

In September 1999, the TCP initiated a 16 month survey of fishing by-catch at the 18 most significant fish-landing sites on Sri Lanka's accessible (West and South west) coasts. The survey is funded by the UNEP-CMS Secretariat and is designed to quantify the turtle by-catch incurred by Sri Lankan coastal fisheries. The survey also incorporates a programme of tagging and release of one thousand live, female ridleys entangled in nets. The tagging programme is projected to commence in early 2000.

Further to the tagging programme, research will be carried out on physiological characteristics of drowned turtles, such as: recording biometric data, examination of gonad reproductive status, and stomach

content analysis. The results of this programme will reveal new information regarding the feeding ecology and regional geographic range of olive ridley turtles and identify by-catch 'hot spots' in the Gulf of Mannar. The TCP will use these results to formulate a by-catch action plan for Sri Lanka. This research will be of obvious interest to marine turtle conservation organizations in the region. The TCP hopes to develop, in particular, co-operative links with the Indian groups concerned with ridley conservation. The TCP would also like marine turtle conservation organisations in the region to be aware of the tagging programme should any of these tags be recovered from fisherman, or at nesting beaches in the area. The tags are titanium with series numbers SL2000-3200 with TCP contact details on the reverse.

A report from National Aquatic Resources Agency (NARA)

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Sri Lanka has prepared National Action Plan for Marine Turtle Conservation. The main parties involved in preparation were NARA, Department of Wild Life Conservation, TCP and IUCN. The final meeting was held on 16th July 1999. The national plan covers six main areas including in situ conservation, hatchery management, research and monitoring, law enforcement, public awareness and regional cooperation.

NARA has prepared a grading system for the sea turtle nesting beaches of the island, based on the findings of last six years. For this grading we used three criteria:

1. Nesting rate (no. of nesting/month)= R
2. Nesting density (no. of nests/km/year)= D

Using these two criteria all the nesting beaches were categorised into four main grades:

- Grade 1. - R >25 & D >300

- Grade 2. - R 15-25 & D 100-300
- Grade 3. - R 5-15 & D 50-100
- Grade 4. - R <5 & D 20-50

3. Nesting diversity (number of species nested) = d

This criteria used to sub grade each grade:
sub grade a. - d=5; sub grade b. - d=4; sub grade c. - d=3; sub grade d. - d=2; sub grade e. - d=1

It was recommended that beaches of grade 1 & 2 be declared as protected areas as critical sea turtle nesting habitats. These beaches were Kosgoda, Rekawa and Welipatanwila. Studies revealed that the good nesting beaches are mainly located in the district of Galle and Hambantota. Kosgoda and Rekawa beaches have been identified as the major turtle rookeries of Sri Lanka. Five beaches - Kosgoda, Balapitiya, Rekawa, Welipatanwila

and Bundala - are still being regularly visited by all the five species of turtles inhabiting Sri Lankan waters and the average number of nesting per month at these sites were 140, 14, 53, 13 and 12 respectively. Around 53% and

43% were green turtles and Olive Ridley turtles while 2%, 1% and 1% were Leatherbacks, Hawksbill and the Loggerheads respectively.

The importance of mangroves on the Orissa coast

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Most of Orissa's 480 kms of coastline used to be covered with mangroves a few decades ago. Immigrants from Bangladesh settled in 1971 in the coastal areas which were thickly forested with mangrove jungles, soon converting the land into paddy fields. Subsequently, prawn farming became popular in the eighties, since these areas are ideal for setting up prawn farms. Paradeep port was set up in 1965 and was responsible for the cutting down of the mangroves of the Mahanadi mouth area. A devastating cyclone hit the coast in 1971 near Paradeep and Mahakalapada and was responsible for the loss of more than 10,000 human lives. Experts agreed upon the need for mangroves and coastal shelter belt and plantations were undertaken in Mahanadi delta and Bhitarkanika areas to plant mangroves. The latest satellite mapping done by Orissa Remote Sensing Applications Centre (ORSAC) in 1989 has estimated a total of 218 sq. km. of mangroves. However, it is now felt that the mangrove cover has fallen to less than 150 sq. km since substantial areas have been cleared in the Mahanadi Delta area for prawn farming. The biodiversity of Bhitarkanika mangroves is rich with 62 species. Currently, mangroves are currently found in Bhitarkanika, Mahanadi Delta; degraded patches are found at Devi river mouth areas as well as the Balasore coast near Subarnarekha and Budha Balanga mouths. Some mangroves are also noticed at the mouth of the Dhamra river in Bhadrak district.

The present cyclone which hit the state on October 29, 1999 has proved the immense

importance of mangrove forests in protecting the coastal areas of the state from tidal inundation and high velocity winds. Ersama and Balikuda blocks of Jagatsinghpur district were the two worst hit blocks where tidal waters came in to at least 20 kms from the coastline. These tidal waves washed away as many as 14 villages completely wiping out their resident population. Besides, at least 35 villages lost about 50 % of their population. The death toll in these areas is at least 20,000. The coastline at Ersama and Balikuda blocks had been completely denuded. Another factor for the continued accumulation of the tidal waters for as many as two weeks in many of these low lying fields and villages were the numerous embankments of the prawn farms. These acted as barriers to the return of the tidal waters and effectively marooned the villages for weeks together. It is noteworthy that the Bhitarkanika areas which still have dense mangroves escaped from serious cyclonic damage. The areas under Rajnagar Block of Kendrapada district had minimum loss to human life and property, while in immediately adjacent areas of Kendrapada district, there was substantial loss of human lives.

It must be realised that only mangroves can survive and flourish in these deltaic coastal tracts where salinity is high both in the soil and water. The tangles of stilt roots helps in sedimentation of particulate matter. Networks of mangroves roots provide firm anchorage to the tidal river and creek banks and also the coastline. It effectively arrests river erosion and coastal erosion and ultimately helps in