



## **Baseline data creation on population of cetaceans, mangrove mapping, otter, birds**

### **Cetacean Project**

#### **Project Title**

Cetacean population studies and dealing with stranded and beached cetaceans along Sindhudurg coast

#### **Context**

The distribution and abundance of marine mammals all along the Maharashtra coastline was not much known. Present information on cetaceans, which account for nearly ten or more species in marine areas of Maharashtra is from anecdotal evidence, by-catch, accidental stranding and mortalities.

#### **Implementing Agency and Project Duration**

1. Konkan Cetacean Research Team (Apr 2014-May 2016)
2. Central Marine Fisheries Research Institute (Dec 2013-Sept 2014)

#### **Objectives**

Cetacean Population Studies

**Partner:** Konkan Cetacean Research Team

- Assess occurrence and distribution of coastal cetacean species.
- Obtain estimates of population size and mortality rates for Indian Ocean Humpback Dolphin and Finless Porpoise.
- Conduct necropsies for all possible cetacean strandings in order to identify the cause of mortality and collect samples, wherever possible, for toxicological, genetic, life history and morphological analysis.
- Investigate the prevalence, demographics, management and ecological sustainability of the dolphin-watching industry and its economic impact on the local community.

## **Development of a protocol for stranding/beaching and post-mortem analysis of cetaceans for capacity building of government officials and the local community in Sindhudurg, Maharashtra**

**Partner:** Central Marine Fisheries Research Institute

- Develop protocol for stranding/beaching and post-mortem analysis of cetaceans
- Capacity building of government officials and locals in Sindhudurg about stranding and beaching management
- Training on species identification keys and morphometric measurements
- Publish the protocols in English and Marathi for the distribution at local level

### **Outcomes**

The indicator regarding nesting sites was verified and 32 nesting sites were recorded along the coast of Sindhudurg. Over the last 5 years, 280 nests have been protected and 16758 hatchlings released. During 2016-17, a total of 122 nests and 6675 hatchlings were released. Prior to the Project, in 2011-12, a total of 8 nests were protected and 502 hatchlings were released. Decadal changes have been noted in nesting sites across Sindhudurg district.

### **Way Forward**

It is evidently seen across the Sindhudurg coast that sporadic instances of marine mammals beaching and stranding occur. Presently it is mainly taken care/ managed by the residing fisher communities to address any such instances. Interested locals have also been identified/ appointed as point persons to effectively handle such situations. It is recommended that a marine animal stranding management centre is developed in the vicinity which will largely act as a first aid cum rescue centre.

### **Case studies, if applicable**

**Project Title**

Mapping of mangroves in coastal areas of Sindhudurg district, Maharashtra using high resolution satellite data

**Context**

Sindhudurg coast is the richest in terms of mangrove species diversity in Maharashtra. Some of these species are so rare that they are represented only by a few trees (eg. *Heritiera littoralis*, *Sonneratia caseolaris*, *Cynometra iripa*). However, there is a gap in the existing baseline data of mangrove forest cover. Considering the invaluable services that the mangrove ecosystem provides in terms of protection to the coastline as well as acting as a nursery ground for marine species, there is an urgent need to map the existing areas under mangroves and initiate steps towards mangrove conservation, with special focus on rare and endangered species.

**Implementing Agency**

Maharashtra Remote Sensing Applications Centre (MRSAC)

**Project Duration**

November 2013 – November 2014

**Objectives**

- To map the distribution of mangroves in Sindhudurg in order to manage, conserve and restore mangroves
- Baseline data generation for propagation of rare, endangered and threatened species
- Restoration of degraded mangrove habitats on the basis of data generated by the agency

**Outcomes**

- Indent of high resolution satellite data- Quick Bird/World view -2
- Satellite data analysis and mapping of mangrove on 1:5000 scale
- Georeferencing of village cadastral/ city cadastral maps
- Ground truth/ field validation
- Village level maps of mangrove distribution have been prepared for Sindhudurg district using high resolution satellite imagery data.
- 20 species of mangrove have been recorded from Sindhudurg district.

**Way Forward**

Through this intervention the mangrove cover of Sindhudurg district has been recorded using satellite data. This has proved to be an effective tool in understanding the mangrove degraded patches, similar such studies for the coastal stretch of Maharashtra will prove to be beneficial for restoration and protection of mangrove RET (rare and endangered) species.

**Case studies, if applicable**

## **Project Title**

Survey of Otter and Bengal Monitor in Mangrove Habitats of Sindhudurg District

## **Context**

Existing information for Bengal Monitor and various Otter species are poor including their distribution and population in the Sindhudurg District, Maharashtra. Despite being indicators for the creek and rivers emphasis have not been put on such species and the difficulty in accessing such habitats due to logistic and other reasons, this vital data has remained unknown till date. Through this study an attempt to fill this lacuna is made, which will be a vital link for scientific conservation of this poorly studied species. Threats shall be identified. The information from the present study shall serve as a benchmark for further ecological investigations into the species.

## **Implementing Agency**

Ela foundation

## **Project Duration**

December 2015 – July 2016

## **Objectives**

1. Document the diversity of otter species in the study area.
2. Record the distribution of otters and map the GPS coordinates.
3. Document the sites where otters are present.
4. Characterize habitat preference of otters.
5. Study the food preferences by field observations or prey remains.
6. Record the distribution of Monitor Lizard and map the GPS coordinates.
7. Identify threats to otter and Monitor Lizard.

## **Outcomes**

- Diversity: The only species of otter in the mangrove habitats recorded during the study was the Smooth-coated Otter *Lutrogale perspicillata*
- This species was present in all the 12 creeks studied in Sindhudurg
- Presence of otter spraints and otter sightings were important indicators of otter presence.

- Otter spraints are visible on open banks along the creeks, on Kharland Scheme bunds and also on the coasts. However, they are not seen when the coasts are occupied by dense mangroves.
- Monitor lizards *Varanus bengalensis* were also present in all the creeks.

### **Way Forward**

Through this intervention a brief study on the otter and monitor lizard was made. Such schematic study is essential in understanding the overall presence across the coastal stretch of Maharashtra.

### **Case studies, if applicable**