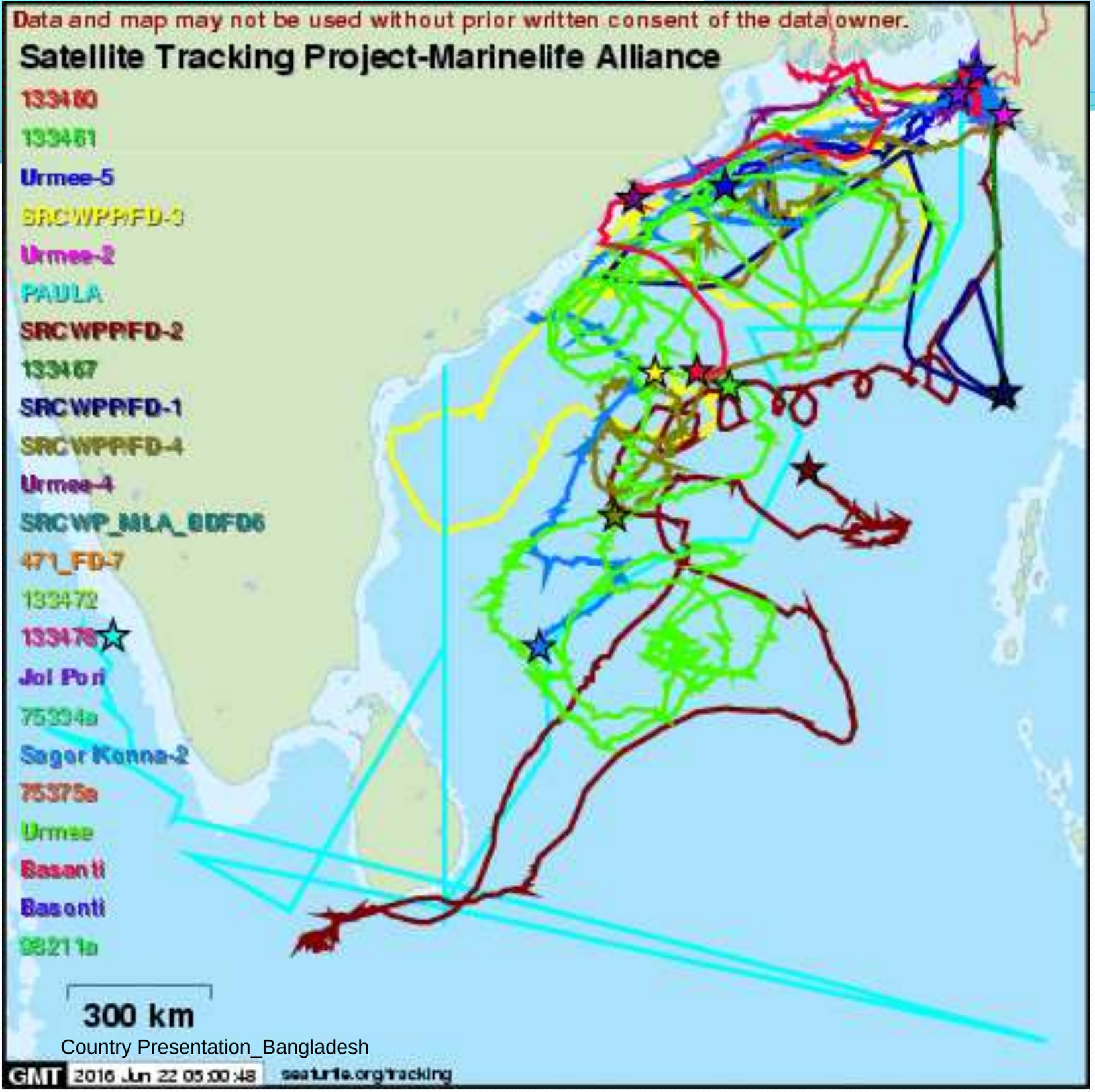

Data and map may not be used without prior written consent of the data owner.
Urmee-3
Marinelife Alliance, Bangladesh
India
Calcutta
Mandala
Myanmar (Bu
Rango
Madras
2014-11-18
Jaffna
Sri Lanka
Colombo
300 km


0
11
22
33
44
55
66
77
Days at Large
Data and map may not be used without prior written consent of the data owner.
Urmee-4
Marinelife Alliance, Bangladesh
Calcutta
Mandalay
Myanmar (Burm
2014-6-7
Rangoon
200 km
Distance Traveled: 1534 km
Straight-line Distance: 752 km



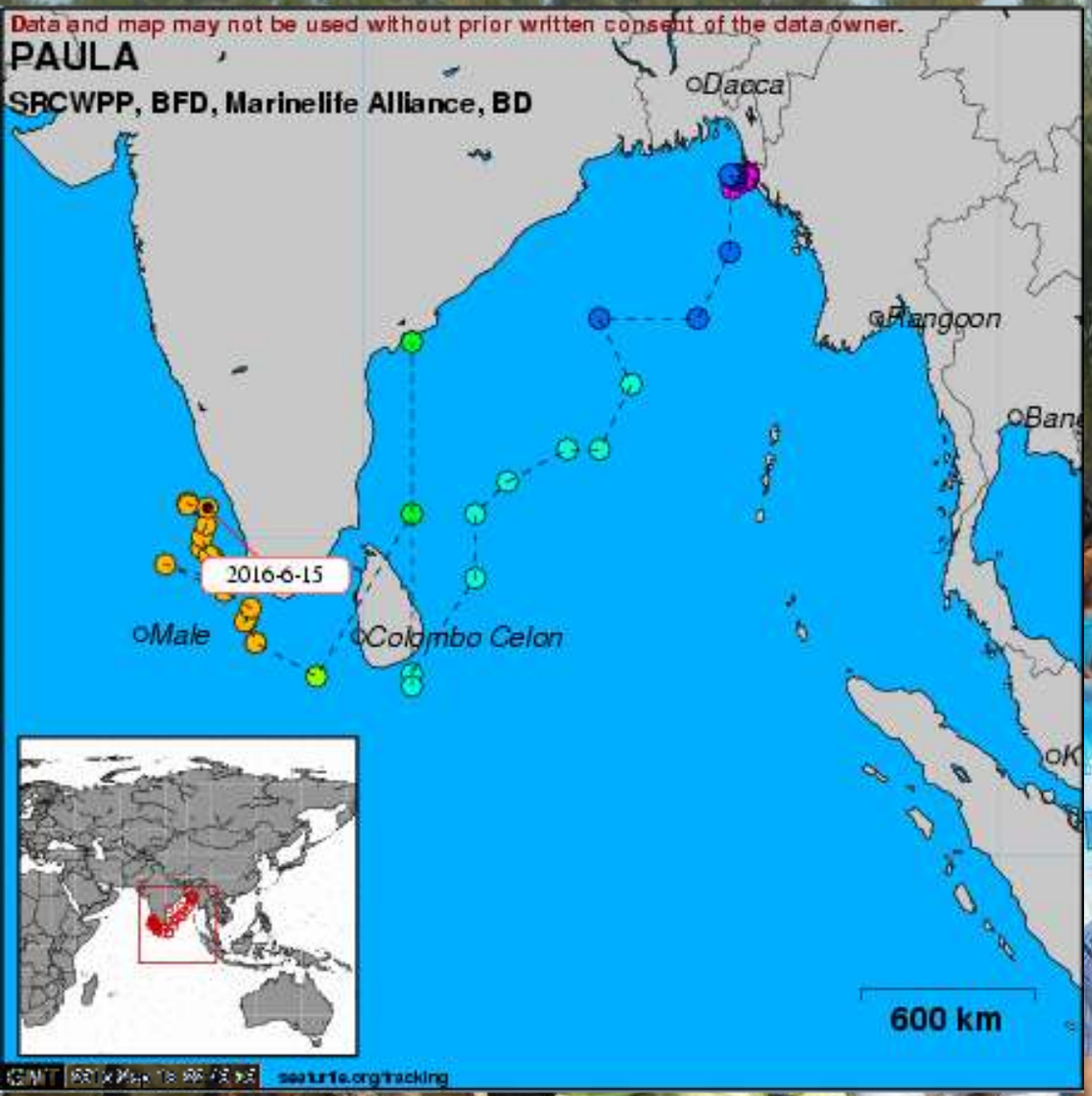
# Sat Tracking

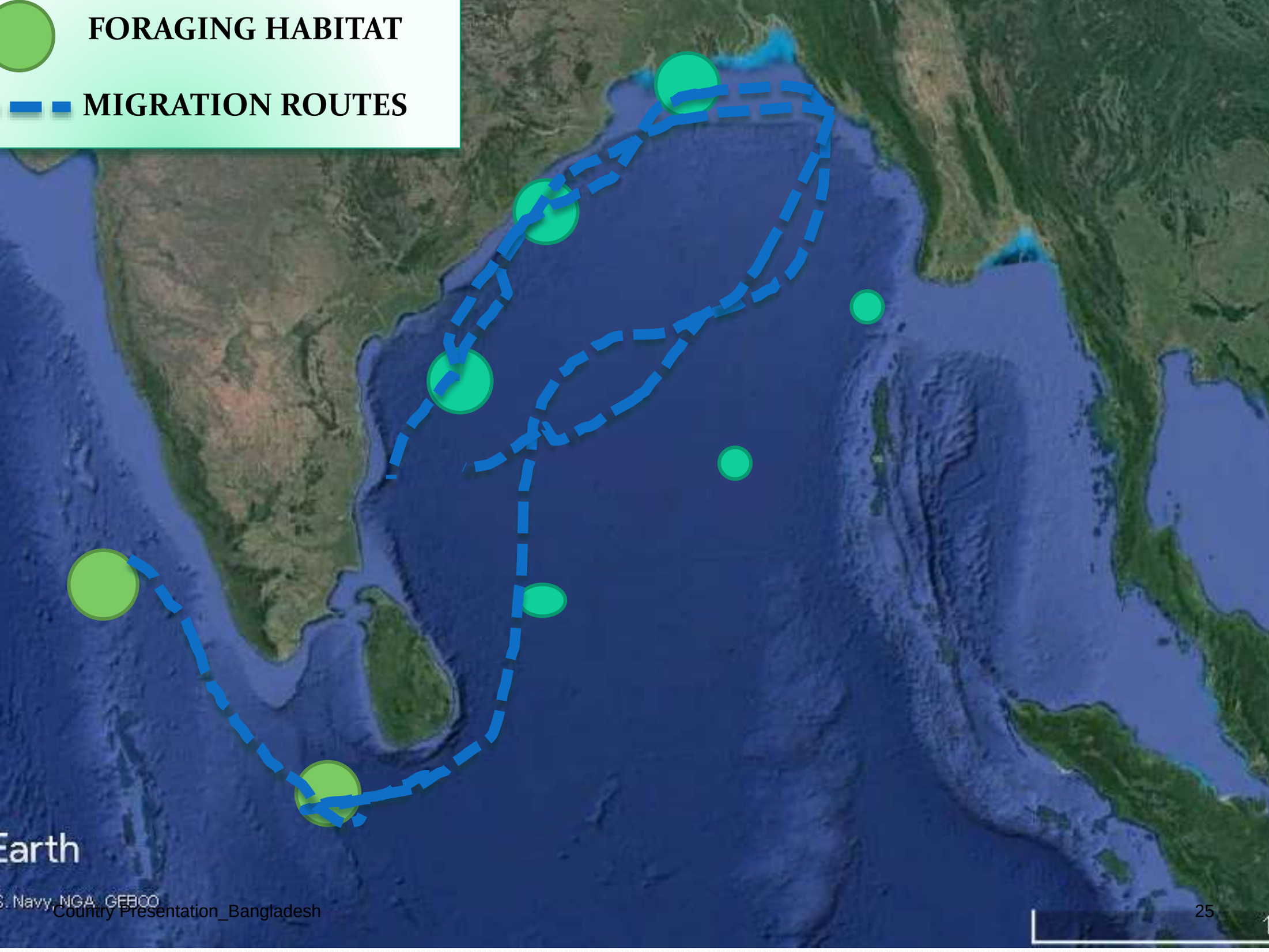
URMEE-6


Data and map may not be used without prior written consent of the data owner.
Satellite Tracking Project-Marinelife Alliance
133460
133461
Urmee-5
SRCWPPFD-3
Urmee-2
PAULA
SRCWPPFD-2
133467
SRCWPPFD-1
SRCWPPFD-4
Urmee-4
SRCWP_MLA_BDF06
471_FD-7
133472
133476
Jol Pori
75334a
Sagor Konna-2
75375a
Urmee
Basanti
Basonti
98211a
300 km
GMT 2016 Jun 22 05:00:48
seaturtle.org/tracking

# WorldBank and Forest Department High officials releasing Satellite tracking Ridley in Feb,2016

# Trackline of PAULA so far known by June 2016 Last recorded from Laksa island, India, Arabian Sea




FORAGING HABITAT
MIGRATION ROUTES
Earth
S. Navy, NGA, GEBCO

# Flipper Tagging for population and migration Study

- Flipper tags recovery also contribute information on turtle movement & migration, nesting site fidelity, threats etc.  We are using Inconel Tags numbered BD0000-BD2000

# Olive ridley hatchling release

# SEA TURTLE HATCHLING RELEASE BY BFD STAFF AND COMMUNITY

15.04.2014 12:3

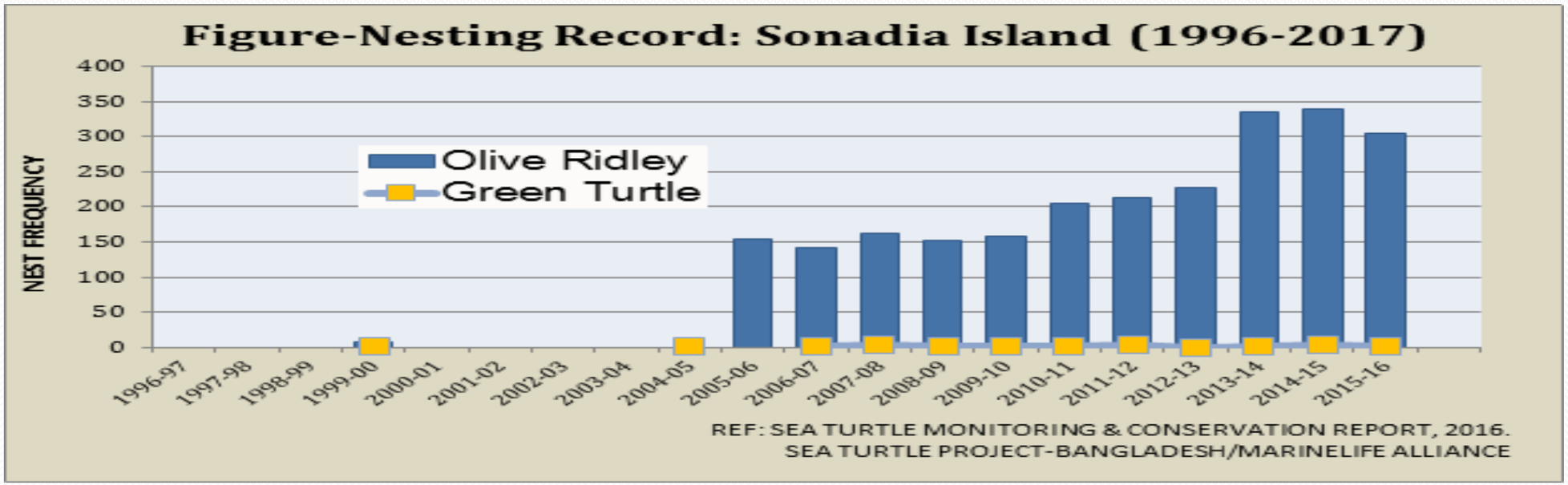
# Awareness Campaign with offshore Fisher's for bycatch reduction

BYCATCH REDUCTION AWARENESS PROGRAM
Marinelife
Alliance

AWARENESS PROGRAM
Marinelife Alliance
WFN
BANGLADESH FOREST DEPARTMENT

# School program on environment & sea turtle with secondary school children

# SEA TURTLE NESTING TREND



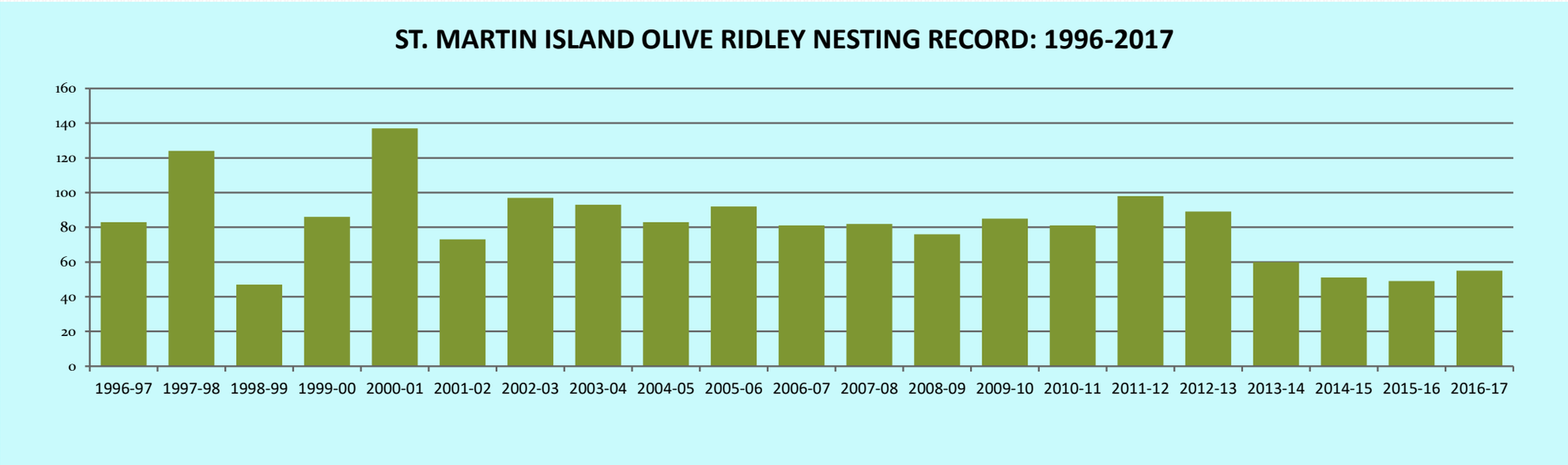
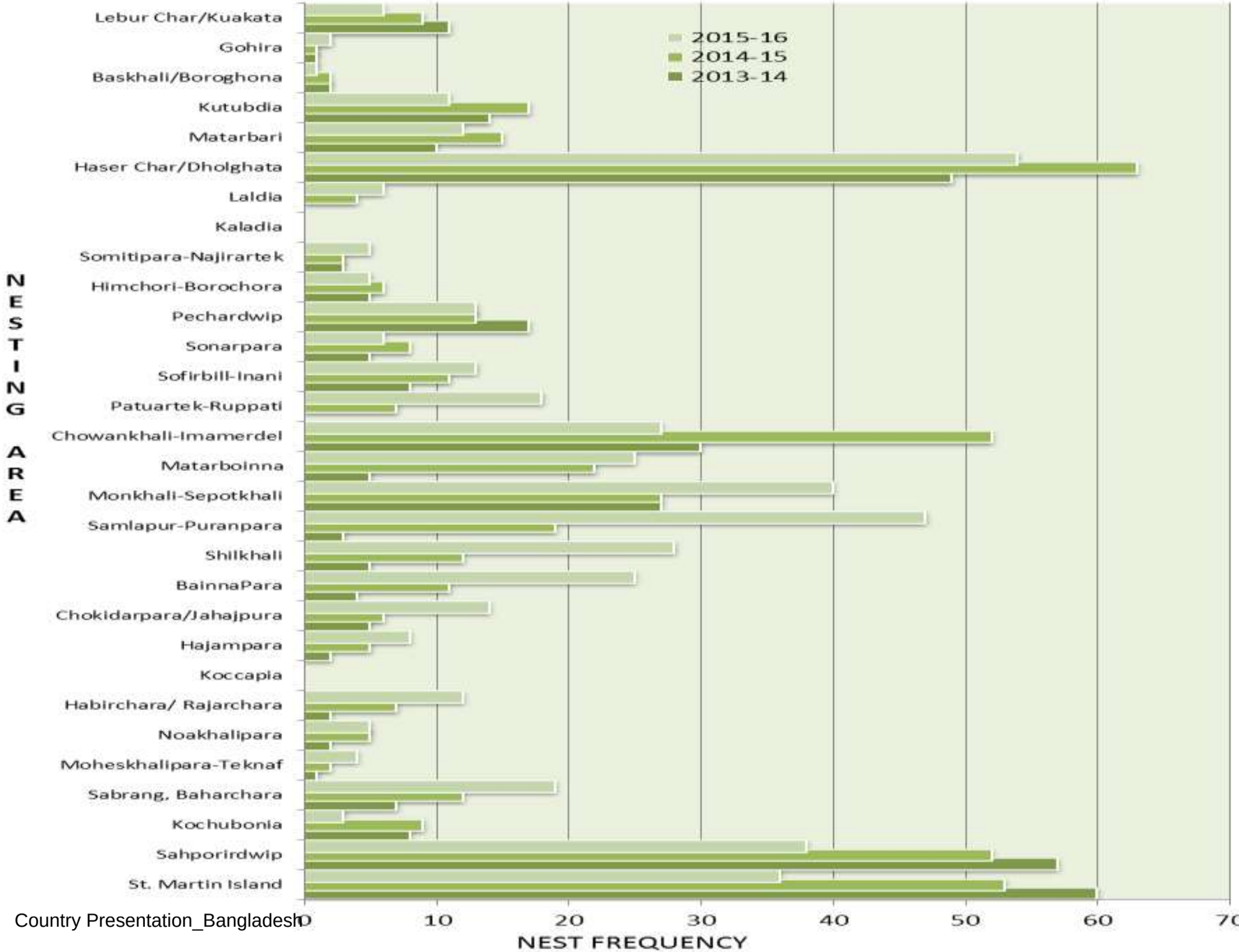
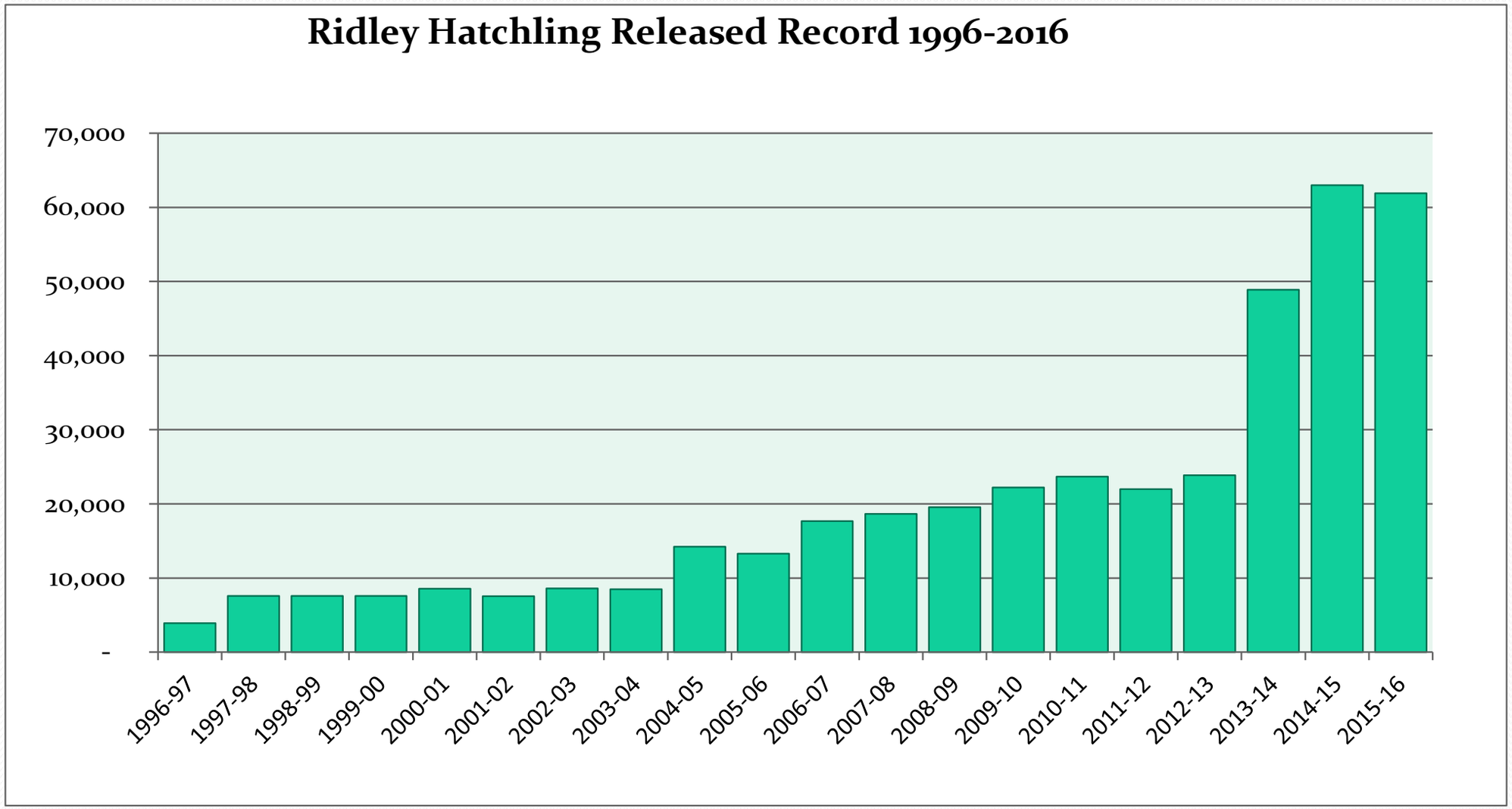



**Figure-9.11b NESTI RECORD 2015-16**

SOUTH CENTRAL & SOUTH EAST COAST



# SEA TURTLE HATCHLING RELEASE RECORD



# IN WATER AND FISHERIES RELATED WORK AND DATA COLLECTION UNDERWAY

- Enrolment OF OFFSHORE FISHING BOAT IN THE BYCATCH  REDUCTION PROGRAM
- FISHERMEN TRAINING FOR BYCATCH REDUCTION
- SUPPLY OF EQUIPMENTS AMONG FISHERMEN FOR OFFSHORE BYCATCH MONITORING AND SAFE RELEASE OF TURTLES ENTANGLED IN THE FISHING GEAR.
- ON GOING SATELLITE TRACKING; MIGRATION AND FORAGING HABITAT STUDY.

# THREATS IMPACTING NESTS, TURTLES AND THEIR HABITATS

| ECOSYSTEM | SPECIES | LIFE HISTORY STAGE | THREAT | IMPACT | | |
|---|---|---|---|---|---|---|
| | | | | Low | Medium | High |
| In water | Olive Ridley | Adult & Sub adult | bycatch | | | X |
| | Green Turtle | Adult & sub adult | bycatch | | X | |
| | Hawksbill Turtle | Adult & Sub adult | Bycatch | | | X |
| | Olive Ridley | Adult & sub adult | Boat Collision | | X | |
| On beach | Olive Ridley | adult | Egg poaching | | | X |
| | | | Predation by dogs | | | X |
| | | | Disturbance | | X | x |

# MAJOR THREATS

- Habitat Destruction
- Poaching (Egg and adults)
- Predation by dogs, jackals
- Disturbances (lighting, noise, beach activity)
- Bycatch (offshore fishing activity, gear problem)

# Threats: Development
# Habitat Destruction

**Tourism at Nesting beach of St. Martin Island**

**Shrimp Hatchery on the beach**

**Nesting beach of Teknaf Peninsula**

# Threats: Beach Armoring

# NATURAL CALAMITIES; NESTING BEACH LOSS

# NATURAL CALAMITIES NESTING BEACH LOSS

# ACTIONS UNDERWAY TO MITIGATE THE THREATS

- ***Night patrolling***
- ***Nest protection through in situ and by relocation***
- ***Community people trained and conducting monitoring***
- ***Enforcement of law***
- ***Local announcement, public notice on the nesting season and prohibition of activities.***
- ***Establishment of monitoring station for night patrolling***
- ***monitoring posts for nest protection***
- ***Predator control***
- ***Nesting beach protection through species plantation***

# Conservation Announcement Regarding wildlife laws related to sea turtle

# Beach restoration plantation of screwpine

# Foraging Habitat & Marine Survey

- Conduct survey in coastal & offshore areas collecting information on turtle bycatch, fishing activities and the dimension of the threats

- Additionally, we observed fish harvest by DGN(gill net) and MSBN to study foraging/turtle/ceatacean/whale shark entanglement.

02.04.2014 14:13

02.04.2014

02.04.2014 13:18

FAZILANI

MARINE MEGAFAUNA FORAGING HABITAT SURVEY

& MARINE MEGAFAUNA FORAGING HABITAT SURVEY

RAYHAN-2
03 04 2014 09 59

GARMIN

02 04 2014 14 13

# Training of Local Community.

- Training events on how to observe turtle, conserve and mitigate threats.

SEA TURTLE MONITORING POST

# *Relocated eggs hatching seasonal enclosures*

Egg laying by nesting turtle

Reburing eggs in safe enclosure

# *In situ* Nest Protection,

SEA TURTLE MONITORING POST

# Sea Turtle Monitoring Station

# Nesting sea turtle monitoring

- Local people use ID Guide in Bangla for field observation.
- We trained and deployed local people to monitor nesting and stranding turtle at all project locations. More than 70 work for monitoring in nesting season.

# Nesting Turtles

## *Olive Ridley*

***Lepidochelys olivacea***

## *Green Turtle:*

***Chelonia mydas***

Critically endangered

***Hawksbill Turtle***

**Stranded in ghost net forage in our nearshore water**

- MORPH-METRIC DATA COLLECTION
- WT, CCL,CCW,
- SCL,SCW

# Flipper Tagging

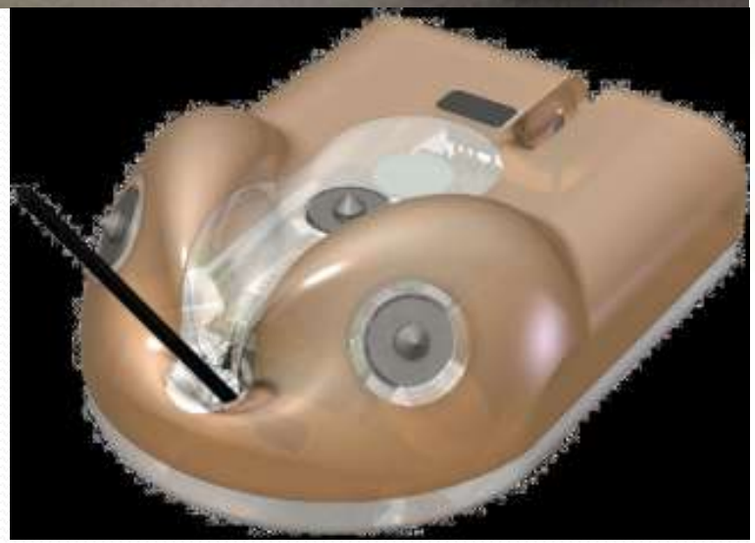
- Flipper tags are being attached on every nesting and foraging turtles to know population.
- Tag recovery also contribute information on turtle movement & migration, nesting site fidelity, threats etc.
- Bangladesh Tags Code # BD 0001-BD 2000 registered in IOSEA.

07.04.2014 10:18

# Microchip TAG
# PIT (Passive Integrated Transponder) Attachment

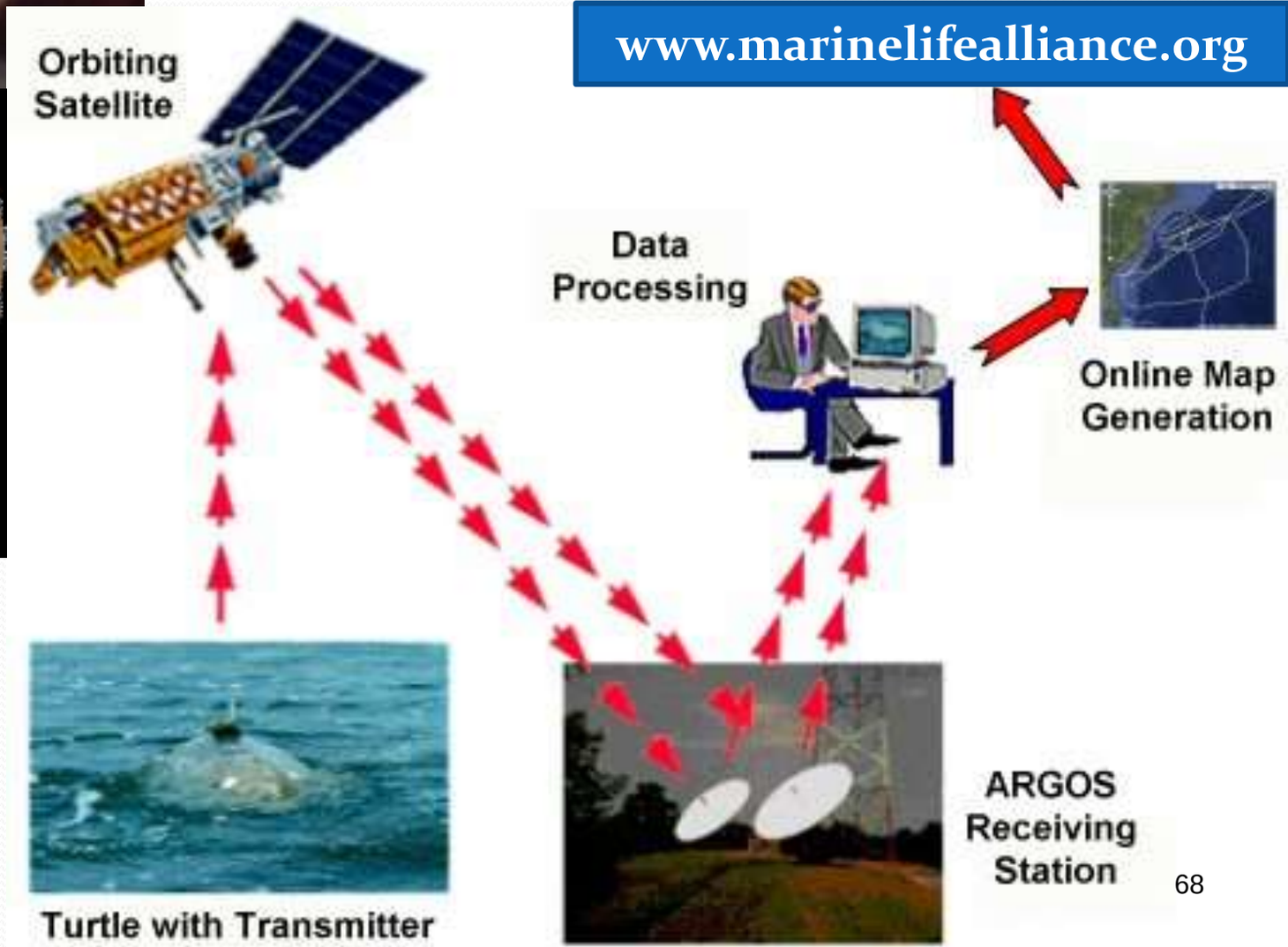
# Satellite Tracking

Attached satellite tags on Olive Ridley from SKCWP Sea turtle Project at Sonadia, Teknaf peninsula and St. Martin Island.



SPLASH10/ 2 PCS

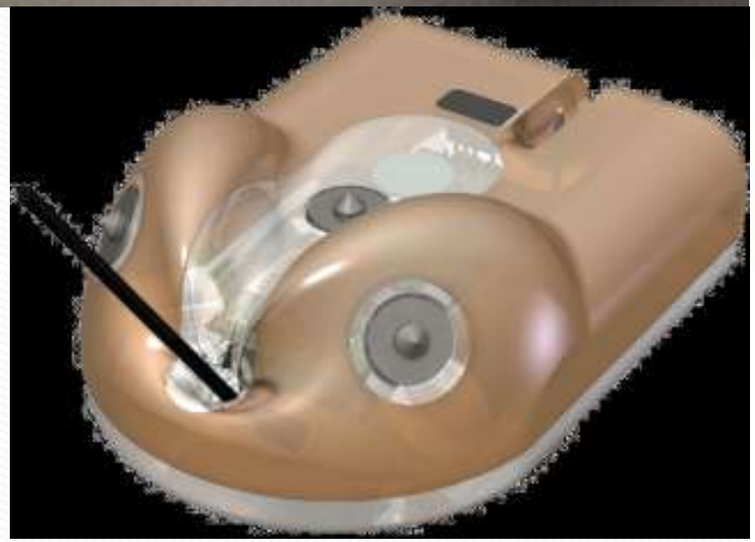
www.marinelifealliance.org



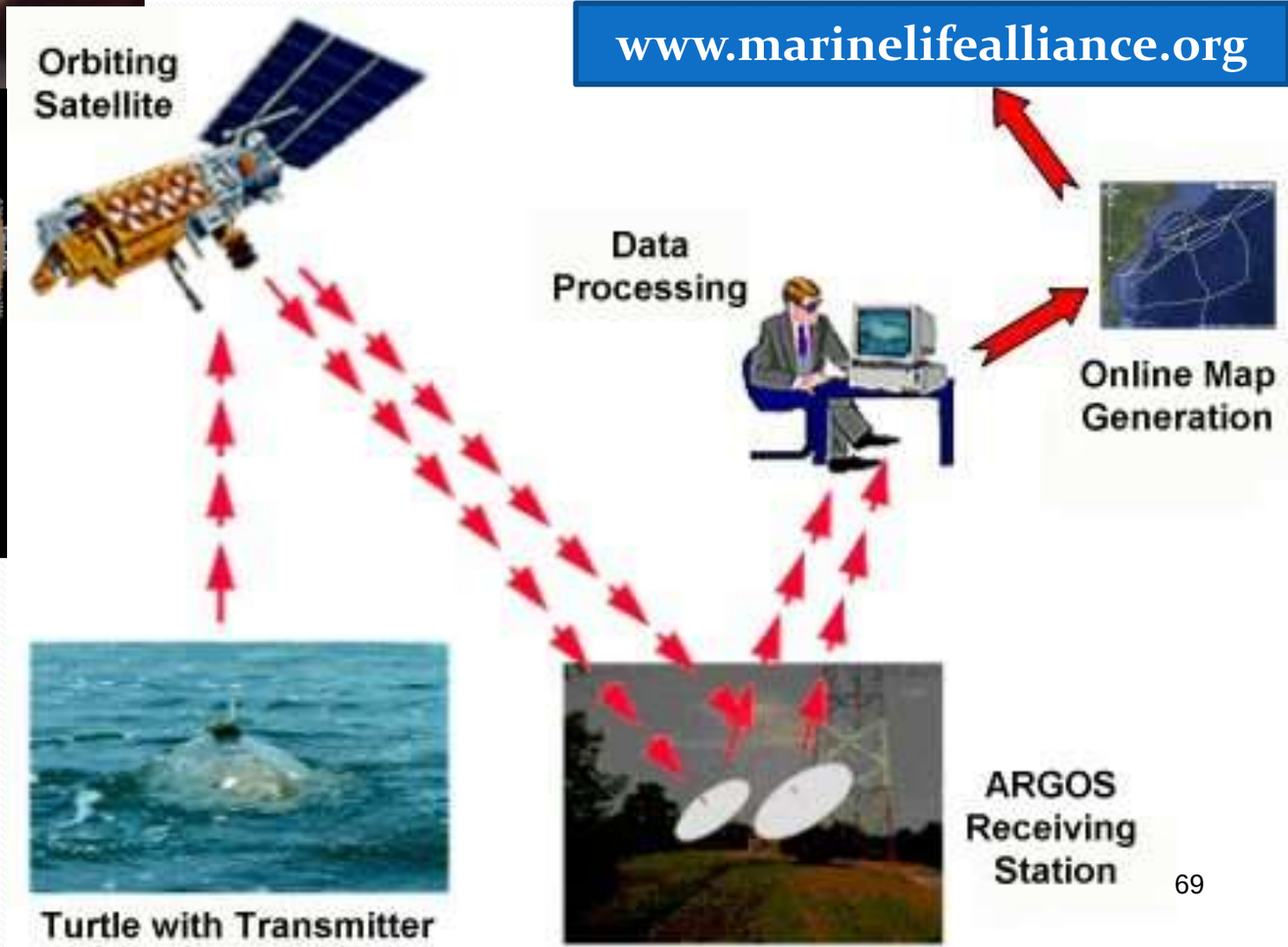
# The Device
# PTT-Transmitter

SPOT5 21 pcs

SPLASH 10 2 PCS



www.marinelifealliance.org



# Field Signs along Nesting Beach

# 6. Future actions required to ensure a successful sea turtle research and conservation program on your beaches and in-water

- We need regional connection like Myanmar to reduce bycatch as nesting sea turtle of Bangladesh forage Myanmar water.
- Collaborative efforts needed with all Bay of Bengal region countries to reduce bycatch and threats on beach.
- Nesting beach protection through establishment of MPA and proper enforcement.
- International volunteer participation to increase local knowledge and manpower support.
- In-water research facilities, viz., vessels, survey instrumentation, training etc.
- Government support on sea turtle research and conservation for long term and through the revenue budget.

# Thanks

# Turtle Action Group

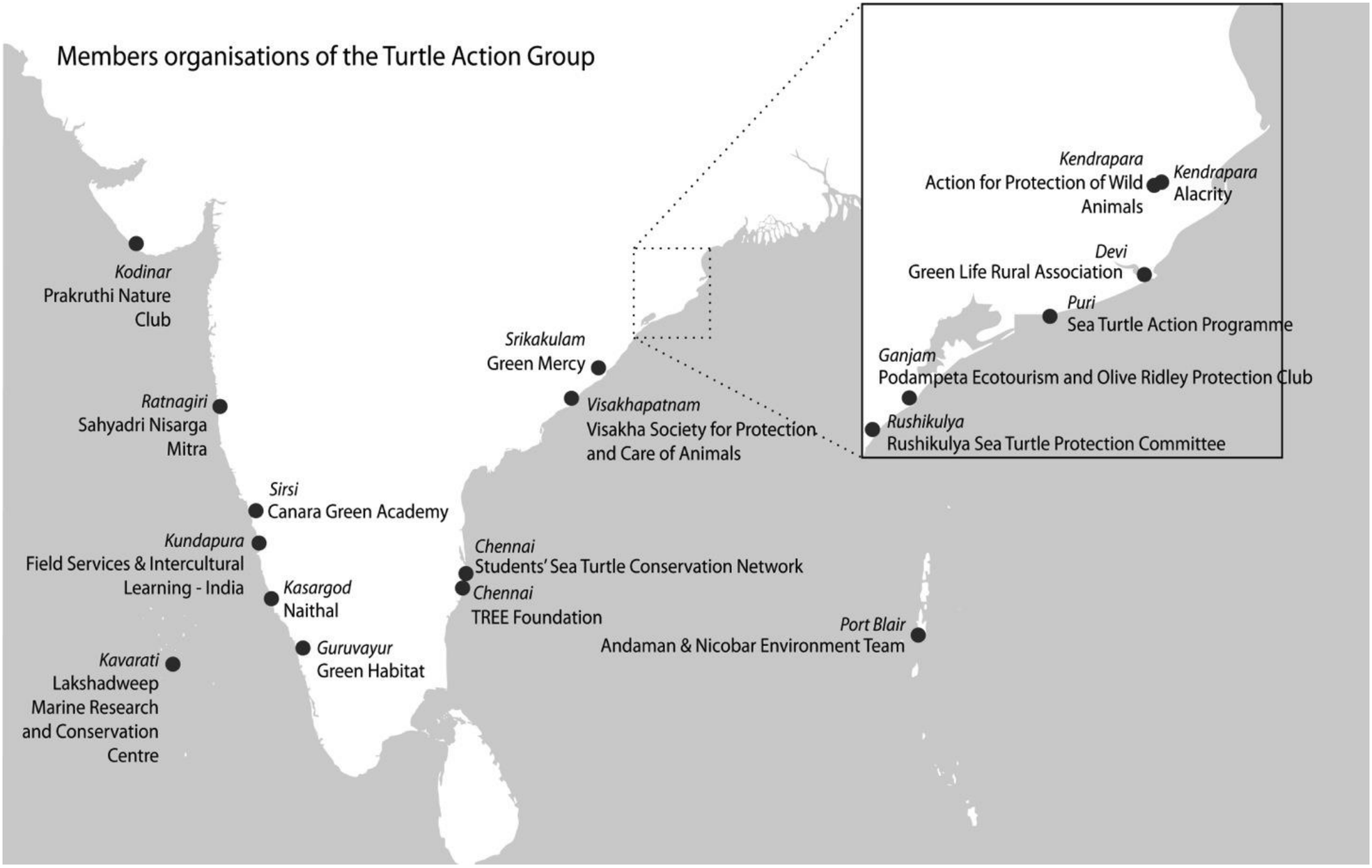
Muralidharan M

Dakshin Foundation

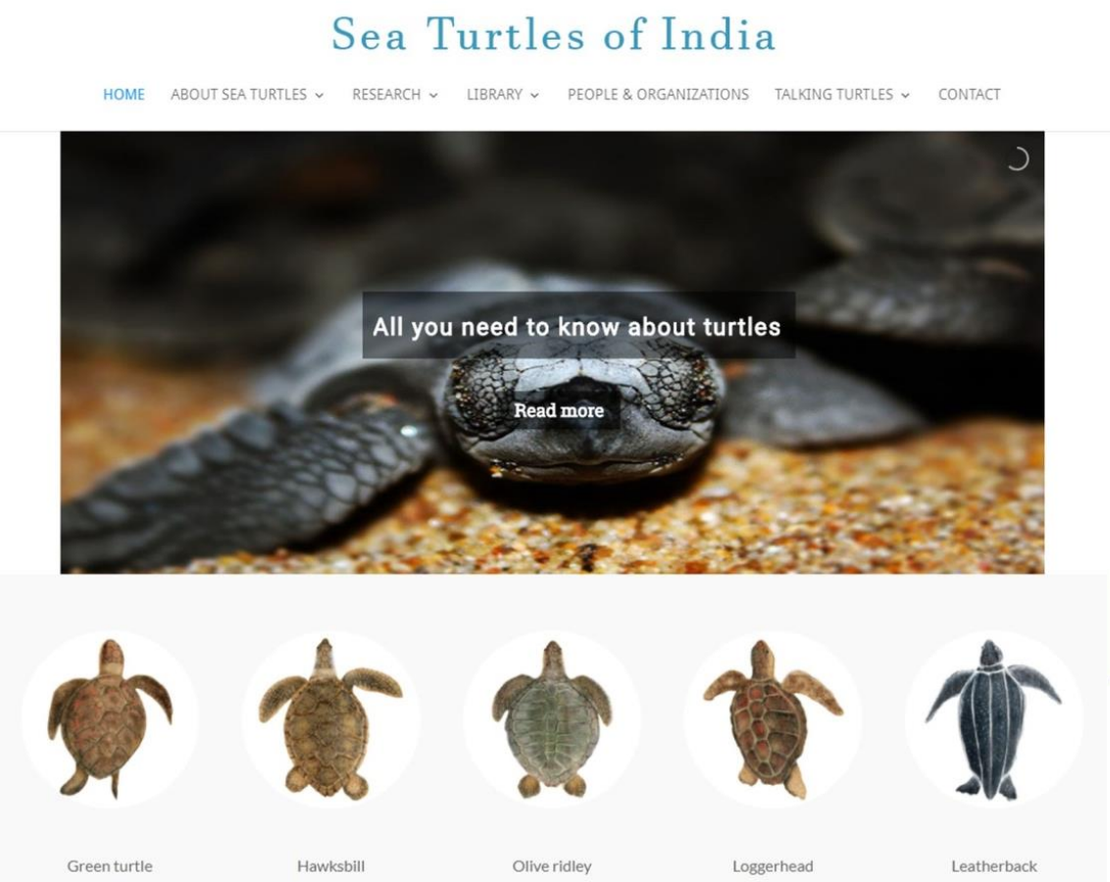
# Turtle Action Group

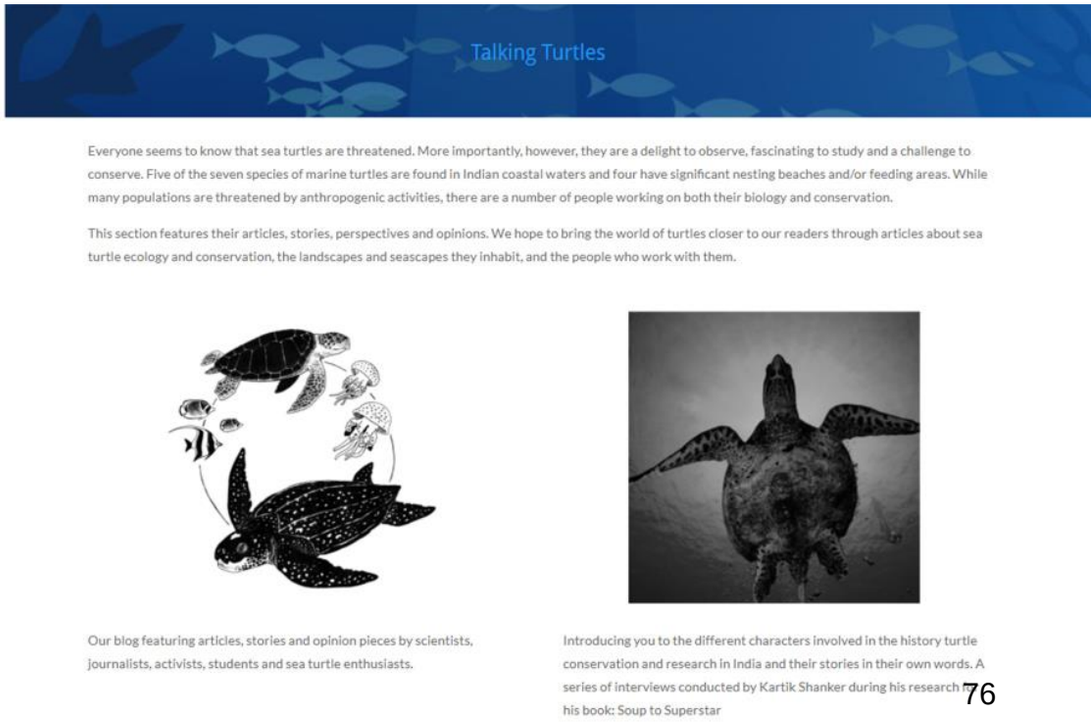
- Formed in 2009 with first meeting held in Chennai
- Over 20 NGO members from across the country
- 6 national meetings held so far on both east and west coasts
- Training and capacity building workshops
- Collaborative action and engagement with State

India NGO_Dakshin Foundation


Members organisations of the Turtle Action Group
Kodinar
Prakruthi Nature Club
Ratnagiri
Sahyadri Nisarga Mitra
Sirsi
Canara Green Academy
Kundapura
Field Services & Intercultural Learning - India
Kasargod
Naithal
Guruvayur
Green Habitat
Kavarati
Lakshadweep Marine Research and Conservation Centre
Srikakulam
Green Mercy
Visakhapatnam
Visakha Society for Protection and Care of Animals
Chennai
Students' Sea Turtle Conservation Network
Chennai
TREE Foundation
Port Blair
Andaman & Nicobar Environment Team
Kendrapara
Action for Protection of Wild Animals
Kendrapara
Alacrity
Devi
Green Life Rural Association
Puri
Sea Turtle Action Programme
Ganjam
Podampeta Ecotourism and Olive Ridley Protection Club
Rushikulya
Rushikulya Sea Turtle Protection Committee

# Other Resources



# Coming soon…

TAG
Turtle Action Group - India

## Sea Turtles of India | Data Portal

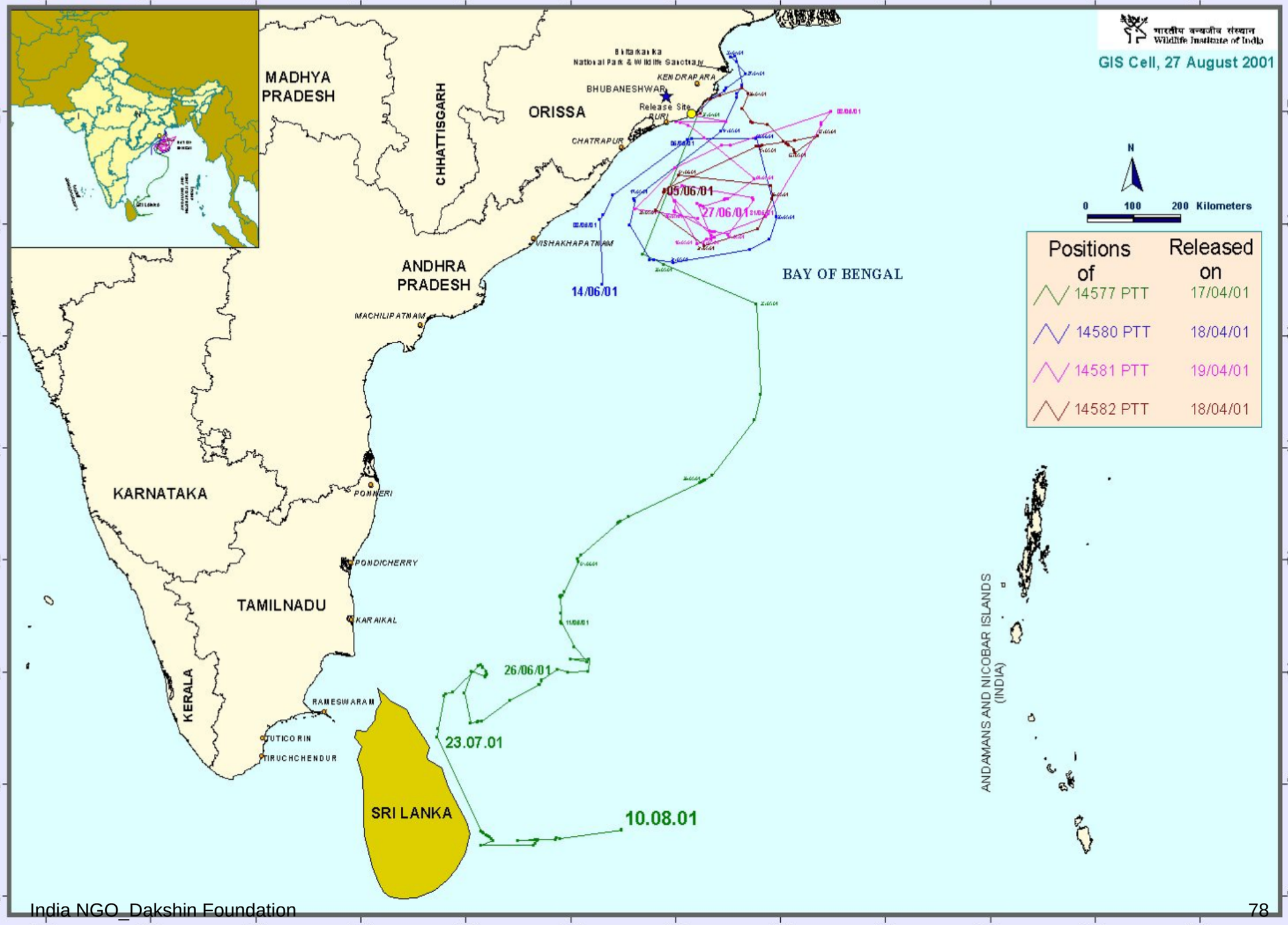
Home

### Welcome!

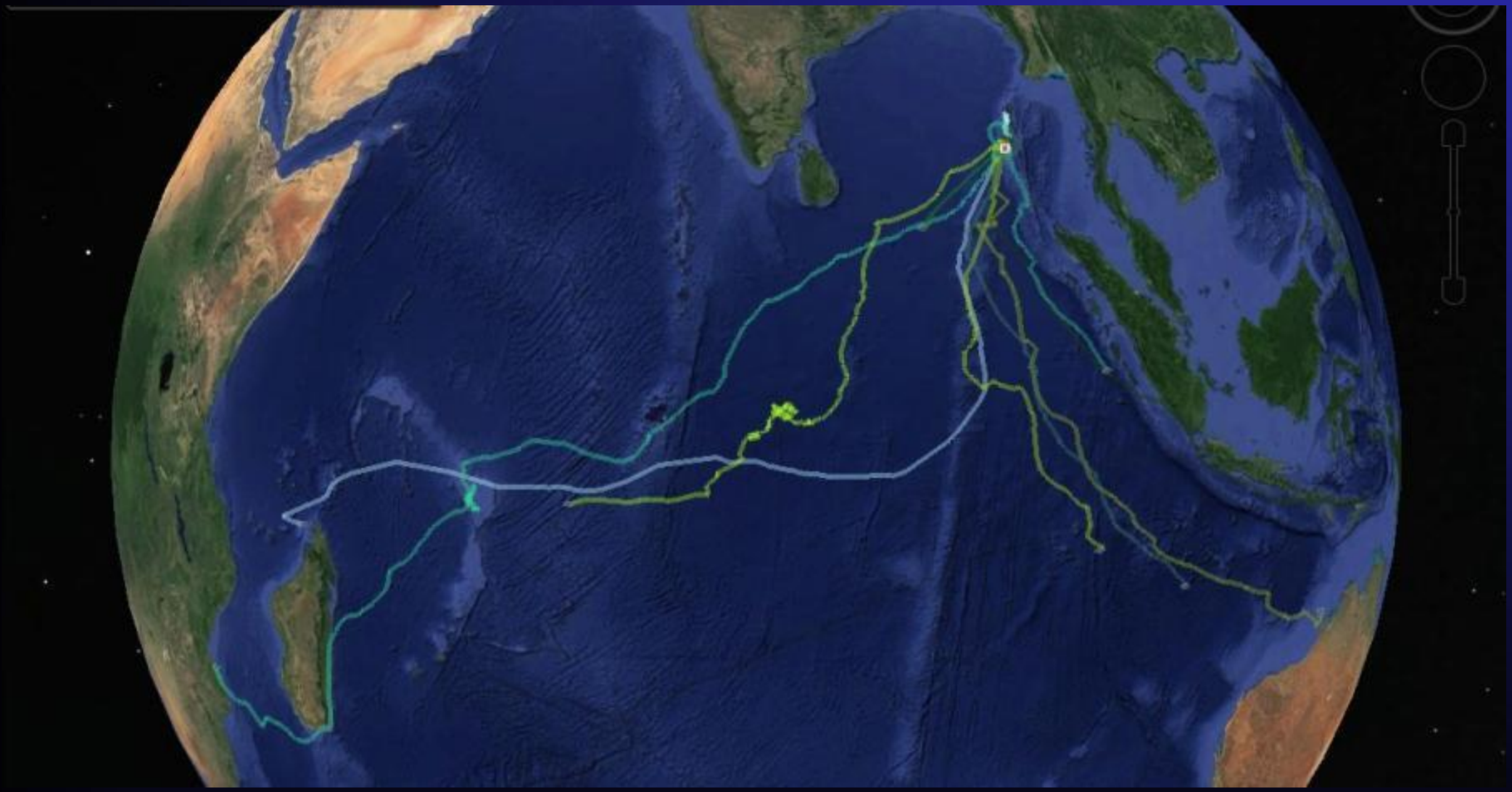
Welcome to the Sea Turtles of India | Data Portal! You have successfully logged in. Please choose the appropriate form to fill/view data.

1. Preliminary Data Sheets (Independant datasheets):
   - Beach Profile Data
     - General profile of beach and it's 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

# Satellite tracking of olive ridley turtles on the Indian coast



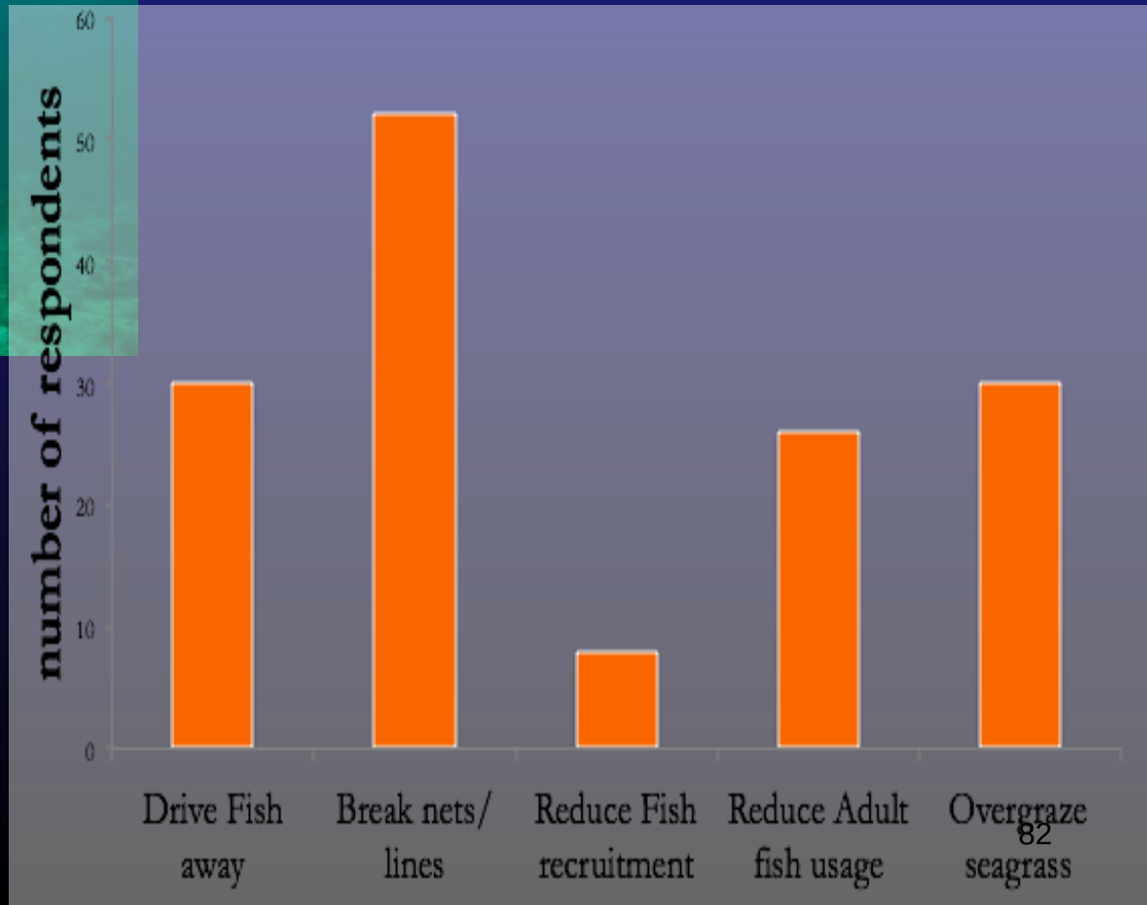
# Out of Africa ? Or Australia ?



# The green turtle conundrum

# A recent history of conflict

# How do turtles reduce fish catch?




Kelkar *et al*. 2013.

# Collaborative research and conservation

- Olive ridleys in the Bay of Bengal - along the east coast of India, Andaman and Nicobar Islands and Sri Lanka
- Green turtles in India (Lakshadweep), Sri Lanka and Maldives

# Turtle Conservation in the Maldives – A brief

- Maldives – Small archipelagic island chain in Indian Ocean
- About 2000 coral islands and beaches
- Population 400,000
- Main industries – tourism and fisheries

# Historical perspective

- Eating meat and eggs, oils used
- Shells and stuffed animals traded
- In 90’s first moratorium came banning harvest of turtles for 10 yrs - MoFA
- Moratorium extended, egg harvesting on specific beaches banned – MofA
- Complete ban on harvesting eggs and animals in 2016 – Min Of Env
- Turtle hospital established -

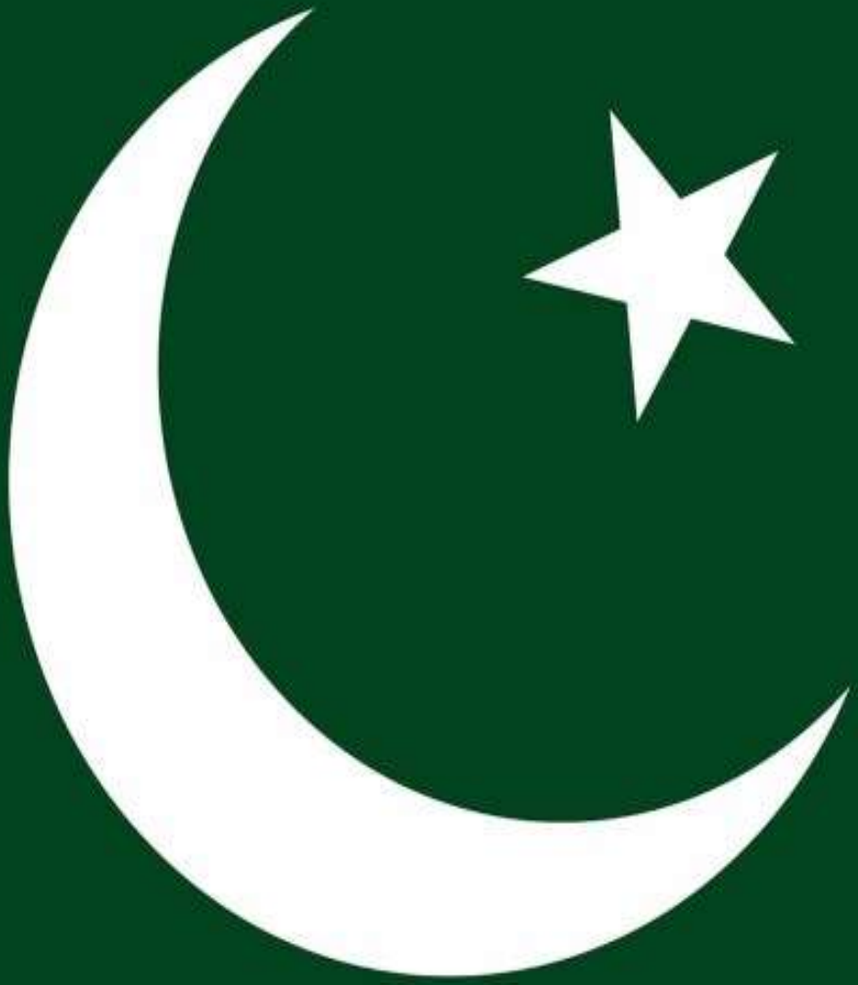
# Conservation efforts in the Maldives

- 5 species recorded, two very common
- Legal and policy tools established
- Complete ban on turtle and egg harvesting in place – highest level
- Removal of entangled turtles
- Protection of nesting beaches
- Enforcement and heavy fines
- Caring of the injured turtles
- Massive awareness
- Nest protection efforts

# Challenges

- Ghost net
- Rapid urbanization – loss of nesting beaches
- Slow progress at regional level
- Enforcement difficulties – lack of resources
- Ocean dumping

# Thank you



# Islamic Republic of Pakistan

# Country Presentation
# 2nd Meeting of the Northern Indian Ocean Marine Turtle Task Force
# 29-30 January 2018
# Colombo, Sri Lanka

**By:**
**Muhammad Samar Hussain Khan**
**Deputy Conservator (Wildlife)**
**Ministry of Climate Change**
**Government of Pakistan**
**Islamabad, Pakistan**

# Marine Turtle Species in Pakistan

**Five species of marine turtles are reported in Pakistan.**

**Nesting species include:**

- **Green turtle** (the most common species in Pakistan)
- **Olive Ridley turtle** (less common, no nesting reported since 2013)

**Non-nesting species include:**

- **Leatherback turtle** (few reports)
- **Hawksbill turtle** (few reports)
- **Loggerhead turtle** (few reports)

# Important Marine Turtle Habitats in Pakistan

**Sindh Province**

Hawke's Bay, Sandspit and Hub River Estuary, Cape Monze area

**Balochistan Province**

Omara Turtle Beaches, Jiwani Turtle Beaches (Dharan, Rodini and Taak), Hingol National Park Beaches, Astola Island's Turtle Beach and Coral Reef, Gwadar Turtle Beach, Ras Malan Beach, Coral Reef of Ganjabad.

**Nesting beaches monitored regulerly**

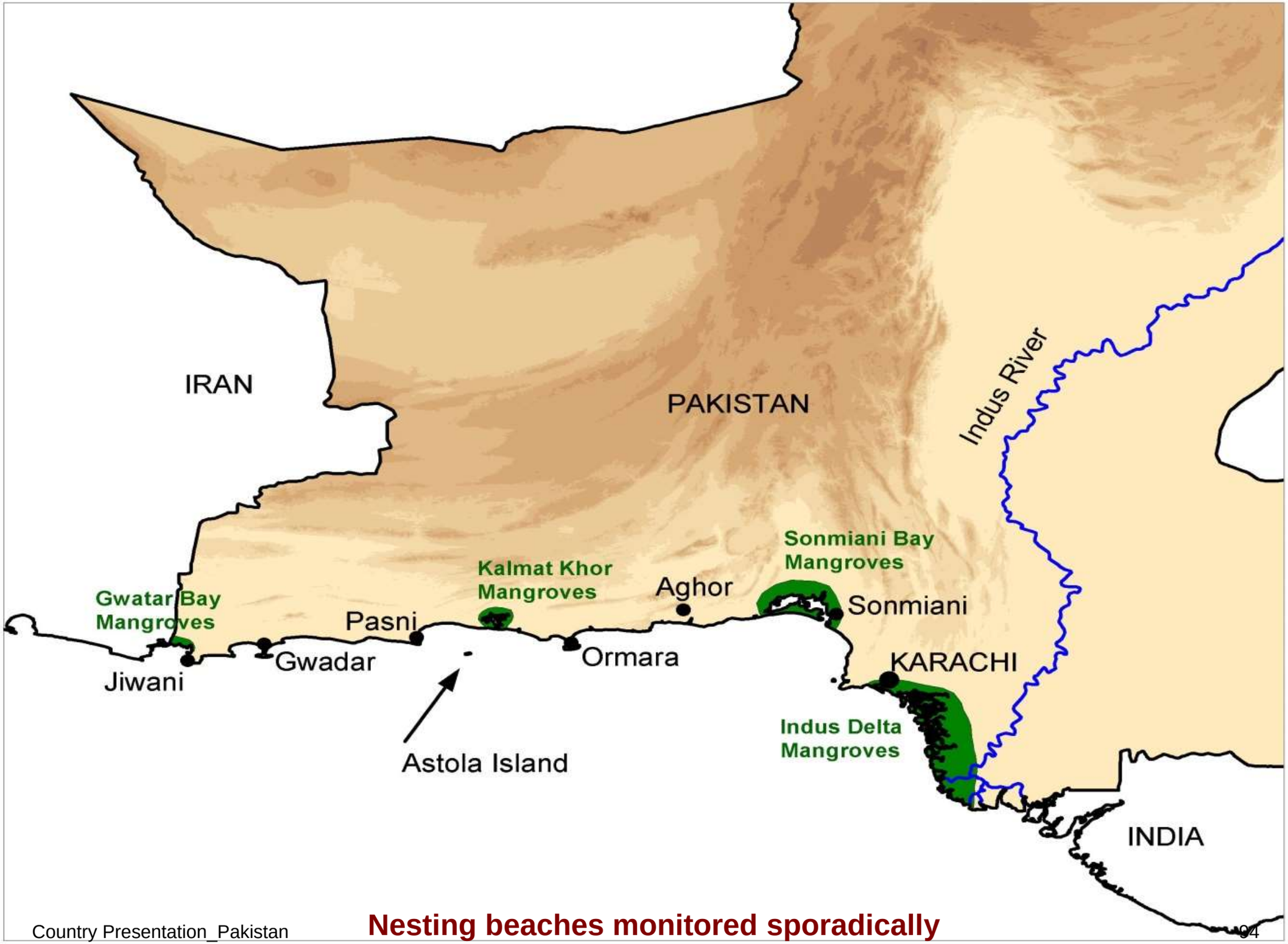
Created on 29-09-2015

Marine Turtle Study Areas

Balochistan
Sindh

9 0 9 18 Kilometers

SINDH WILDLIFE DEPARTMENT
GIS Lab. Karachi




**Nesting beaches monitored sporadically**

# Threats to Marine Turtles in Pakistan

- Incidental entanglement in fishing gears
- Habitat degradation
- Pollution
- Disturbance on nesting beaches
- Eggs and  juvenile depredation by feral dogs and other predators
- Illegal trade (local, research required)

# Threats impacting nests, turtles, and their habitats

| Ecosystem (Beach /In-water) | Species | Life history stage | Threat | Low impact | Medium impact | High impact |
|---|---|---|---|---|---|---|
| Beach | *Chelonia mydas* | Eggs | Land predators, sand mining, construction activities | | | X |
| Beach | *C. mydas* | Juveniles | Land & aquatic predators pollution, fishing, beach lighting, poaching for trade | | X | |
| Beach | *C. mydas* | Nesting females | Habitat degradation, pollution, human disturbance, coastal fishing | | X | |

# Threats impacting nests, turtles, and their habitats

| Ecosystem (Beach /In-water) | Species | Life history stage | Threat | Low impact | Medium impact | High impact |
|---|---|---|---|---|---|---|
| Submerged coastal habitat | *Chelonia mydas, Lepidochelys olivacea* | Adult and sub adult | Plastic pollution | | X | |
| Submerged coastal habitat | *C. mydas, L. Olivacea* | Adult and sub adult | Feeding ground degradation | X | | |
| Oceanic | *C. mydas, L. Olivacea* | Adult and sub adult | Bycatch in various fishing gears | | | X |
| Oceanic | *C. mydas, L. Olivacea* | Adult and sub adult | Deliberate killing by fishers in seine nets | X | | |

# Implementation of IOSEA Marine Turtle MoU in Pakistan

**Ministry of Climate Change works in collaboration with the following organizations:**

- Balochistan Forest and Wildlife Department
- Sindh Wildlife Department
- Marine Fisheries Department, Ministry of Maritime Affairs
- Provincial Fisheries Departments
- Pakistan Museum of Natural History, Islamabad
- WWF Pakistan
- IUCN Pakistan

# Legislative Cover for Marine Turtles Conservation in Pakistan

- Balochistan Wildlife (Protection, Preservation, Conservation and Management) Act, 2014
- Balochistan Sea Fisheries Ordinance, 1971 and Balochistan Sea Fisheries Rules, 1971
- Sindh Wildlife Protection Ordinance, 1972
- Sindh Fisheries Ordinance, 1980
- Pakistan Fish Inspection and Quality Control Act, 1997 and Pakistan Fish Inspection and Quality Control Rules, 1998
- Customs Act, 1969 (Export Policy Order)
- The Pakistan Trade Control of Wild Fauna and Flora Act, 2012 (CITES Law)

# Gaps in the Relevant Legislation

**The existing legislation give appropriate protection to marine turtle species; however following gap/issues hinder effective enforcement:**

- Lack of awareness
- Limited inter-agency cooperation
- Weak enforcement capacity
- Financial constraints

# Marine Turtles Conservation in Pakistan

**Marine turtles conservation work was started in 1979 at Hawke's Bay and Sandspit in Karachi which has now extended to whole coastal areas of Pakistan. Conservation work includes both nesting beach and in-water activities:**

- Legal protection to species
- Designation of protected areas
- Reducing mortality by minimizing threats
- Awareness raising
- Engagement of local communities in conservation

# Marine Turtles Conservation in Pakistan

## Legal Protection

**Marine turtles are "Protected" under the following laws:**

- Balochistan Wildlife (Protection, Preservation, Conservation and Management) Act, 2014
- Balochistan Sea Fisheries Ordinance, 1971 and Balochistan Sea Fisheries Rules, 1971
- Sindh Wildlife Protection Ordinance, 1972
- Sindh Fisheries Ordinance, 1980

It is illegal to hunt, kill or captured a protected species.

# Marine Turtles Conservation in Pakistan

## Legal Protection

- Export and domestic consumption of turtles is prohibited under the Pakistan Fish Inspection and Quality Control Act, 1997
- Export of reptiles is prohibited by the Export Policy Order issued under Customs Act, 1969
- The Pakistan Trade Control of Wild Fauna and Flora Act, 2012 (CITES Law regulates imports/export of CITES-listed species). However a ban is being observed on export of all reptiles.

# Marine Turtles Conservation in Pakistan

## Designation of Protected Areas

- Pakistan had declared some of the key turtle nesting beaches as Ramsar Sites, which include; Astola (Haft Talar) Island, Omara Turtle Beaches, Jiwani Coastal Wetlands
- Hingol National Park, Balochistan includes important turtle nesting beaches
- Recently Pakistan has designated two marine protected areas in Arabian Sea; Astola Island Marine Protected Area, Balochistan (401.47 Sq. Km) and Indus River Canyon Marine Protected Area (27,607 Sq. Km)

# Marine Turtles Conservation in Pakistan

**Reducing mortality by minimizing threats**

- Safeguarding key turtle nesting beaches through watch and ward
- Beach patrolling and transferring turtle eggs to safe enclosures for hatching. The hatchlings are then safely released in the sea
- Protection against predators (feral dogs, cats etc) and other negative human impacts
- Beach cleaning activities to remove debris and other non-biodegradable items from beaches
- Training and awareness of local fishermen on use of Turtles Excluder Device (TED)
- Training and awareness of local fishermen on safe release of turtles caught in fishing gears

# Marine Turtles Conservation in Pakistan

## Awareness raising activities

- Information centers established by WWF Pakistan at important turtles habitats (Sandspit Karachi and Jiwani) are playing important role in raising awareness
- Marine Turtle Laboratory of Sindh Wildlife Department at Hawke's Bay, Karachi carryout awareness raising activities; turtle watching tours and display of publicity material etc.
- Celebration of World Sea Turtle Day (16 June)
- Celebration of other important days (World Wetlands Day, World Wildlife Day, World Environment Day etc.)

# Marine Turtles Conservation in Pakistan

**Community participation in conservation activities**

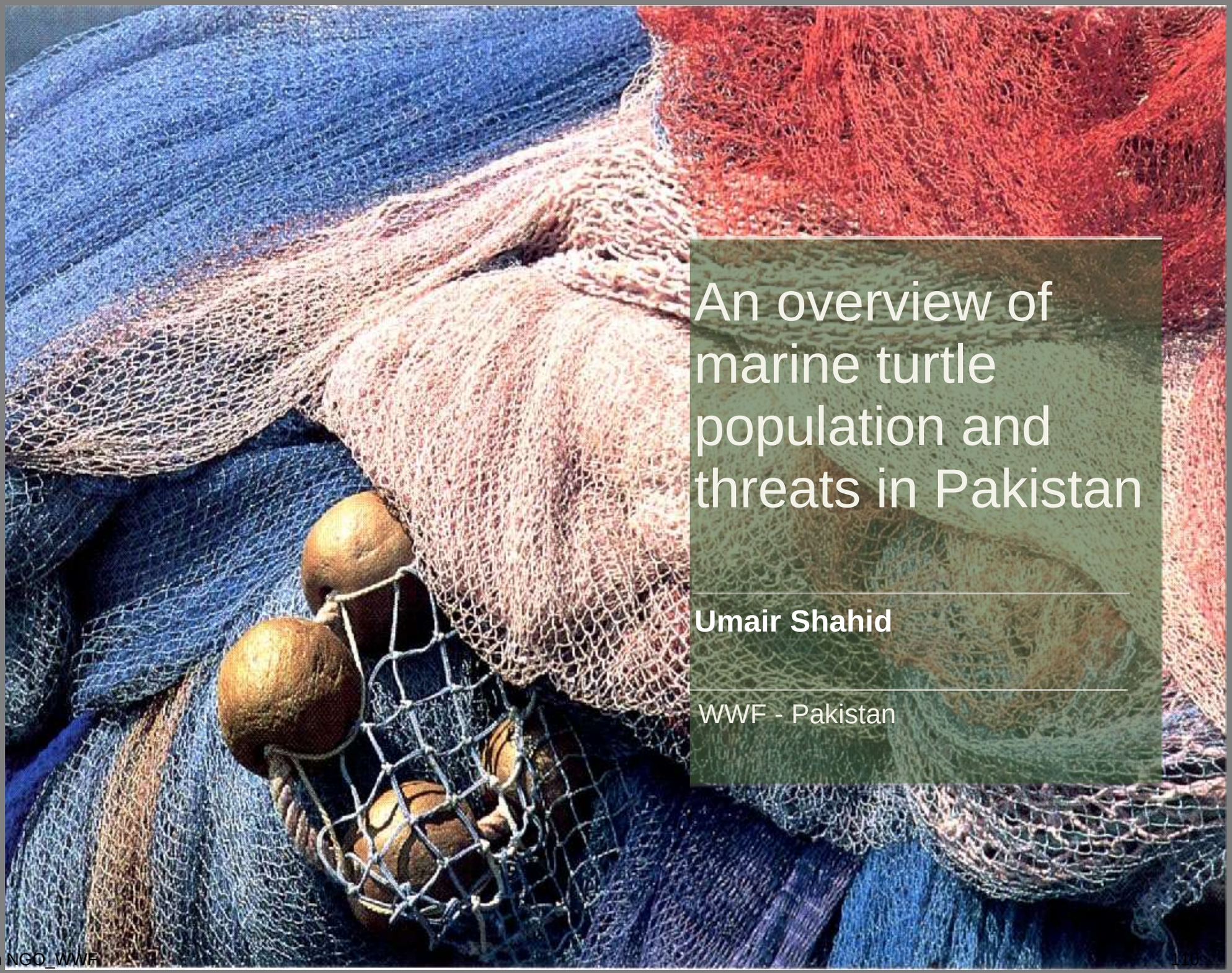
**WWF Pakistan and IUCN in collaboration with government departments have been working with local fisher communitpes on:**

- Use of TED
- Flipper tagging
- Safe released of entangled turtles
- Beach patrolling for turtle nests protection and safe release of hatchlings to sea.

# Way Forward

- Management of recently declared Marine Protected Areas (MPAs)
- Declaration of new MPAs
- Effective enforcement of existing legislation
- Training and capacity building
- Awareness raising activities
- Research and monitoring (illegal trade etc.)
- An umbrella project Green Pakistan Programme has been launched for revival of wildlife resources of the country. Balochistan component of the project includes activities for conservation of turtle nesting beaches.

# Thank You



# An overview of marine turtle population and threats in Pakistan

**Umair Shahid**

WWF - Pakistan

# Introduction to Marine Turtles in Pakistan

| Marine Turtles | Protection status | Nesting Trend | Foraging | Main threat |
|---|---|---|---|---|
| Green Turtle (*C. mydas*) | Protected | Stable | Yes | Bycatch and Poaching |
| Olive Ridley (*L. olivacea*) | Protected | Declining | Yes | Bycatch |
| Leather Turtle (*D. coriacea*) | Protected | Sporadic | Yes | Bycatch |
| Hawksbill Turtle (*E. imbricate*) | Protected | None | Yes | Bycatch and entanglement in fishing gear |
| Loggerhead Turtle (*C. caretta*) | Protected | Data deficient (only 2 nesting) | Yes | Data deficient |

# Introduction to Marine Turtles in Pakistan

# Marine Turtles Conservation in Pakistan

WWF works at different levels:

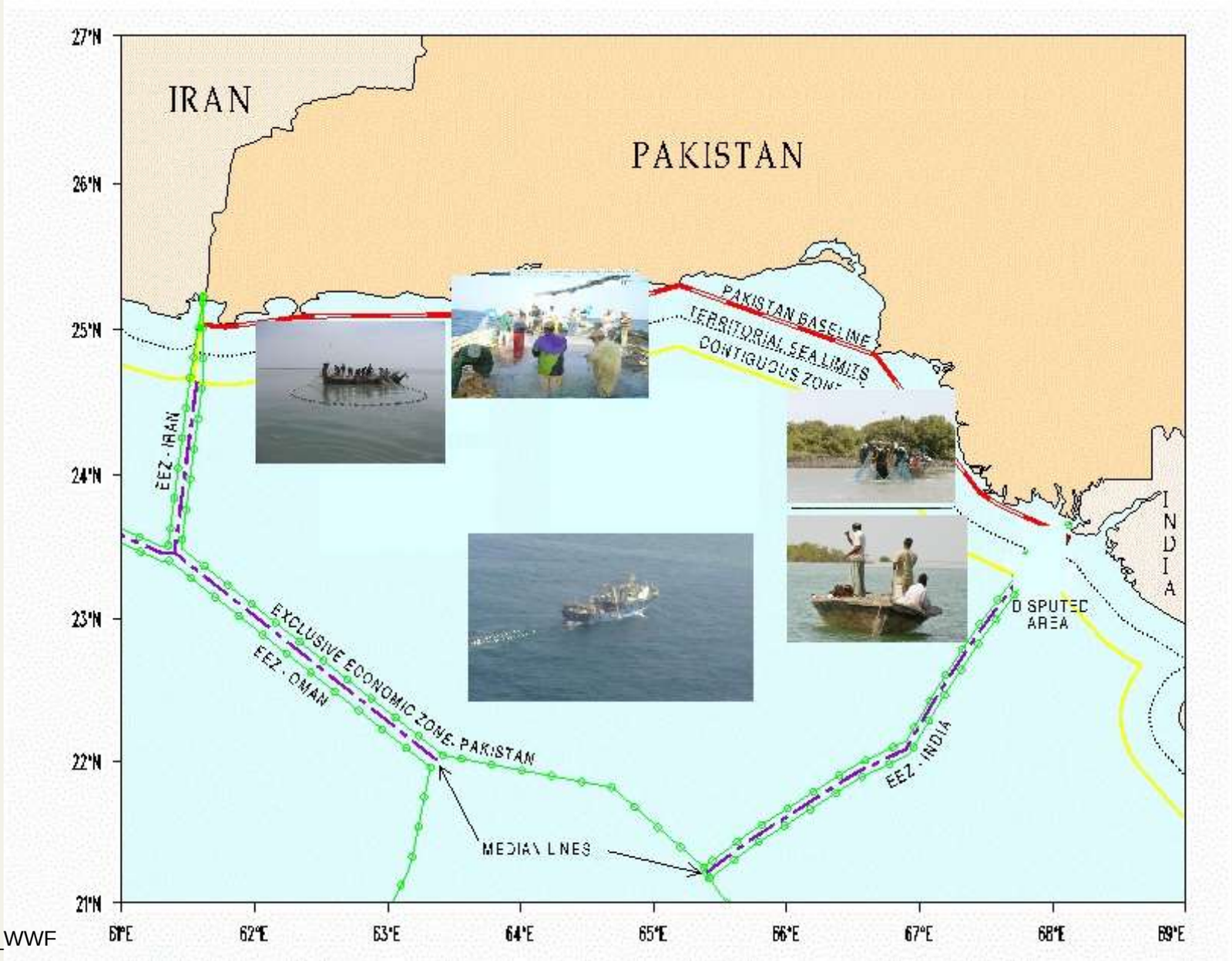
- With coastal communities for protection, restoration, data collection and rescue and release
- Awareness with guided nesting tours and outreach to corporate sectors, schools, colleges, among others
- With provincial and federal governments on policy and management

# Marine Turtles Conservation in Pakistan

# Marine Turtles Conservation in Pakistan

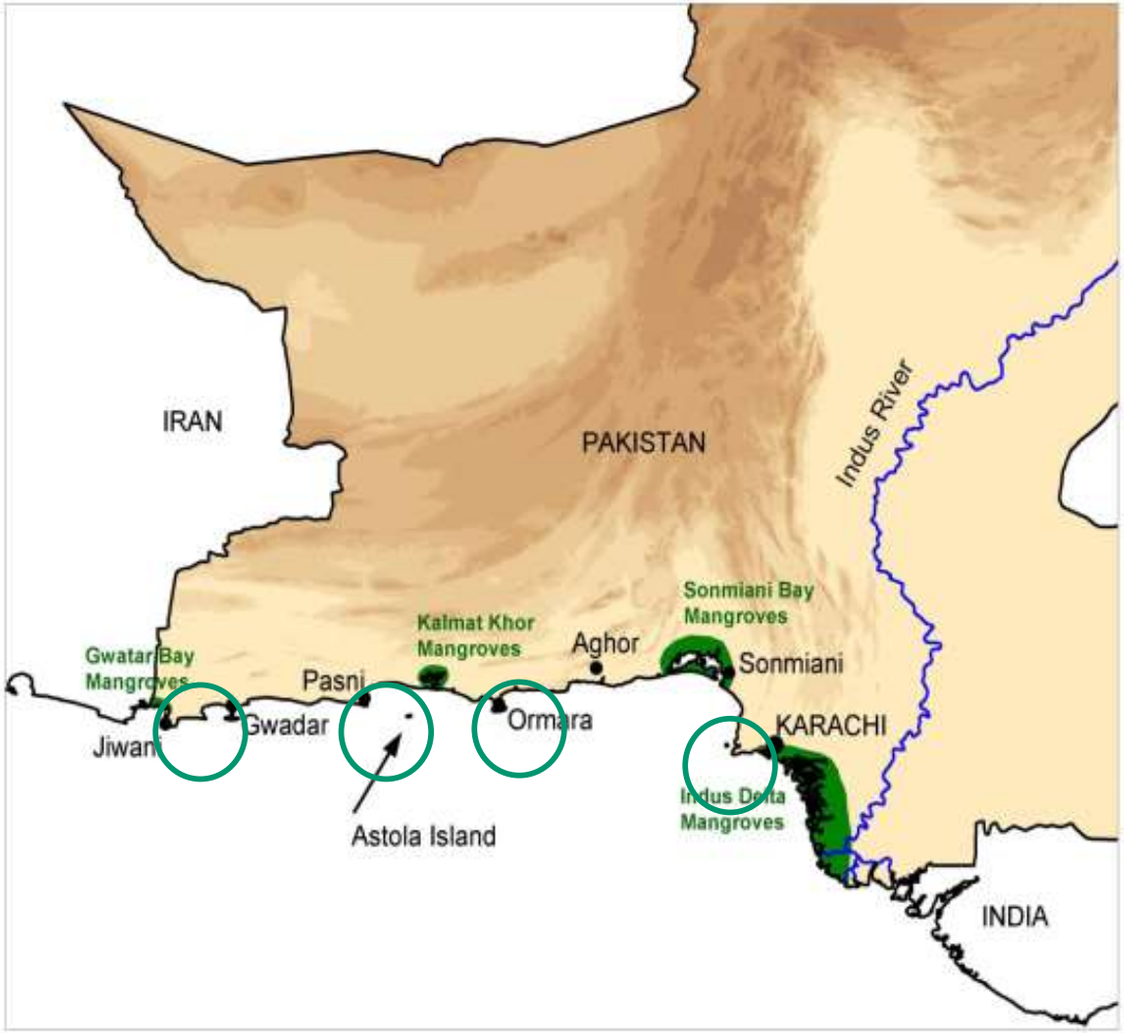
# Climate Variability

# Fishing effort in North Arabian Sea



# Turtles and Fisheries

- Major type of fishing
- Consists of about 500 tuna gillnetters (Pelagic)
- Operate in coastal, creek areas, lagoons, offshore, high seas and in ABNJ.
- The lengths varies from ½ km to 12 km.




**Map 1: Shows the nesting locations of *C. mydas.***

**Source: IOTC, WPEB ,2012; WWF, 2011;**

# By catch in gillnet fisheries

Bycatch consists of:

- Sharks and rays
- Rays and mobulids
- Crustaceans
- Turtles
- Cetaceans
- Whale sharks
- Sunfishes
- Other

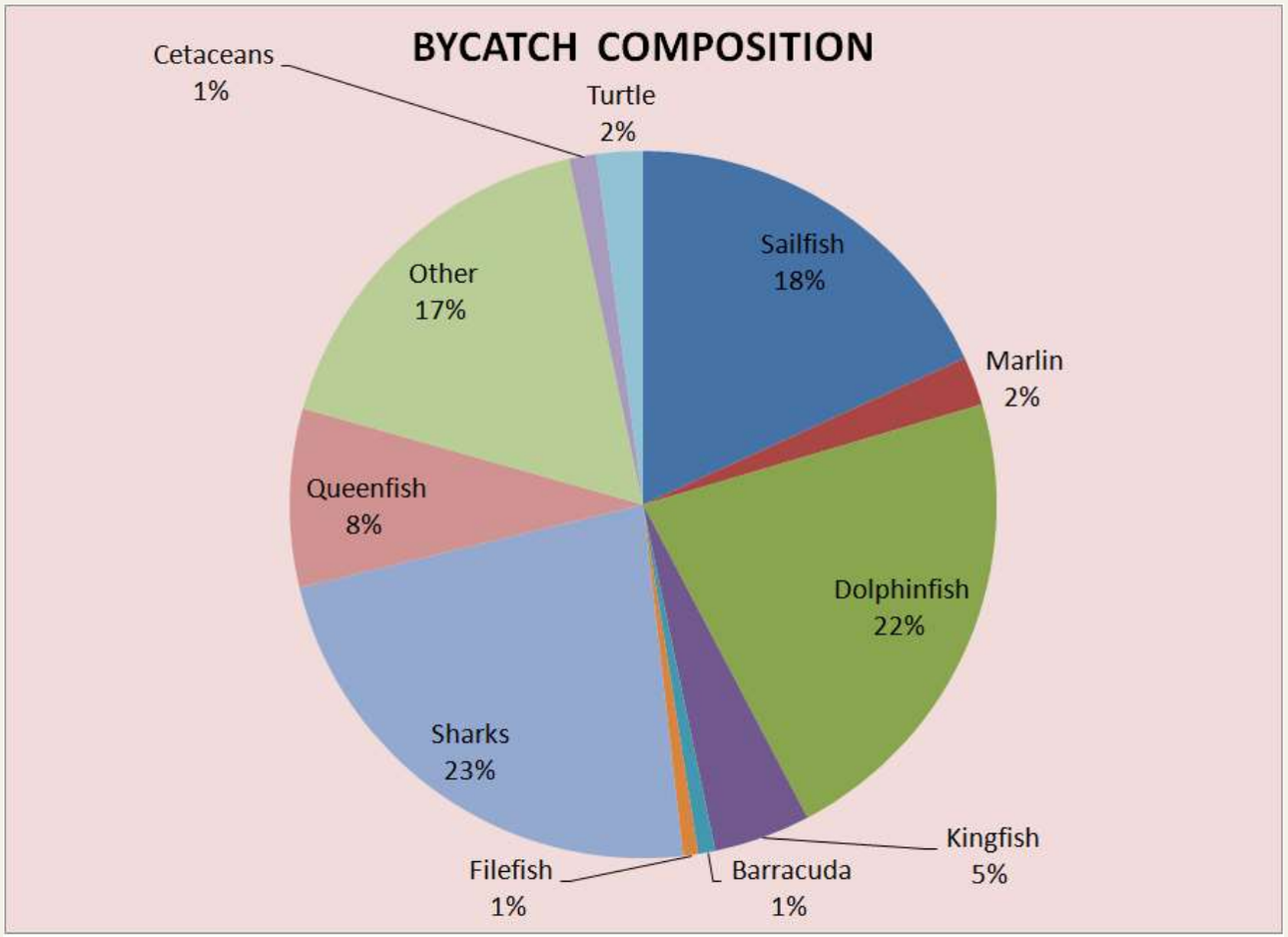



**Figure 1: Shows the overall by catch composition in gillnet fisheries**

**Source: WWF Terminal Report, 2011**

# Bycatch in gillnet fisheries

# Bycatch in trawl fishing

# Ghost net entanglements

# Gaps in gillnet fisheries

- Detailed assessment is missing
- Large number of by catch in marine capture fisheries is putting some species in these groups at risk of extinction*
- Gillnet by catch biggest threat to marine turtles*
- The north Arabian Sea remains a subject of interest and mystery.
- Many studies on nesting, but few on by catch.
- Marine turtle diversity in question

**Source:** *FAO 1999a,b; 2005, Gilman and Lundin 2009; * Price and Van Salisbury 2007, SIRAN, 2007

# Gaps in gillnet fisheries

***Image 1: A Whale Shark caught in tuna gillnet as by catch***

**Source: (** *http://www.dawn.com/news/693785/7000-kilo-36-foot-long-whale-shark-carcass-brought-to-city-harbour* **)** *Feb 7, 2012, Dawn news (press release), last viewed 21 – 4 – 2015.*

# Methods

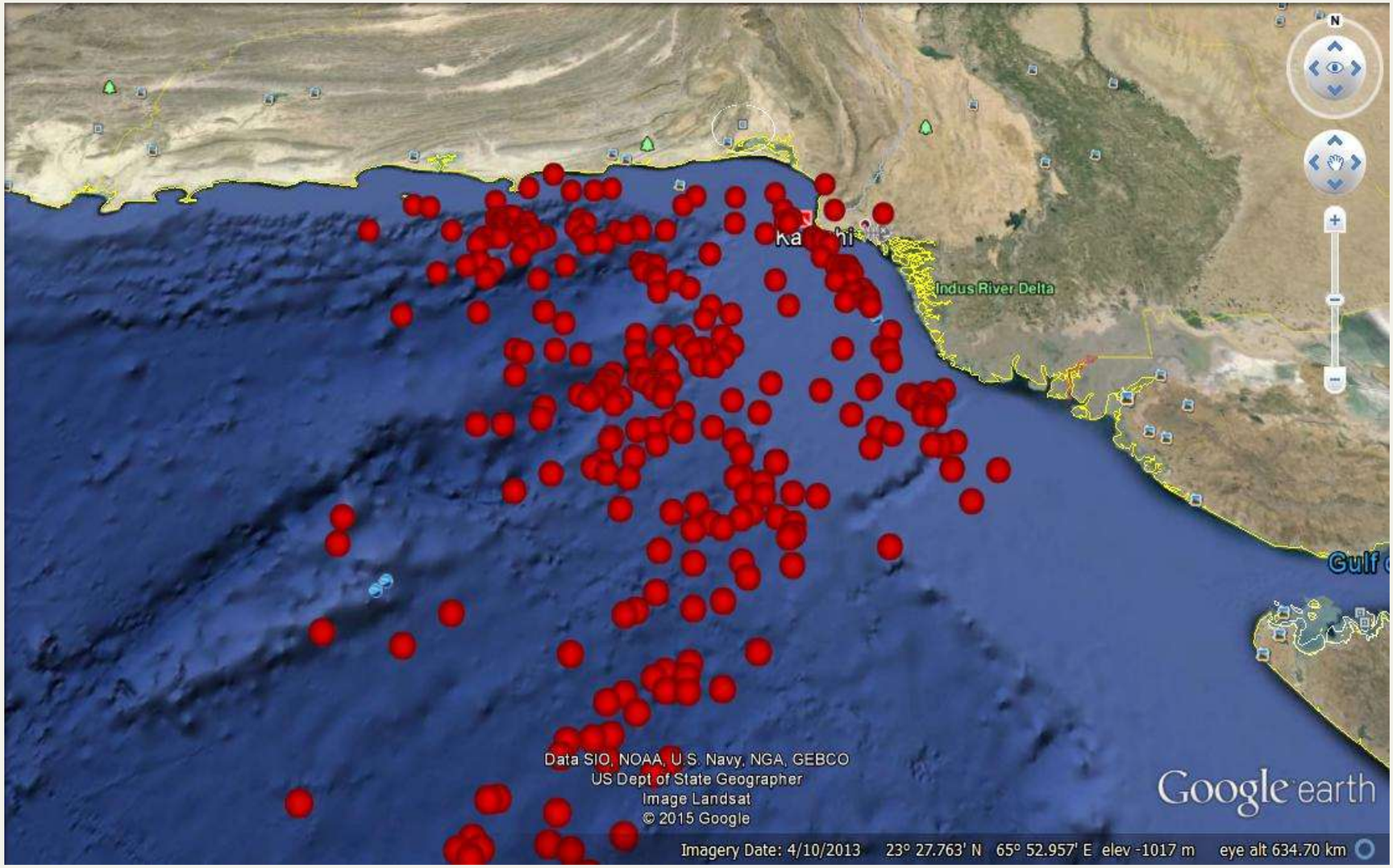
- Assess high use zone and develop better understanding of by catch
- 75 observers posted on tuna gillnets
- Trainings and capacity building

***Image 2: shows the measurement of lengths for catches***

***Image 3: shows the weighing of the catches***

**Source:** Guidelines to reduce sea turtle mortality in fishing operations, FAO (reprinted 2010)

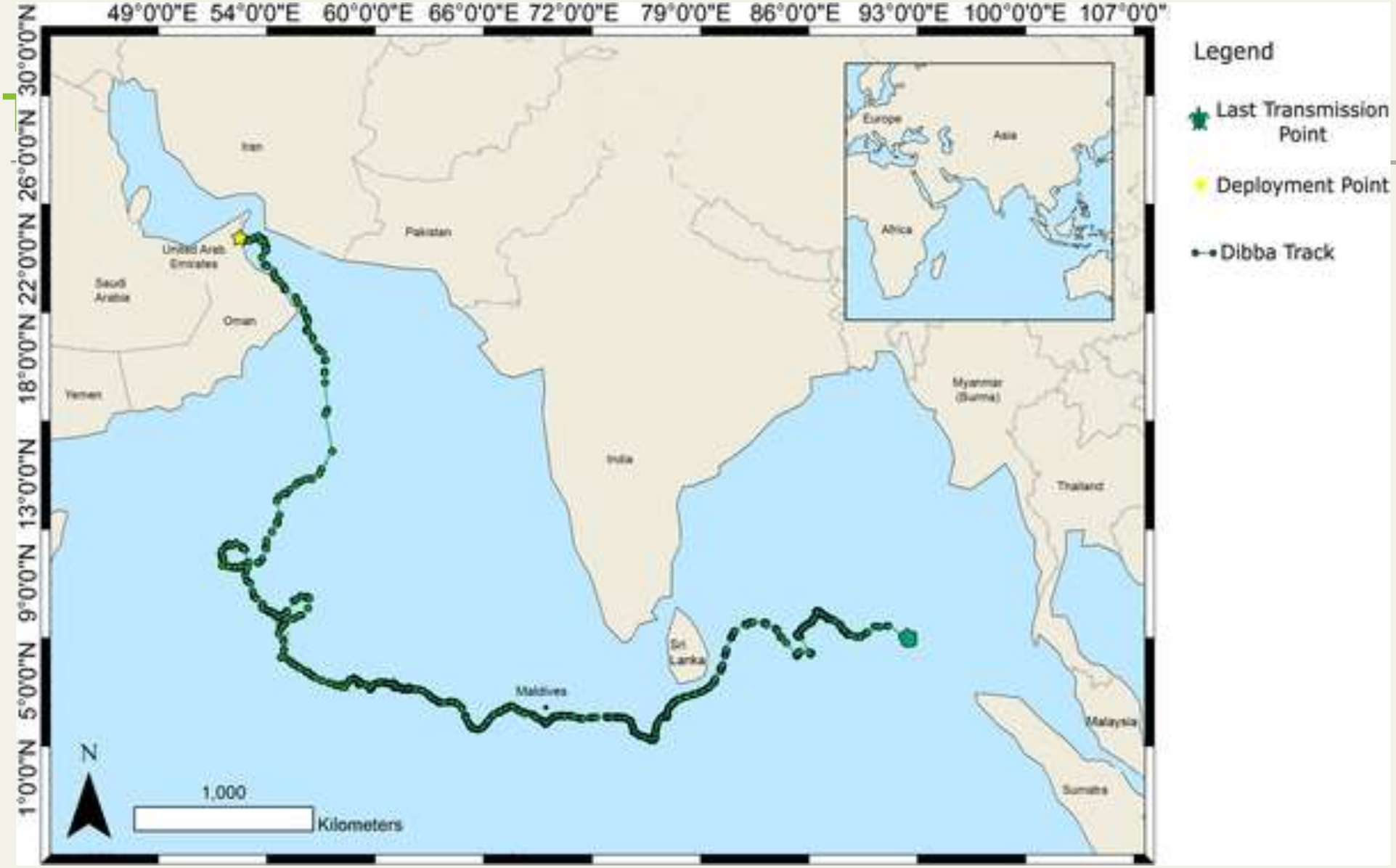
# Turtle Entanglement Areas




**Source:** Guidelines to reduce sea turtle mortality in fishing operations, FAO (reprinted 2010)

# Turtle Entanglement Areas

**Fig 2. Horizontal movements of 'Dibba', a rehabilitated green sea turtle released on the east coast of the UAE in February 2008.**




Robinson DP, Jabado RW, Rohner CA, Pierce SJ, Hyland KP, et al. (2017) Satellite tagging of rehabilitated green sea turtles Chelonia mydas from the United Arab Emirates, including the longest tracked journey for the species. PLOS ONE 12(9): e0184286. https://doi.org/10.1371/journal.pone.0184286
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0184286

# Results of the study (2013-2016)

- During the study period four vessels were observed; 526 fishing days with 600 sea turtles were captures, CPUe value of 8.44 turtles caught per sq Km of net for all fishing trips

- 413 *L. olivacea* (68.8%, capture rate 11.69 per km of net)

- 178 *C. mydas* (29.6%, capture rate 5.03 per km of net)

- 9 *E. imbricata* (1.5%, capture rate 0.25 per km of net).

**Source:** WPEB, IOTC

# Results of the study (2013-2016)

- A total of 60 turtles were found dead in the nets during hauling, including 37 *L. olivacea* (9% mortality) and 23 *C. mydas* (12.9% mortality). Most turtles (n = 540) were released alive in good apparent condition.

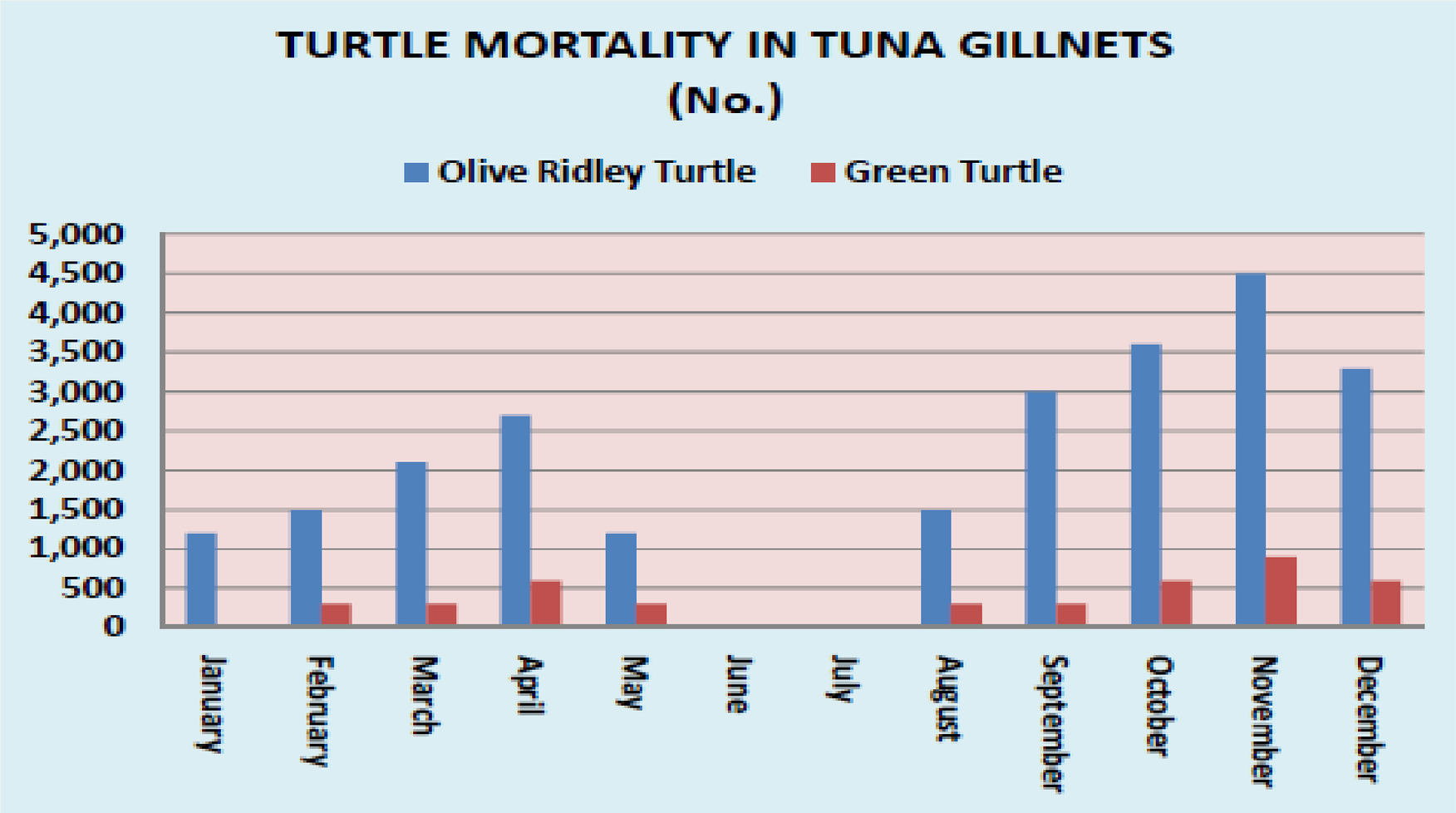
**Source:** WPEB, IOTC

# Results

*Image 5: Hanging by the wire, entanglement in gillnets*

*Image 6: No safe passage for migrating turtles*

# Results




Data reported to WPEB, IOTC on turtle mortality in tuna gillnet vessels (2015)

# tC=Total catches, tM=Total Mortality, tR=Total Releases

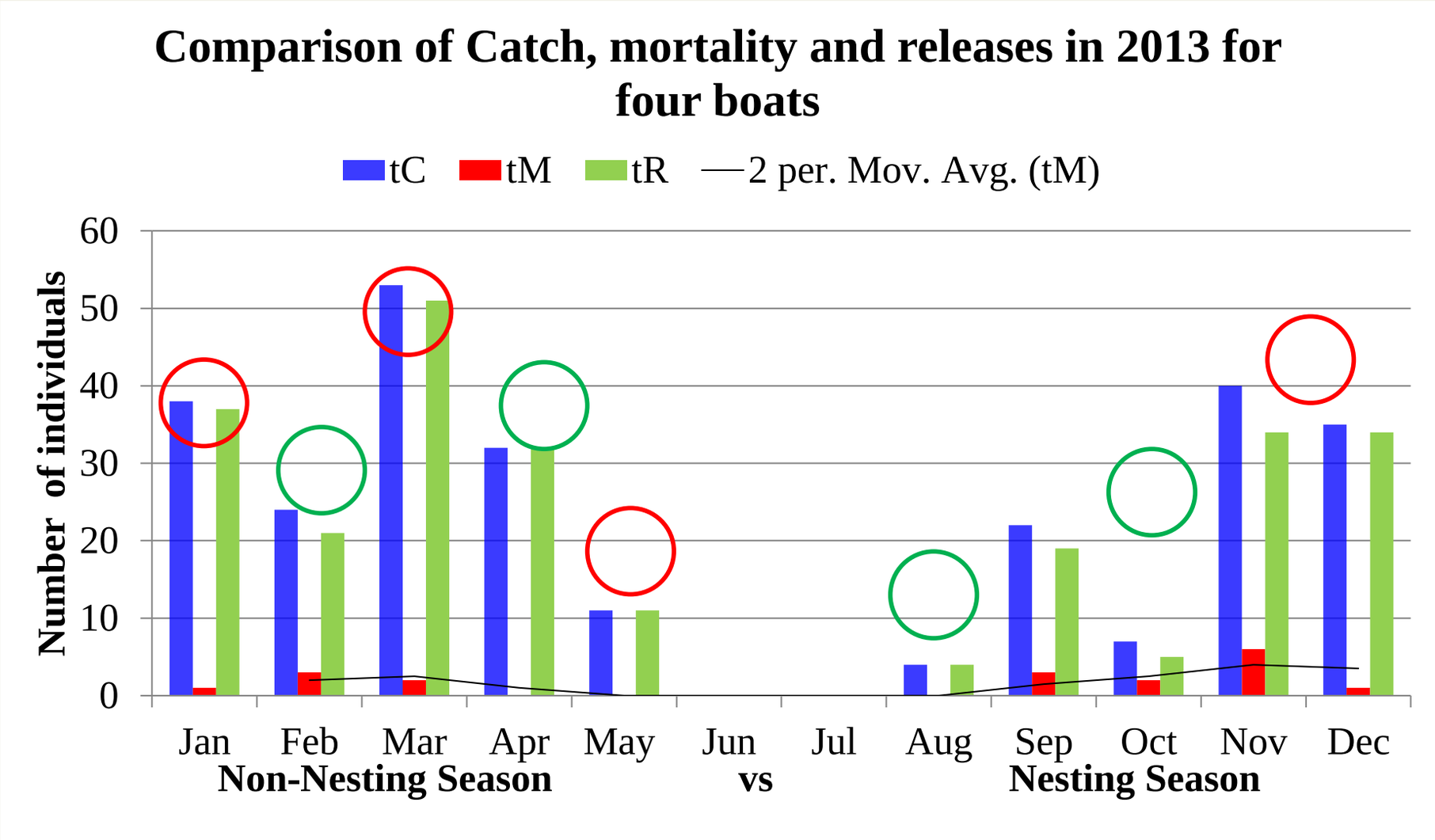



Figure 1: Compares the two season catches in 2013, and also represents *L.olivacea* and *C. mydas* catches in red and green circles respectively.

# Catch per Unit Effort: turtle caught per sq km of net

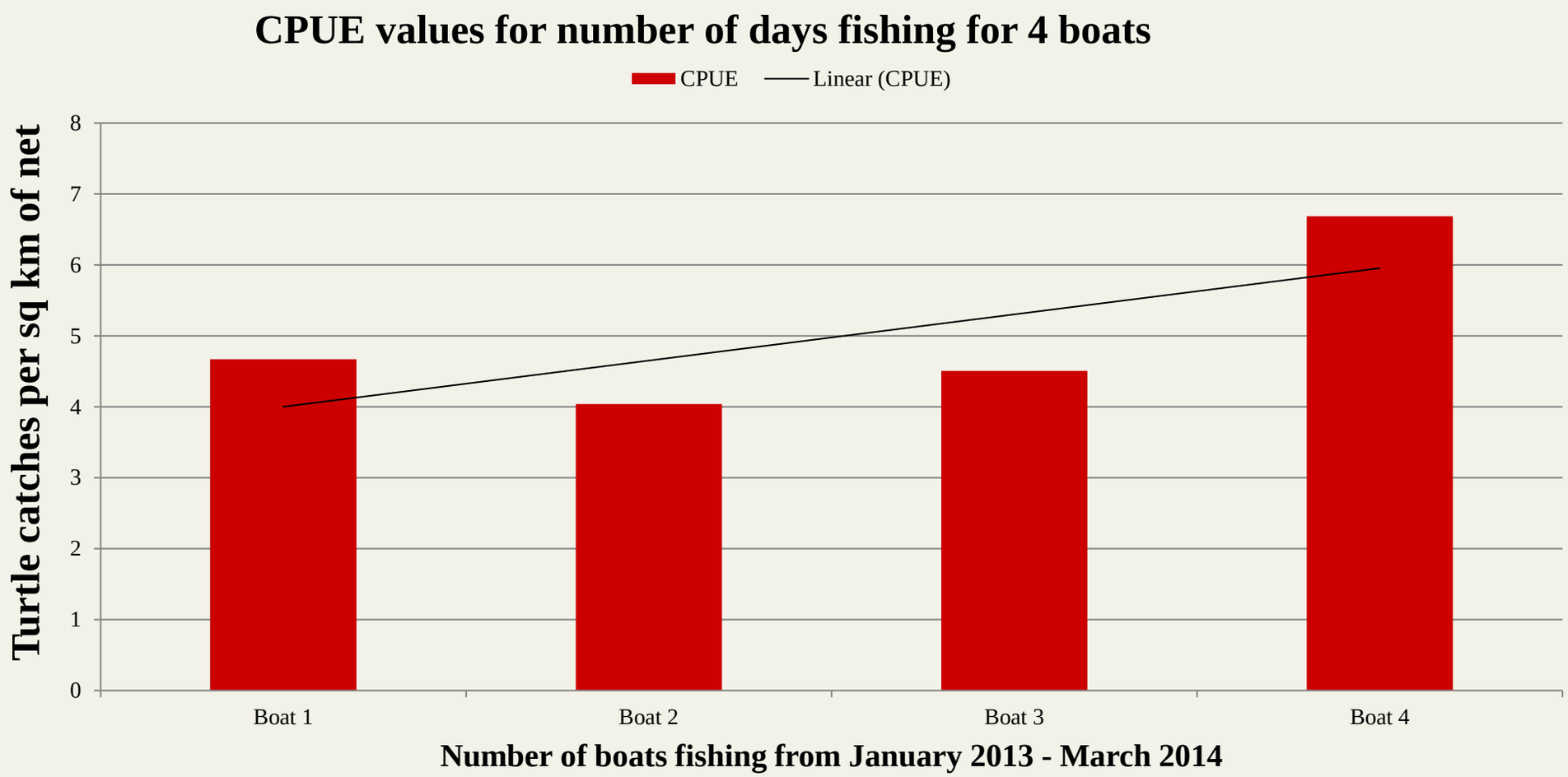
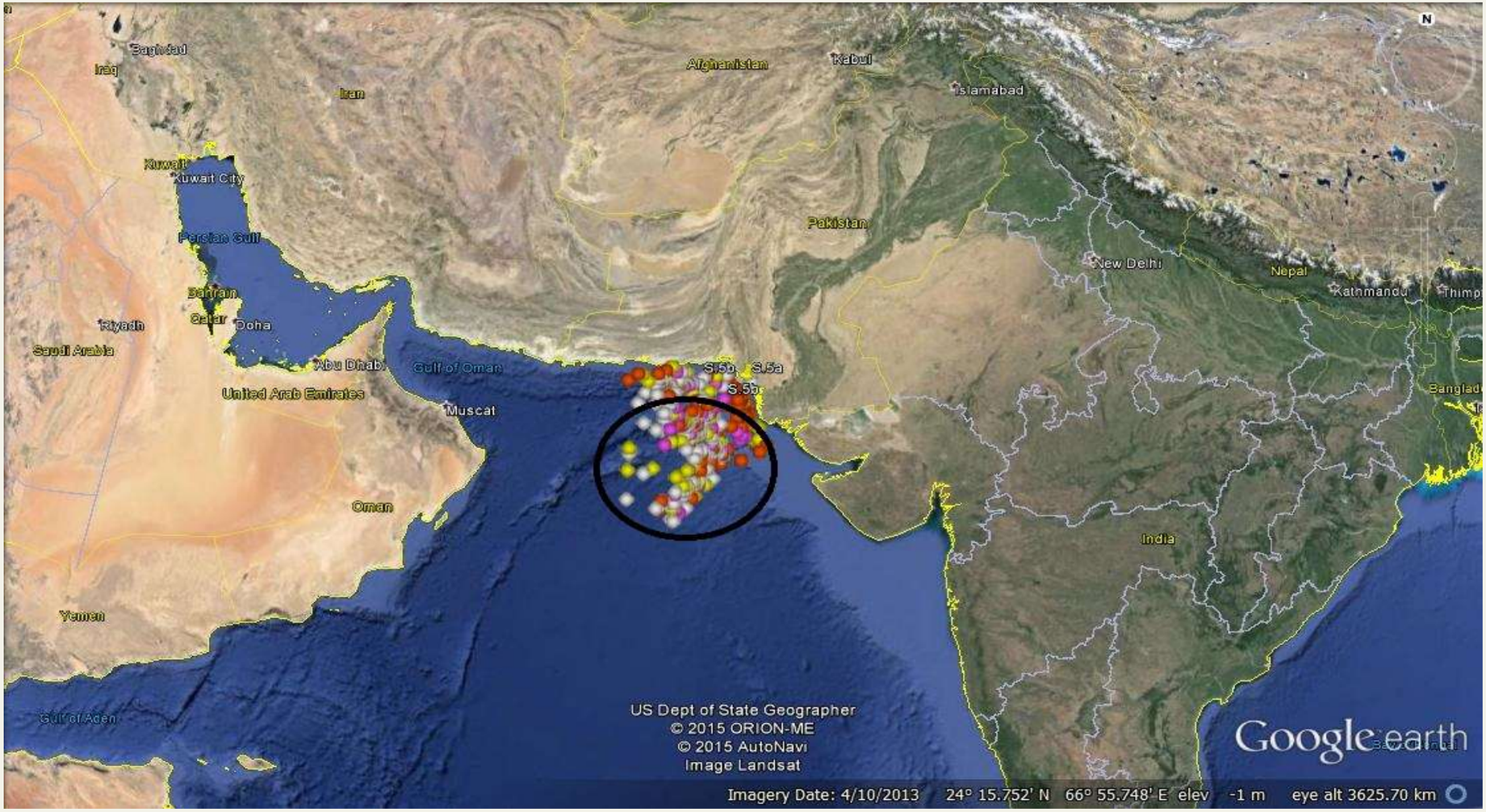



*Figure 5: Catch per unit effort of all four boats for the 15 month study period*

# Catch per Unit Effort: turtle caught per sq km of net

*Image 7: L. olivacea hauled in the net*

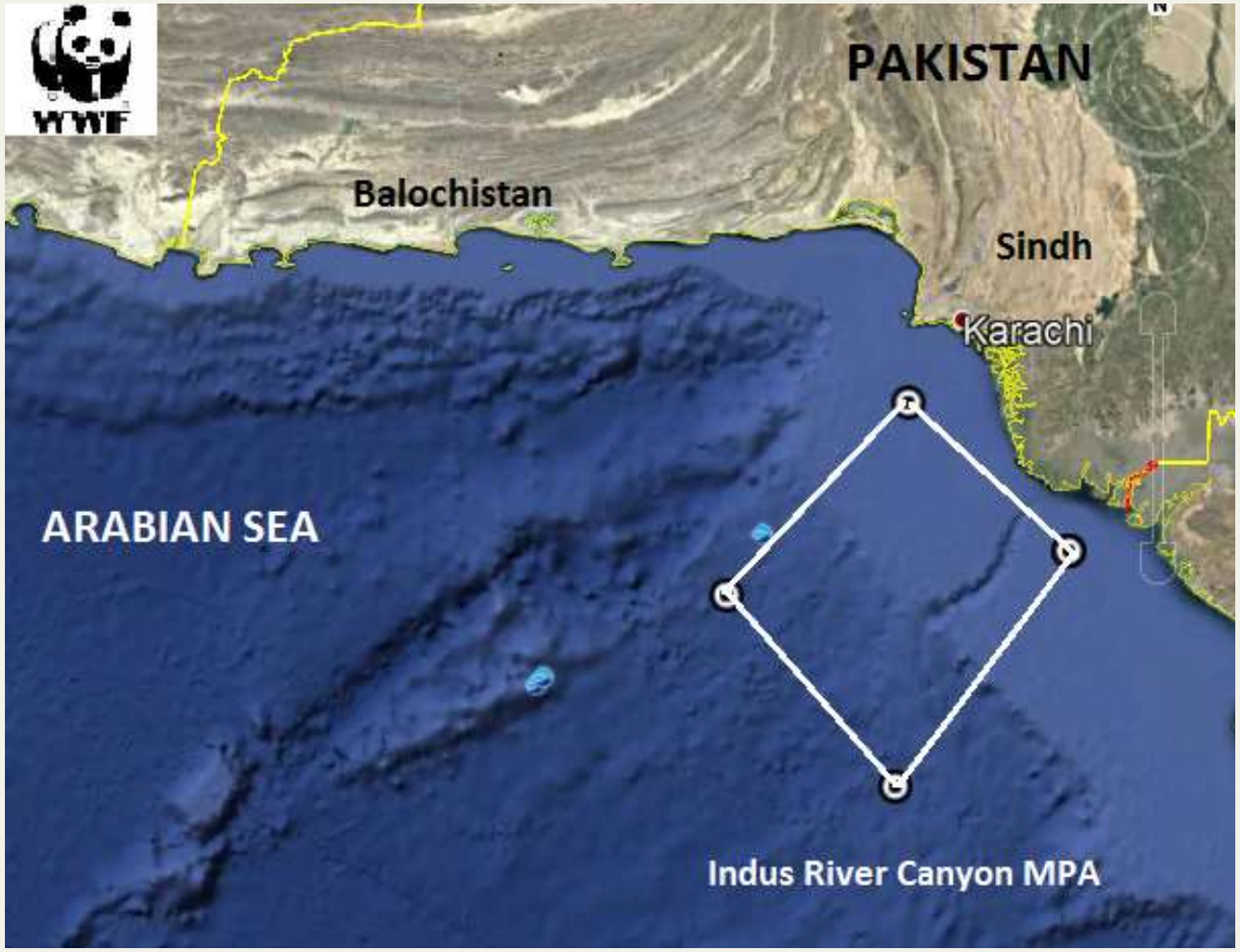
# Does Catch vary with area?

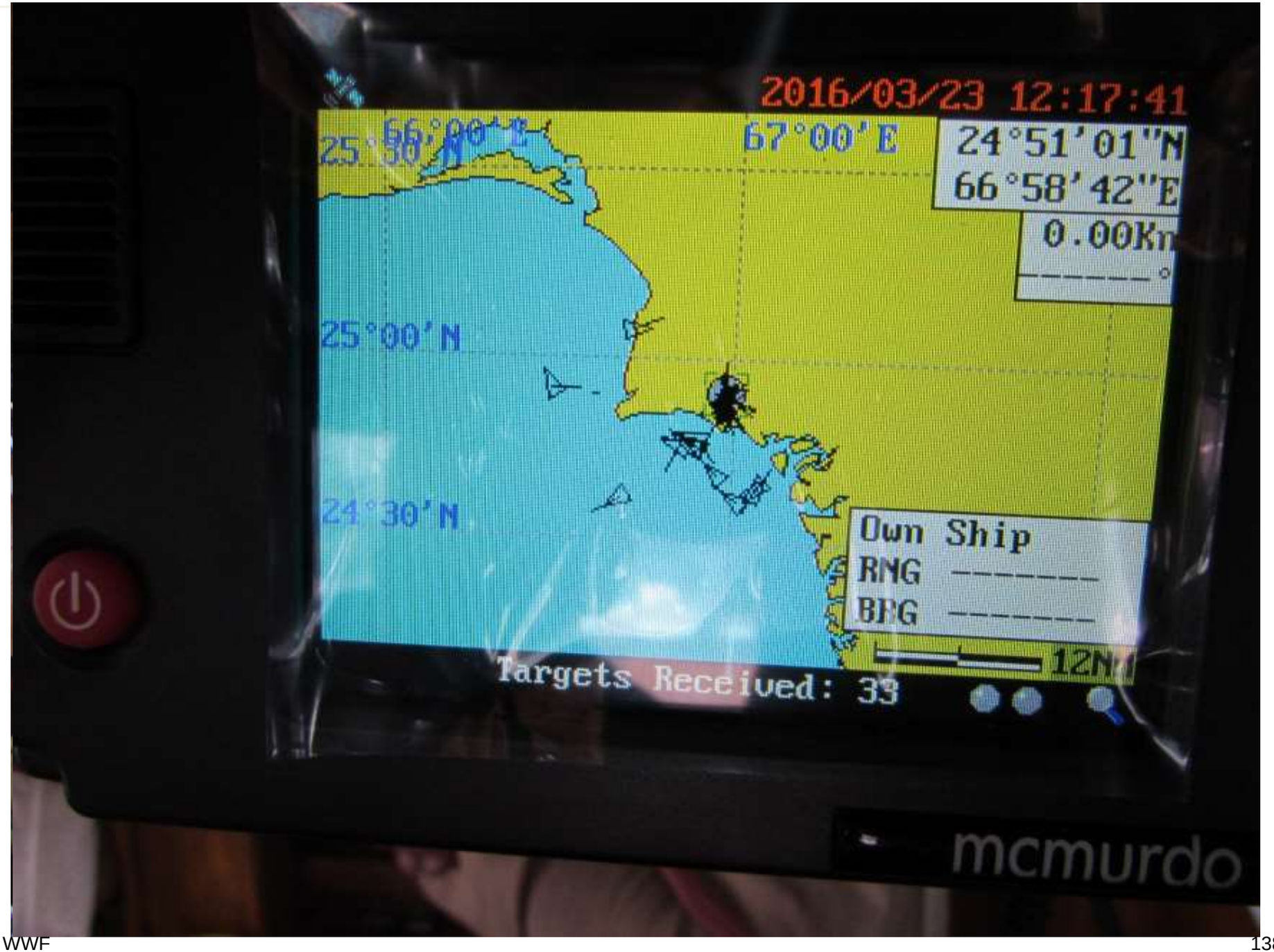


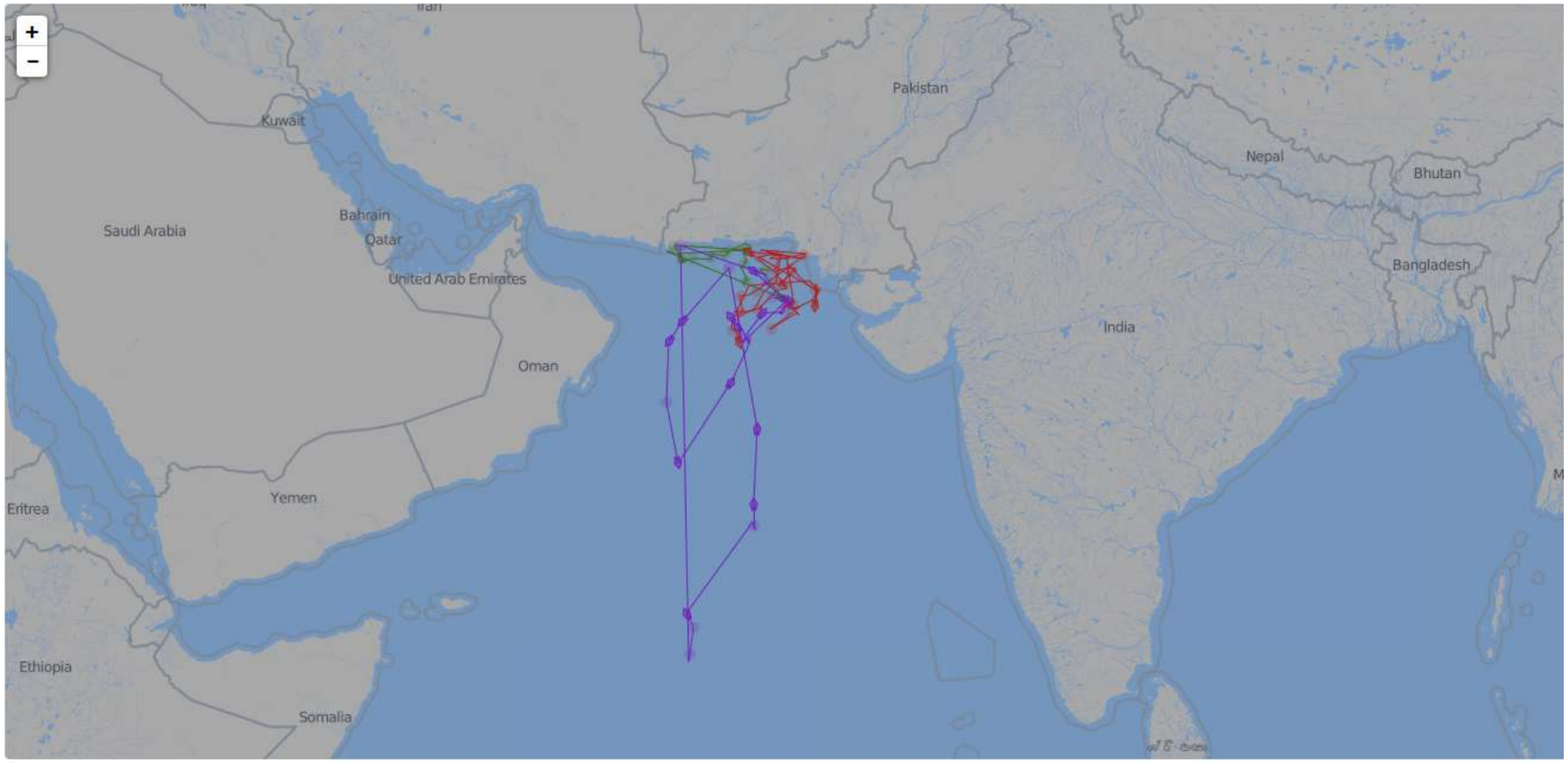

*Map 2: Showing the L.olivacea entanglements more towards the eastern coast and in the deep sea*

# Does Catch vary with area?

**INDUS RIVER CANYON MARINE PROTECTED AREA**




2016/03/23 12:17:41
66°00'E
67°00'E
25°30'N
24°51'01"N
66°58'42"E
0.00Kn
25°00'N
24°30'N
Own Ship
RNG
BRG
12NM
Targets Received: 33
mcmurdo




| # | | Name | Time | Status | #Points |
|---|---|---|---|---|---|
| 1 | | Al-Jihad | 2016-03-23 .. 2017-03-17 | ready | 373/373 |
| 2 | | Al-Kabeer | 2016-04-11 .. 2017-03-04 | ready | 193/193 |
| 3 | | Al-Saraji III | n/a | no data | 0 |
| 4 | | GM 2 | 2016-03-23 .. 2017-04-23 | ready | 95/95 |

This is an image of vessels affixed with AIS units showing the the vessels travelling far beyond EEZ of Pakistan in the Indian Ocean through the web-based application

Stichting het Wereld Natuur Fonds-Nederland [NL] | https://www.wnf.nl/nieuws/bericht/pakistaanse-visser-strijdt-voor-gezonde-zee.htm

NIEUWS | WAT WNF DOET | DOE MEE | DIEREN | SHOP

Resultaten | Acties en evenementen | Interviews, blogs, opinie, verhalen | Activiteitenkalender | Nieuwsbrief

WNF > Nieuws > Pakistaanse visser strijdt voor gezonde zee

# Pakistaanse visser strijdt voor gezonde zee

12-05-2017

## BLIJF OP DE HOOGTE

In onze nieuwsbrieven houden we je op de hoogte van onze projecten, resultaten, activiteiten, speciale acties en producten.

Aanmelden

## PERS

Persberichten vind je bij onze persafdeling.

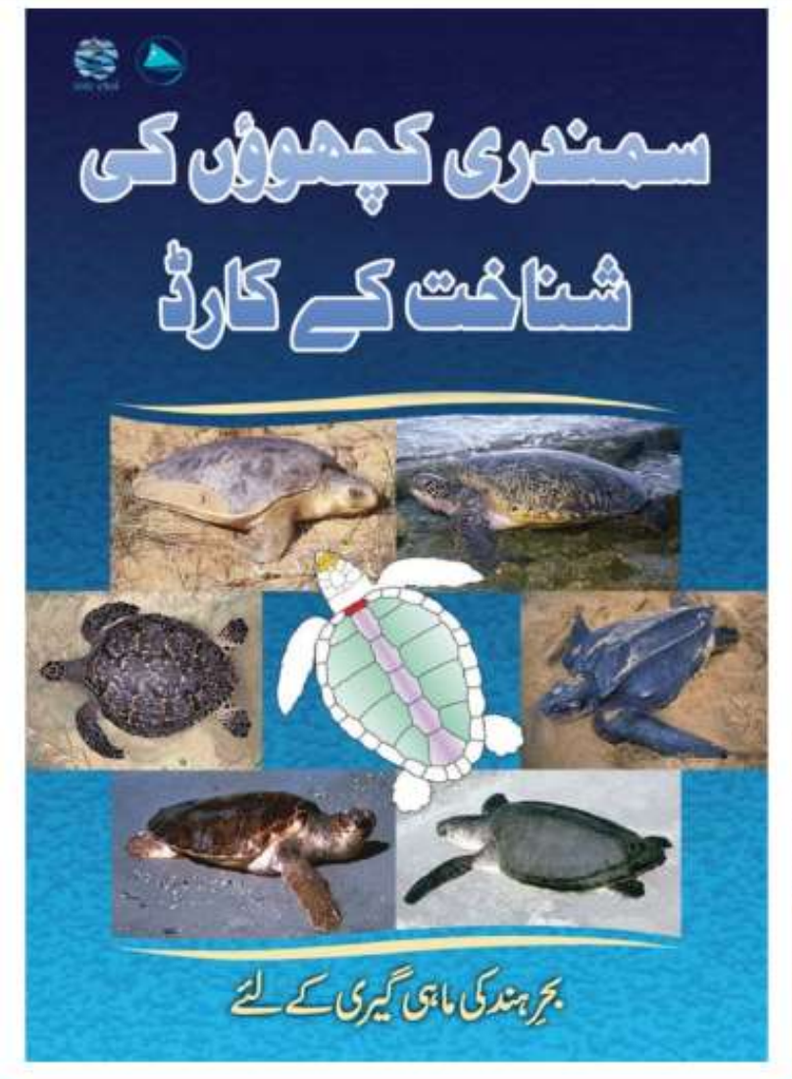
Naar Pers

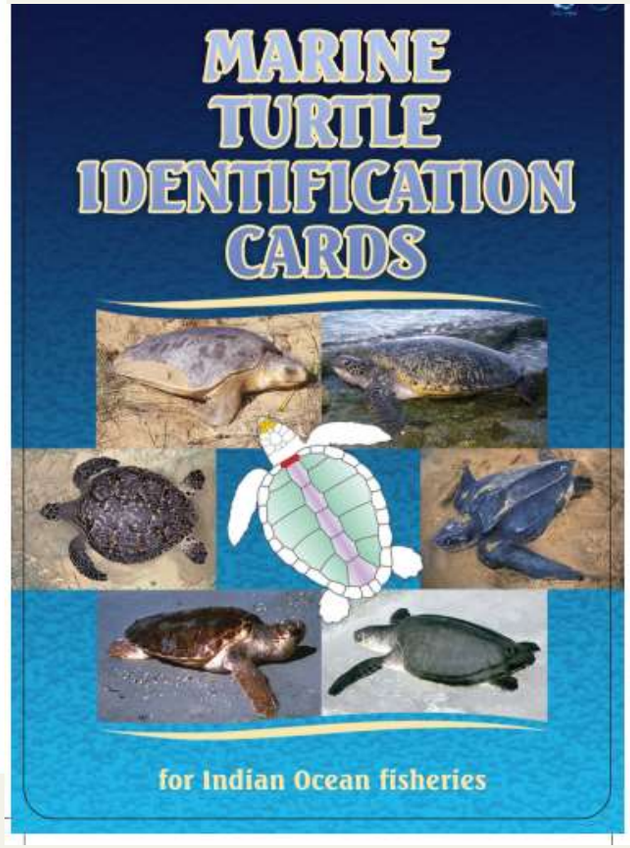
## IQRAR BEVRIJDT WAL

## MEER NIEUWS

- Hongkong doet gr
  07-07-2017
- 40 miljoen extra vo
  landschapsbeheer

# ID guides



*Source: http://iotc.org/search/content/Identification%20guides*

# Discussion

- Definite interaction with gillnets
- The density of *L. olivacea* seem to be uniform, 2/3rd of the catches are reported from eastern coast
- Observers quickly release the sea turtles
- It is believed that due to less soak time of the nets the mortality rate is lower than perceived and reported in different studies*

*Source: *Echnikhi et al, 2010, reported 67.9% mortality in gillnet vessels*

# Discussion

- There was a 95-97% success rate of safe-releases, however we are uncertain regarding the survival post-release.
- CPUE values indicate 4 turtles are caught every sq km of net deployed.
- Low sample size
- Important to tag released animals and to see the probability of entanglement of each turtle being caught again as by catch.

# Conclusion

- Management objective to include minimizing net size, soak time, and a combination of socio-economic interventions.

- This study shows a high incidence of by catch, which if not properly managed, monitored through observer programs such as this study proposed (to integrate learning and to advocate for safe releases) it is perceived that by catch will remain to be a greater threat to the endangered populations of sea turtles.

- Ensure implementation of UNGA resolution on limiting lengths of gillnets

# Safe Releases

- 65 Whale Sharks, 45 Mobulids, 25 sunfish, 9 dolphins, 1 finless porpoise, 5 whales, 22 sea snakes, and thousands of sea turtles

*Image 8: A fishermen bends on the side of the deck to release the turtle*

# Thank you

www.wwf.org

# North Indian Ocean Marine Turtle Task Force

## Marine Turtle Conservation in Sri Lanka

Department of Wildlife Conservation
Marine Management Unit

# Department of Wildlife Conservation (DWC)

"Our vision – "Conservation of Wildlife Heritage for Present & Future Generation"

"Our mission – "Working with others to Ensure Conservation and Wildlife Heritage through Professional Management"

http://www.dwc.gov.lk/index.php/en/

# Importance of DWC – special focused with marine resources conserving

- DWC has a legal authority under FFPA ( Flora and fauna protection ordinance ) and main legal body

- In 2015 DWC has paid for special attention to conserve marine resources
- Under that has been taken several steps

Step 1

- To established marine resources management unit (MMU)

# Cont. Importance of DWC – special focused with marine resources conservation

Step 2

- Declaration of new marine protected areas

Step 3

- Actions taken to conserve special marine ecosystem

# Cont. Importance of DWC – special focused with marine resources conserving

Step 4

- Action taken for conserving special protected marine species

Step 5

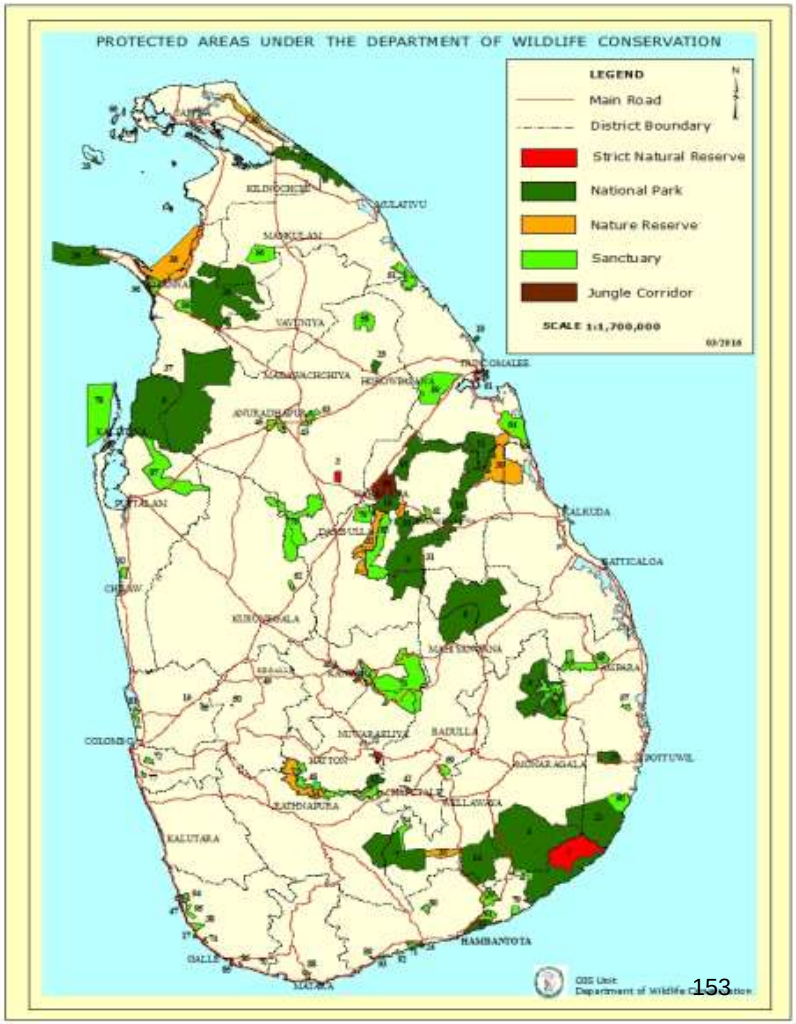
- Establishing education and awareness program for conserving marine resources

Step 6

- Promoting research opportunities for marine sector

# Wildlife Protected Areas in Sri Lanka

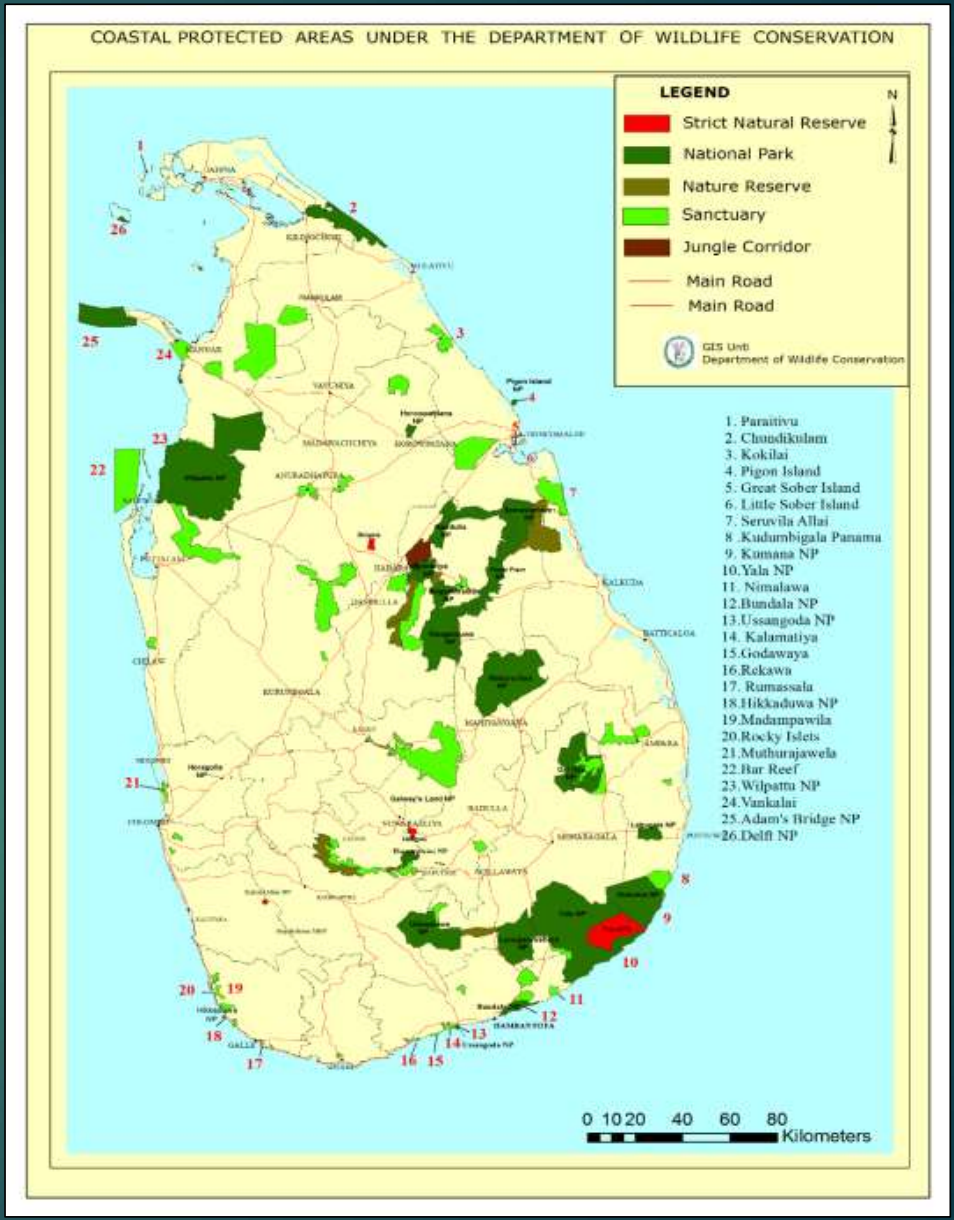
| PA Category | | Island wide Status | |
|---|---|---|---|
| | | Number | Area (ha.) |
| National Reserve | Strict Natural Reserve | 3 | 31,574.40 |
| | National Park | 26 | 738,650.49 |
| | Nature Reserve | 7 | 101,647.01 |
| | Jungle Corridor | 1 | 8,777.00 |
| Sanctuary | | 61 | 277,152.95 |
| **Total** | | **98** | **1,157,801.85** |



# Coastal protected areas under the DWC

1. Hikkaduwa Marine National Park
2. Pigeon Island Marine National Park
3. Adam's Bridge Marine National Park
4. Delft Island National Park (includes a 100m wide belt of near shore waters).
5. Ussangoda National Park (includes a 500m wide belt of near shore waters).
6. Chundikulam National Park
7. Paraitive Sanctuary
8. Great Sobar Island and Lttle Sobar Island
9. Rumasala Sanctuary
10. Rocky Island Sanctuary
11. Bar reef Sanctuary
12. Vankalai Sanctuary
13. Rekawa Sanctuary (includes a 500 m wide belt of near shore waters).
14. Godawaya Sanctuary (includes a 500 m wide belt of near shore waters).
15. Vidathalthive Nature Reserve

16. Wilpattu National Park
17. Bundala National Park
18. Kumana National Park
19. Yala National Park
20. Yala Strict Nature Reserve
21. Kokilai Sanctuary
22. Seruwila-Allei Sanctuary
23. Kudumbigala Sanctuary
24. Nimalawa Sanctuary
25. Kalametiya Sanctuary
26. Madampawila Sanctuary
27. Honduwa Sanctuary
28. Telwatta Sanctuary
29. Parapatuwa Sanctuary
30. Polgasduwa Sanctuary
31. Nayaru Nature Reserve
32. Nagarkovil Nature Reserve



# Marine Protected Areas Declared by Department of Wildlife Conservation

| | Protected Area | Declared Date | Extent (ha) |
|---|---|---|---|
| | National Parks | | |
| 1 | Adams bridge National Park | 22.06.2015 | 18,990.00 |
| 2 | Delft National Park | 22.06.2015 | 1,846.28 |
| 3 | Hikkaduwa National Park | 08.10.2002 | 101.60 |
| 4 | Ussangoda National Park | 06.05.2010 | 349.07 |
| 5 | Chundikulam National Park | 22.06.2015 | 19,565.33 |
| 6 | Pigeon Island National Park | 04.06.2003 | 471.43 |

# Marine Protected Areas Declared by Department of Wildlife Conservation

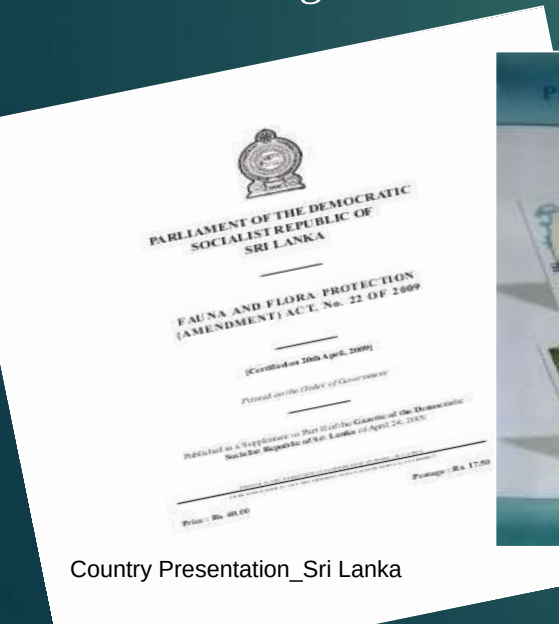
| | Protected Area | Declared Date | Extent (ha) |
|---|---|---|---|
| | Sanctuaries | | |
| 1 | Paraitive Sanctuary | 18.05.1973 | 97.10 |
| 2 | Great Sobar Island | 21.06.1963 | 64.70 |
| 3 | Little Sobar Island | 21.06.1963 | 6.50 |
| 4 | Godawaya Sanctuary | 25.05.2006 | 231.00 |
| 5 | Rekawa Sanctuary | 25.05.2006 | 271.2 |
| 6 | Rumasala Sanctuary | 03.01.2003 | 170.7 |
| 7 | Rocky Island Sanctuary | 25.10.1940 | 1.20 |
| 8 | Bar reef Sanctuary | 03.04.1992 | 30,669.90 |
| 9 | Vankalai Sanctuary | 08.09.2008 | 4,838.95 |
| | Nature Reserve | | |
| 1 | Vedathalathiv NR | 01.03.2016 | 29,180.00 |

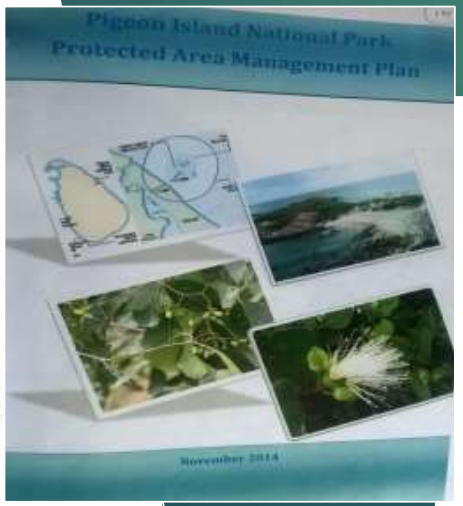
# Turtle conservation, History

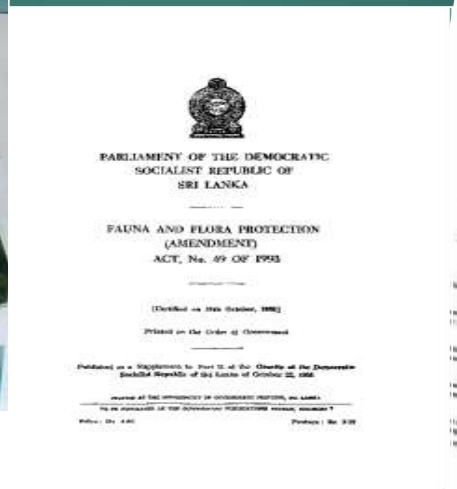
- First time started the DWC
- 1956 at Yala National Park and later in 1969, a second hatchery was established at Palatupana by the Wildlife and Nature Protection Society
- The first programme was started at Bundala NP in 1995
- initiated a community-based *in-situ* sea turtle nest protection and research programme at Rekawa
- In 1996, Turtle Conservation Project (TCP)

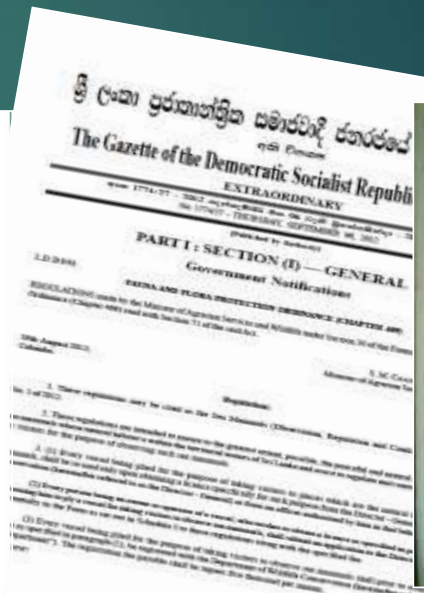
# Rules and Regulations for Marine Resources Conservation

- Fauna and Flora Protection Ordinance
- National Environmental Act
- Coast Conservation Act
- Marine Mammal Observation Regulations, No. 1 of 2012.
- Guideline for Turtle Conservation Centers (Draft)
- Management Plans for Marine Protected Areas



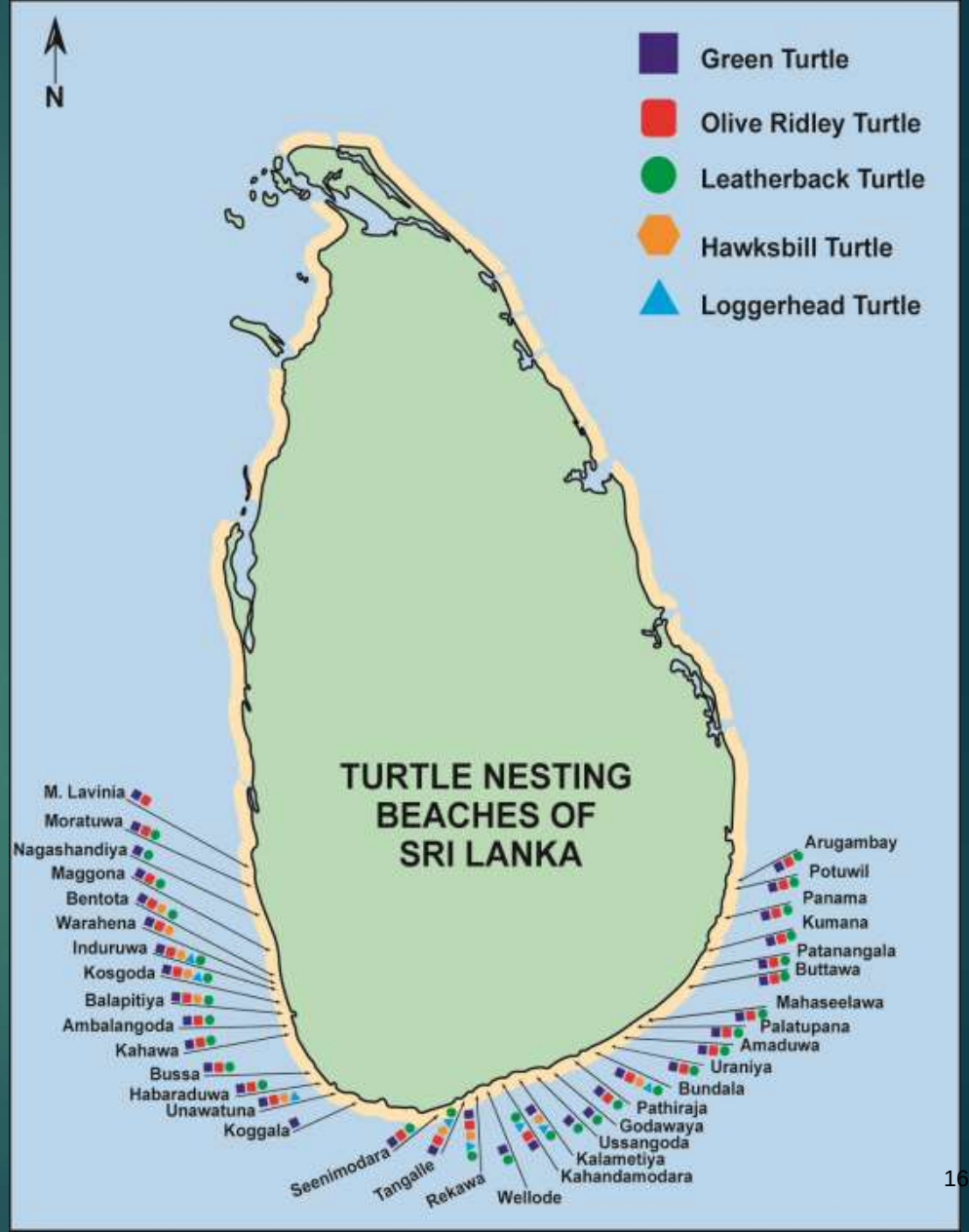



# Nesting beach & working parties

**At present Organizations working on Turtle conservation**

- DWC
- TCP
- Bio Conservation Society (BCSL)



# Threats impacting nests, turtles, and their habitats

- Predators
- Poaching
- Coastal development
- Fishing issues/ By catch

| Ecosystem (Beach /In-water) | Species | Life history stage | Threat | Impact | | |
|---|---|---|---|---|---|---|
| | | | | Low | Medium | High |
| Beaches within The National Parks, Bundala, Kumana, Yala | All 5 Spp. | Eggs, Hatchlings | Predators | | | X |
| Beaches outside The National Parks | All 5 Spp | Eggs<br>Hatchlings<br>Adults | Predators<br>Egg poaching<br>Poaching | <br>X<br>X | X | |
| In Water | All 5 Spp. | Adults | Bycatch<br>Fishing gears | | X | |
| | | | | | | |

# Current Actions

- *In situ* conservation
- *Ex situ* Conservation
- Beach patrolling
- Treatment for the injured turtles
- Awareness program
- Beaching and Nesting

# Bio Conservation Society

Environmental Cleaning

Environmental Cleaning

**Kandakuliya is a fishing village which recorded many sea turtle bycatch. We have conducted several conservation activities with the community to get attention to reduce bycat**

# Exhibitions

# Turtle Conservation Project

## Field conservation & management

# Participate in a "Beach Clean"

# Batik Making

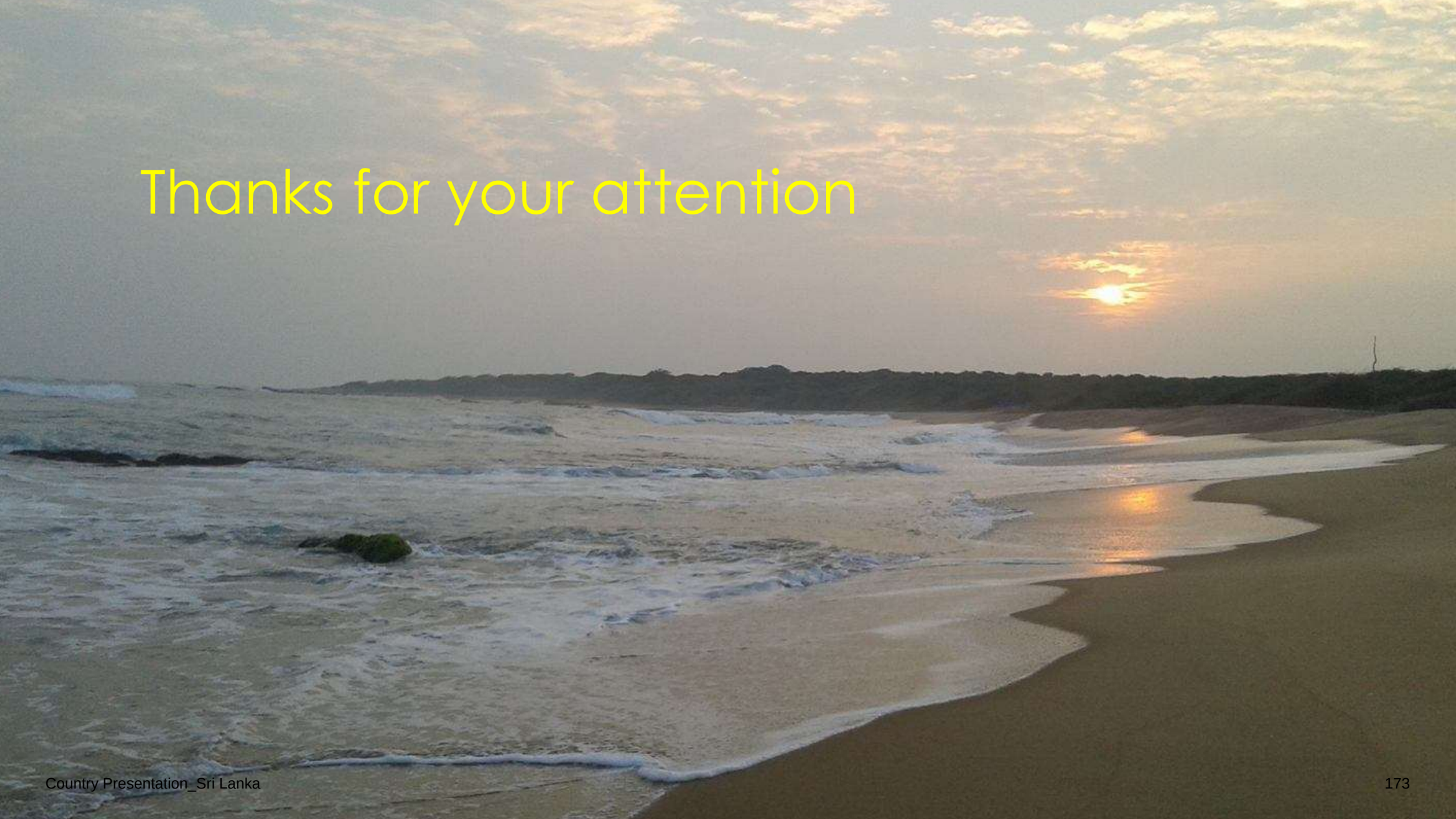
Community batik group

# Assist with the ornamental fish breeding group

Turtle Conservation Project (TCP) – Sri Lanka

# Assist with the making of coir mats

Turtle Conservation Project (TCP) – Sri Lanka



# Thanks for your attention

# Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia

UN environment

CMS