

Survey of 45 hectares area at Kasarkdod Tonka in Honnavar Taluk of Uttar Kannada district of Karnataka on the issue of Turtle nesting ground

Introduction

Honnavar is small coastal town located at Uttara Kannada district in Karnataka and is popular amongst tourists due to its scenic beauty and the coastal lifestyle. It is located along the banks of rivers Sharavati and Badagani before the joining the Arabian Sea in the west coast of India. Honnavar is located approximately 165 kilometers from Goa and 460 km from the State Capital, Bengaluru.

The Government of Karnataka proposed to develop the Honnavar Port in the land at Kasarkod Tonka in Honnavar Taluk of Uttar Kannada District. The proposed port is situated on the left bank of river Sharavati at the confluence of both Sharavati and Badagani with the Arabian Sea.

Present Issue

The Government of Karnataka has proposed to develop Honnavar Port in the port land at Kasarkod Tonka in Honnavar Taluk of Uttar Kannada District. In this regard, M/s Honnavar Port Pvt. Ltd. (HPPL), Bengaluru were sanctioned 40,000 sqm of port land in the 1st phase and 93 acres of port land was reserved for the project in 2010. Work commenced at the site in 2019 by the company after obtaining necessary statutory clearances. Honnavar Taluka Hasi Meenu Vyaparasthara Sangha filed a W.P. No. 4039/2021 (PIL) in Hon'ble High Court of Karnataka, Bengaluru, praying for stoppage of construction of the port. According to the petitioner, the entire area of 45 hectares on which the project is to come up is a turtle nesting ground.

On 13.07.2021, upon hearing the Hon'ble High Court of Karnataka issued a Daily Order directing NCSCM to carry out a survey of the 45 hectares area at Kasarkod Tonka in Honnavar Taluk of Uttar Kannada District of Karnataka to verify the issue of turtle nesting ground. A report has to be submitted in this regard by NCSCM before the next hearing which is on 19th August, 2021.

Marine turtles in India

Turtles are both freshwater and marine reptiles and capable of amphibious life (Both on land and water) although, marine turtles come to land only for laying eggs in the nests created on sandy shores. India reports 5 species of marine turtles that inhabit the coastal waters. In order of their abundance, the listed species are

1. Olive Ridley - *Lepidochelys olivacea*
2. Green turtle - *Chelonia mydas*
3. Hawksbill - *Eretmochelys imbricata*

4. Loggerhead - *Caretta caretta*
5. Leatherback - *Dermochelys coriacea*



Olive Ridley Turtle



Green Turtle



Hawksbill Turtle



Loggerhead Turtle



Leatherback Turtle

Fig. 1. Marine turtles of India (Image courtesy: Wikimedia commons)

Types of Turtle Nesting

There are two types of nesting in turtles i) Mass nesting and ii) sporadic nesting. The mass nesting of turtles is termed "arribadas" (Spanish for arrival). Arribadas are also referred to as rookeries. **The Olive Ridley species have a unique social behavior in that they have communal/ mass nesting or arribada.**

During the nesting seasons, there are a number of arribada beaches where thousands of females congregate on sandy beaches that are 2–6 km long on three or four continuous

evenings¹. In India, the arribadas are located at Gahirmatha and Rushikulya in Odisha with an estimated over 100,000 nests per year and, more recently, a new mass nesting site was discovered in the Andaman Islands, with more than 5,000 nests reported in a season². Solitary nesting is witnessed sporadically along the entire coast of India.



Fig. 2. Mass nesting of turtles at Gahirmatha marine sanctuary, Odisha
(Image courtesy: Bijay Kumar)

Nesting Beaches in Coastal Karnataka

Sporadic nesting of Olive Ridley turtles is reported from the coast of Karnataka. The oldest comprehensive study dates back to 2002, a study jointly undertaken by Government of India (GoI) and UNDP where, a baseline was prepared for the nesting beaches along the coast of Karnataka.

(a) GOI – UNDP Sea Turtle Project³

The report has located major turtle nesting sites but no geocoordinates is available pertaining to the exact locations. Out of 13 sites identified in the Uttara Kannada District, Kasarkod beach was designated as an "**occasional nesting site**". The report highlights unequivocally that mass nesting in rookeries (arribadas) like those in Odisha does not occur in Karnataka. The nesting season was observed to be from September to January.

¹ Paladino, F.V., and Morreale. S.J. (2001). Sea Turtles in Encyclopedia of Ocean Sciences (Second Edition)

² NOAA. 2021. Olive Ridley Turtle. <https://www.fisheries.noaa.gov/species/olive-ridley-turtle> accessed on 11 August 2021

³ Sharath B.K. (2002) Marine turtle nesting along the coast of Karnataka – a status survey. GOI – UNDP Sea turtle project, 25 p.

(b) WWF - India Report⁴

The WWF 2013 report has provided an overview of the status of sea turtle nesting in Karnataka. It has mentioned Kasarkod as a potential nesting site with new nesting areas (the co-ordinates 14.26028 N, 74.43256 E). The report highlighted the decrease in turtle nesting over the years and the need for a detailed research to create a database on nesting. Fourteen beaches were identified from Uttara Kannada, thirteen from Udupi and six from Dakshina Kannada as potential nesting sites with new nesting areas (Table 1).

Table. 1. List of Potential Nesting Sites in Dakshin Kannada with New Nesting Areas (WWF-India Report, 2013)

S. No.	Name of nesting the beach	Beach Type	Co-ordinates
1.	Tilmati	Small black sand	N14.90019; E74.09111
2.	Devbag	Long sandy beach	N14.84525; E74.11454
3.	Amdalli (S)	Sandy	N14.75938; E74.17922
4.	Belekeri	Long sandy beach	N14.70572; E74.26435
5.	Kini	Sandy	N14.70579; E74.26435
6.	Manjaguni	Sandy	N14.60259; E74.29021
7.	Gangavali	Sandy	N14.59030; E74.29435
8.	Kagal	Sandy	N14.49140; E74.36355
9.	Dhareshwara	Sandy	N14.37469; E74.40492
10.	Haldipur	Sandy	N14.34576; E74.43485
11.	Kasarkod	Sandy	N14.26028; E74.43256
12.	Talmakki	Sandy	N14.12745; E74.48281
13.	Bailoor	Sandy	N14.05862; E74.49700
14.	Bengre (Bhatkal)	Sandy	N14.05865; E74.49699

(c) Dakshin - EMPRI Report⁵

The Dakshin-EMPRI Report of 2016 is a comprehensive document concerning sea turtle breeding along the Karnataka coast. According to the report, Olive Ridley nests are observed to be along the entire coastline of Honnavar Division and seven major nesting beaches (Figure 3) have been identified. These beaches are mostly sandy with small rocky patches. The seven nesting beaches are located at Gangavali, Kagal, Dhareshwara, Haldipur, Kasarkod, Talmakki, and Bengre (Bhatkal). According to the report, the nesting season begins as early as October and lasts till April every year. The peak nesting season in Honnavar is for three months beginning from December to February. The report has also provided beach profiles of Haldipur, Kasarkod and Manki beaches.

⁴ Ravi Pandit and Rakesh Soans (2013) Marine Turtle Habitats and Nesting Status in Karnataka. In. Annie Kurian (Ed.) (2013) Marine Turtles Along the Indian Coast - Distribution, Status, Threats and Management Implications, WWF-India, pp. 113-126

⁵ Anon (2016) Establishing a baseline for monitoring sea turtle nesting sites on the Karnataka coast through coastline mapping. Final Report. Dakshin & EMPRI, 93 p.



Fig. 3. Turtle nesting beaches in Uttara Kannada District (redrawn from Dakshin-EMPRI Report, 2016)

(d) Sritharan et al. (2017)⁶ – Report submitted to NCSCM

As a part of the delineation and demarcation of Ecologically Sensitive Areas (ESA) and Critically Vulnerable Coastal Areas (CVCA), the Indian Institute of Sciences (IISc), Bangalore was identified as the partner agency to identify turtle nesting sites along the coast of India. IISc Bangalore submitted the nesting sites for the entire coast of India and for the Karnataka coast, 28 nesting beaches of Olive Ridley turtles were reported. The report also clearly points out that there is no secondary data available for any of these nesting sites.

All available turtle nesting records were used to classify nesting as 'High' or 'Medium' to qualify the area as an ESA. For beach stretches with no past reports on nesting numbers, the nesting abundance of the 2 nearest nesting beaches were used to interpolate the approximate nesting abundance for the region. According to the study, certain states such as Kerala had just a few reports of high-intensity sea turtle nesting. No mass nesting sites were observed along the Karnataka coast, despite the availability of several point records of turtle nesting.

(e) Data from Forest Department, Honnavar Range, Karnataka⁷

Turtle nesting data was collected from Forest Department, Honnavar Range and the compiled data was analyzed. Based on the list, Kasarkod beach has been mentioned 5 times for turtle nesting from 2015 to 2021. Pavinakurve, Haldipur and Taribagilu have far more nesting records compared to Kasarkod since 2015. The details of the geo-tagged locations taken from the Forest Department records is given in Figure 4 and 5. The nesting frequency of each location is provided in Figure 6 and the details are placed at Annex 2). In Kasarakod, 582 turtle eggs were collected between 2016 and 2021.

All the GPS points recorded in the list provided by the Forest Department were falling in the ocean and one site in the land area. None of the GPS points that have been documented were on the beach. This probably might be due to the use of mobile smart phones with GPS facility or because of improper calibration of the GPS device.

The map with actual geo-tagged locations is provided in Figure 4. The entire Forest Department data which was documented in Kannada has been translated into English and as is attached with this document as Annex 2.

From the records of the Forest Department, it was observed that the southern tip of the proposed HPPL project site had one nesting in the year 2020 (marked as No. 5 in the maps 4, 5 and 6). The actual geolocation in the document falls 3 km in the land area from the shore. A straight line drawn from this location westward to the coast falls in the southern tip of the proposed port area.

⁶ Sritharan S., Muralidharan M. and Shanker K (2017) Mapping of Important Sea Turtle Nesting Sites in India, Project Completion Report. Submitted to: National Centre for Sustainable Coastal Management (NCSCM). Centre for Ecological Sciences, Indian Institute of Science, Bangalore, 5 p.

⁷ List of turtle nesting from the Honnavar Subdivision, Provided by the Range Forest Office, Honnavar Range, Honnavar - 581334

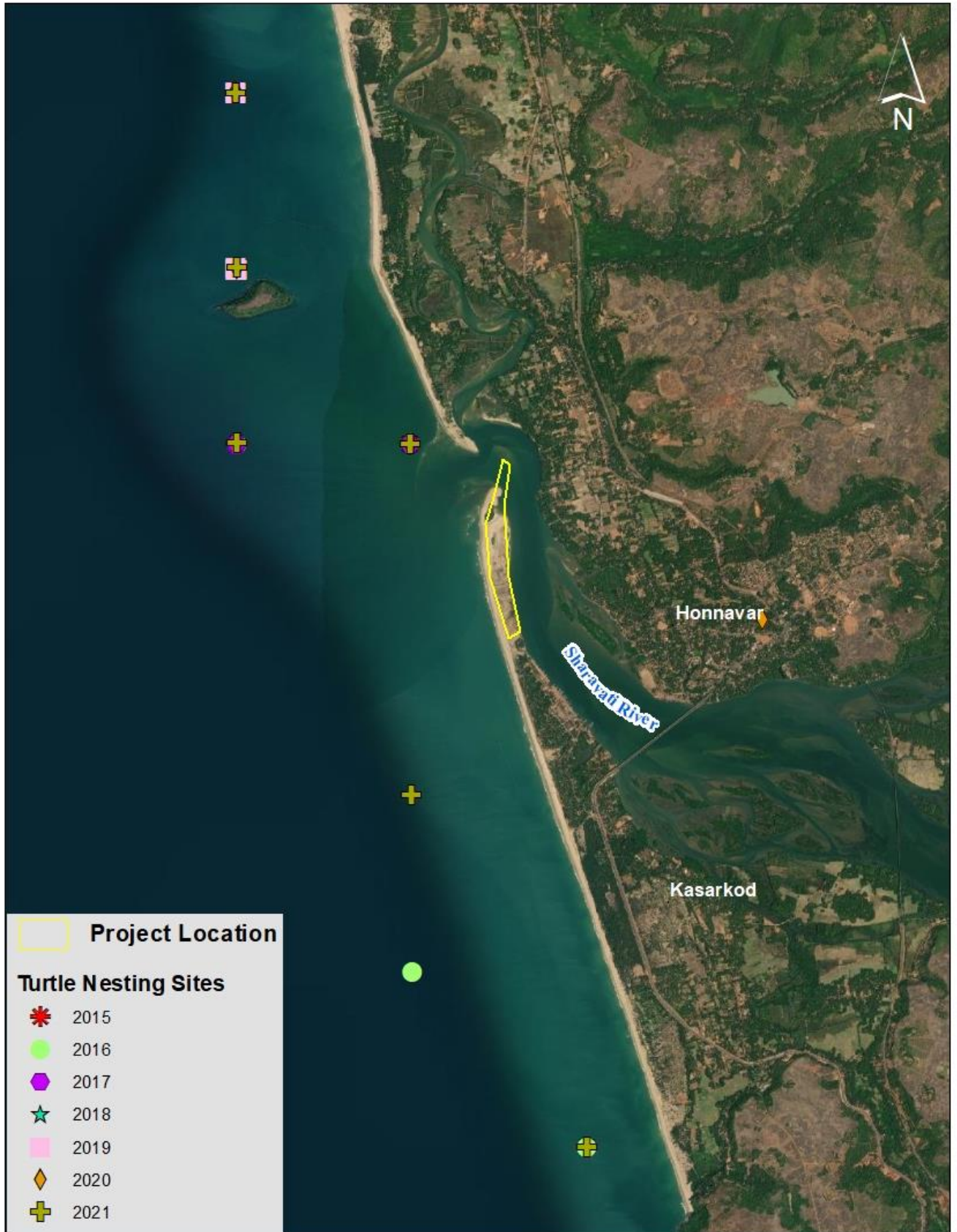


Fig. 4. Geolocation of Turtle nesting sites – Data source: Forest Division, Honnavar
 Note: None of the locations are on the beach

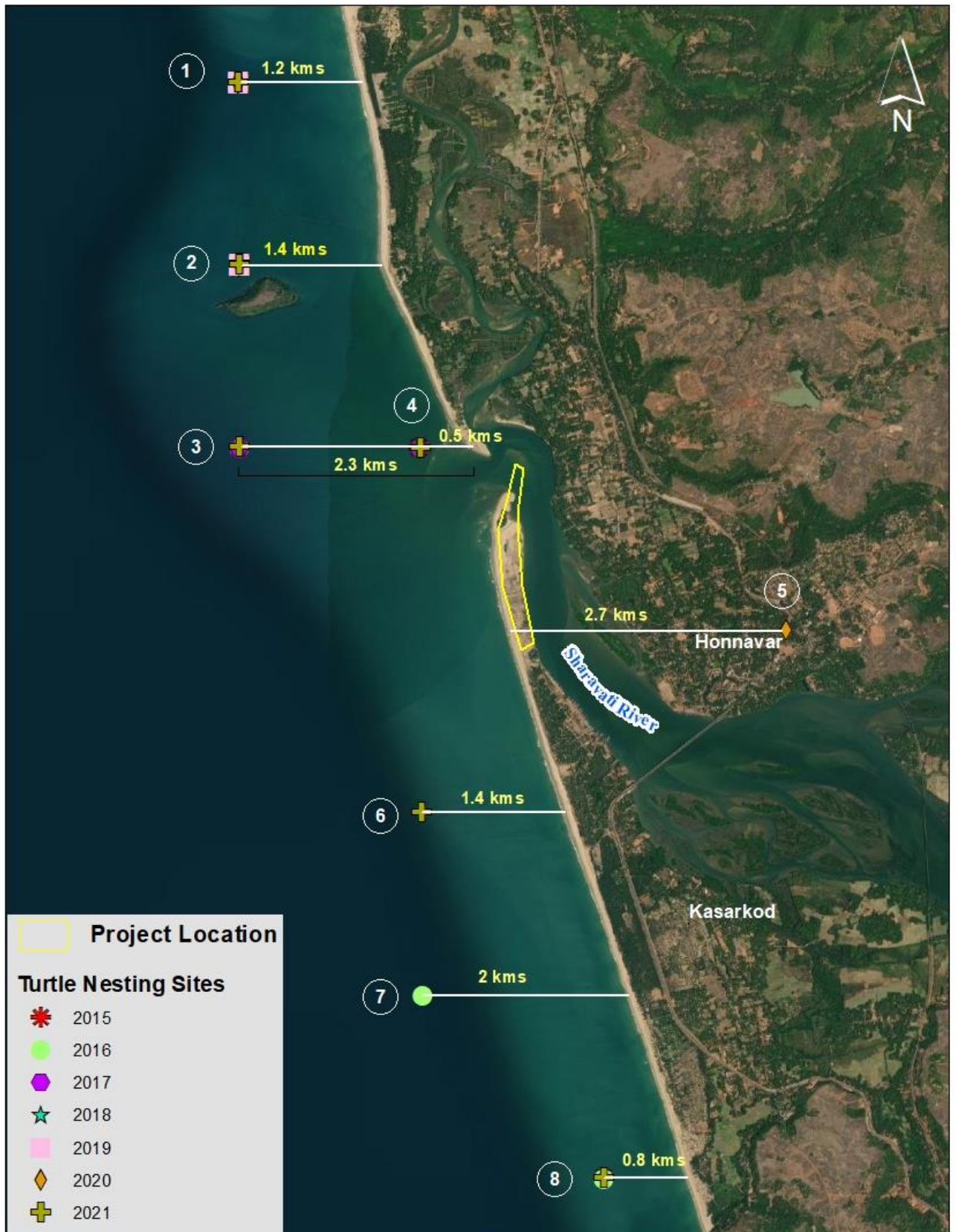


Fig. 5. Geolocation of Turtle nesting sites drawn parallel to the shore – Data source: Forest Division, Honnavar

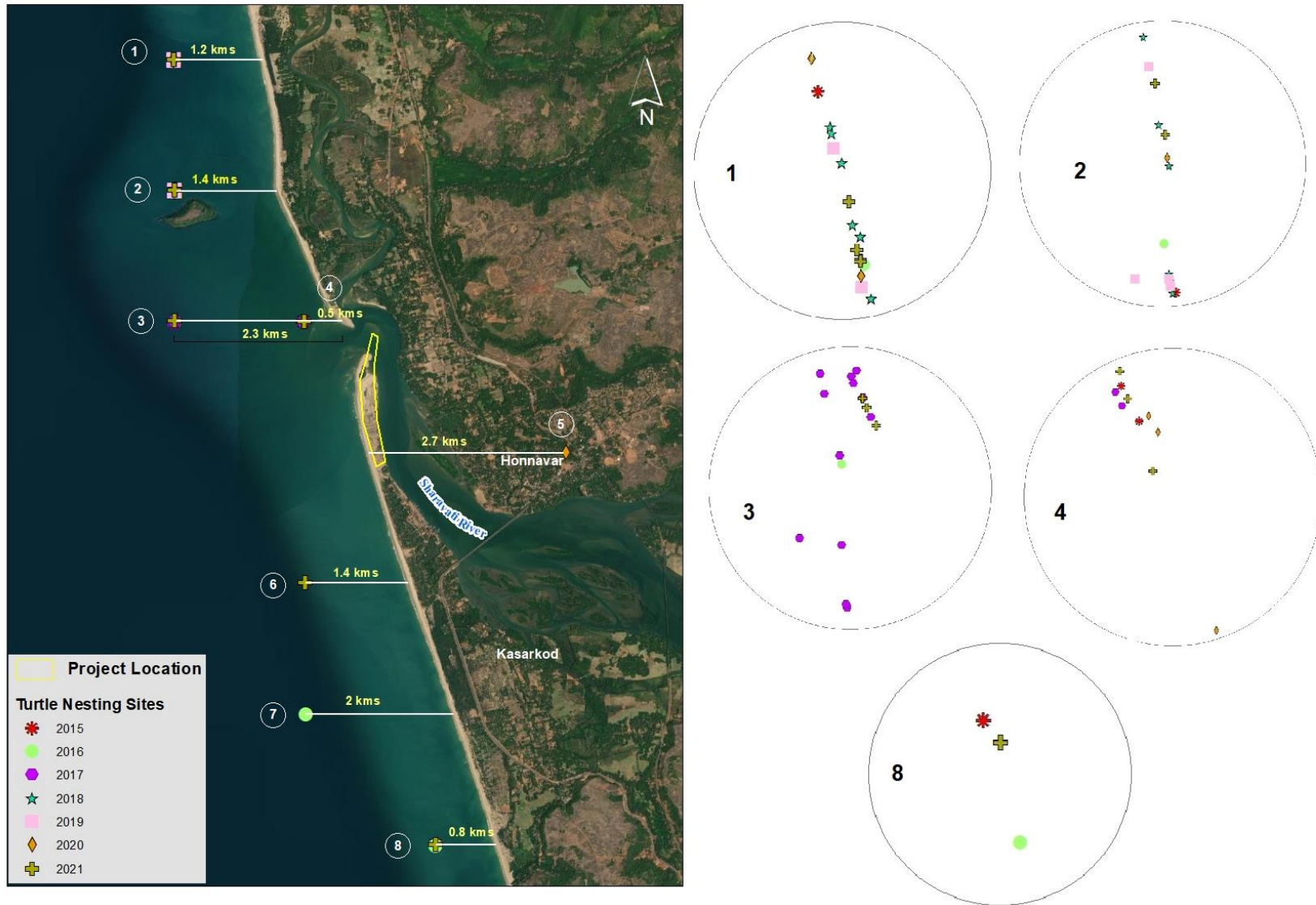


Fig. 6. Nesting locations and number of nests (indicated in circles)- Data source: Forest Division, Honnavar

Turtle nesting ground (ESA) – CRZ 2019 Notification

The Coastal Regulation Zone Notification (CRZ 2019) in para 2.1.1 constitutes 11 Ecologically Sensitive Areas (ESA) and the geomorphological features which play a role in maintaining the integrity of the coast.

- (i) Mangroves (in case mangrove area is more than 1000 square meters, a buffer of 50 meters along the mangroves shall be provided and such area shall also constitute CRZ-I A)
- (ii) Corals and coral reef
- (iii) Sand dunes
- (iv) Biologically active mudflats
- (v) National parks, marine parks, sanctuaries, reserve forests, wildlife habitats and other protected areas under the provisions of Wild Life (Protection) Act, 1972 (53 of 1972), Forest (Conservation) Act, 1980 (69 of 1980) or Environment (Protection) Act, 1986 (29 Of 1986), including Biosphere Reserves
- (vi) Salt marshes
- (vii) Turtle nesting grounds**
- (viii) Horse shoe crabs' habitats
- (ix) Sea grass beds
- (x) Nesting grounds of birds
- (xi) Areas or structures of archaeological importance and heritage sites.

The ESA for the entire coast of India was demarcated and delineated by NCSCM and has been approved by the respective State/ UT Governments and have been integrated in Coastal Zone Management Plans (CZMP).

The CZMP of Karnataka (based on CRZ Notification 2011) was approved on 18.07.2018 based on the recommendation made by the National Coastal Zone Management Authority (NCZMA) in its 34th meeting (Annex 1 - F.No.12-1/2018-1A-III)

CZMP Map⁸

As per CZMP Map No.: KA 25, the proposed port area is categorized into under three CRZ areas – CRZ – I (IB) intertidal area, CRZ – II and CRZ – III (No Development Zone). There is no reported ESA (CRZ 1A) in the proposed site of the Honnavar Port as per approved CZMP maps of Honnavar. A closer view of the CZMP map covering the port area and the entire CZMP map (KA 25) is provided as Figures 7 & 8. Mangroves are present in the estuarine area of Sharavathi river.

⁸ As per CZMP map prepared by NCSCM, Chennai and Forest, Ecology & Environment, Government of Karnataka

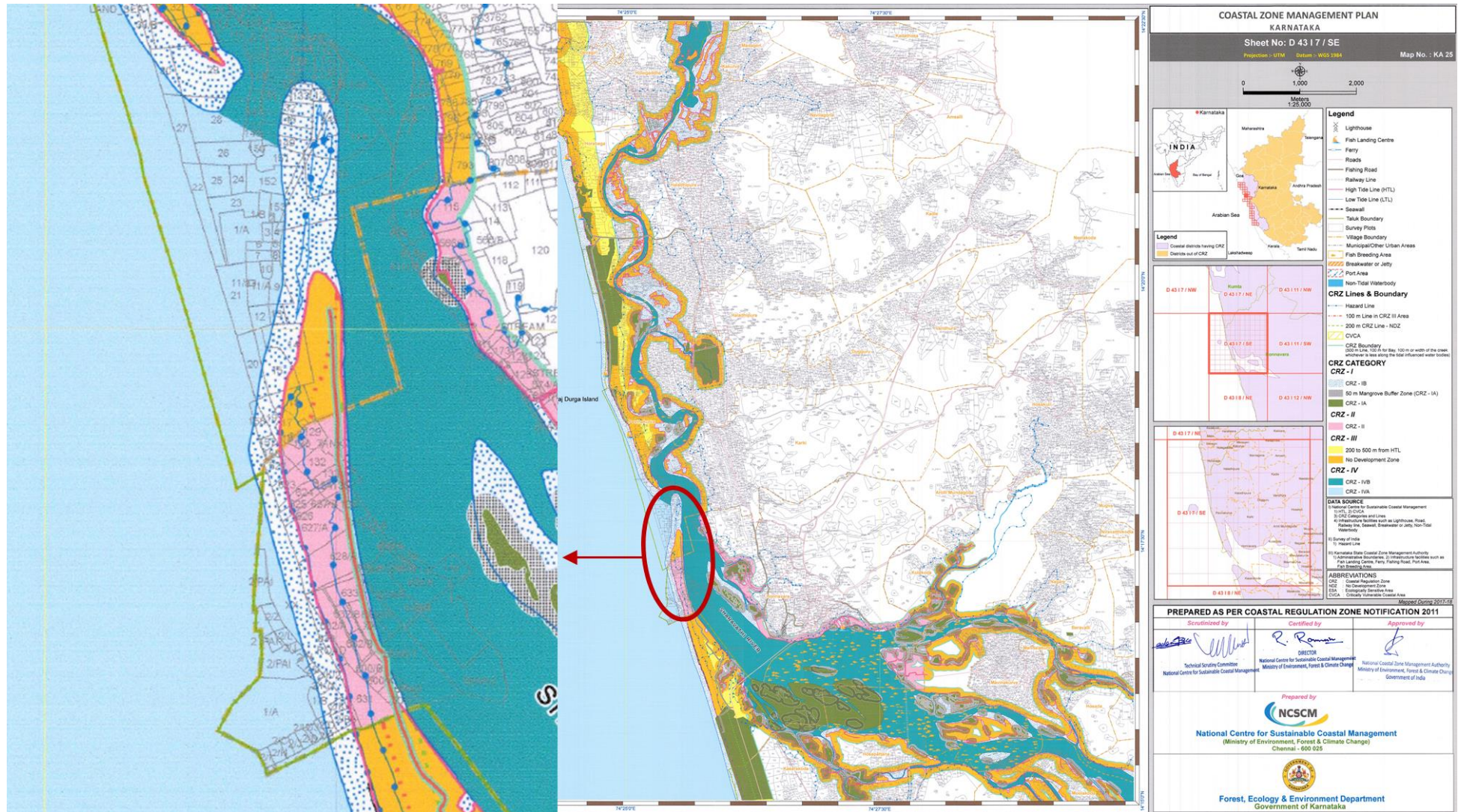


Fig. 8. CZMP of KA 25 approved by KCZMA indicating the surveyed Port area in insert

NCSCM Site Survey

The Hon'ble High Court of Karnataka in the Daily Order to the Infrastructure Development, Ports and Inland Water Transport Department, Government of Karnataka, had proposed to appoint NCSCM working under the Ministry of Environment, Forest and Climate Change, Government of India to survey the 45 hectares of land covered by the HPPL project with a view to ascertain whether any part of the said area is a turtle nesting ground or the entire area in the turtle nesting ground.

NCSCM team surveyed the proposed port area and the surroundings around Kasarkod on 2nd and 3rd August 2021 as per the directive of the Hon'ble High Court of Karnataka. It is to be noted that the month of August is not the nesting season for sea turtles. Usually the nesting occurs during late October to April every year. Identification of nests, turtles or dead carcass were not recorded during NCSCM's site visit. Based on the published works on turtle nesting sites in Honnavar, the locations were visited and correlated with CZMP maps which indicate if any ESA (including turtle nesting sites) have been demarcated. The GPS locations of the sites visited by NCSCM is provided in Table 2.

Table 2. GPS Points of the sites visited inside the proposed port area

No.	Latitude	Longitude
1	14.282254°	74.427078°
2	14.283611°	74.426667°
3	14.289034°	74.425702°
4	14.295769°	74.425800°
5	14.296203°	74.424595°
6	14.292135°	74.423815°
7	14.286925°	74.424371°
8	14.281852°	74.425779°

The following are the observations

- No nests, turtles or dead carcass of turtles were observed in the entire 45 ha area of the proposed site during the survey
- Erosion was observed along the road from current port entry road until the estuarine mouth (Fig. 10 a and b)
- Limited port construction activity has begun along the eastern boundary of the proposed port (Fig. 10 c)
- For coastal defense along the eroding road, tetrapods have been deployed on the banks.
- Mangroves are present along the north right bank of the River Sharavati.
- The northwestern boundary of the port has a flat beach, which is usually not conducive for nesting (Fig. 10d)

- An abandoned turtle hatchery was observed (Fig. 11) established by the Forest Department in the Apsarkonda Beach, suggesting possible turtle nesting in the past. This abandoned hatchery is located 1 to 2km from the southern tip of the port area (i.e. beyond the 45ha area).



a. Eroding road leading to the entry gate of the proposed port



b. Erosion along the eastern boundary of the proposed site



c. Construction activity along the eastern boundary of the port



d. Flat north-western boundary of the port

Fig. 10. Major coastal features at the port site



Fig. 11. Abandoned turtle hatchery of the Forest Department at Apsarkonda Beach

Summary

- On the basis of one-time field survey, no nesting of sea turtles was observed in the 45 ha area for the following reasons:
 - The present survey was undertaken during non-nesting season of turtles. Hence, no nesting could be recorded during the survey, undertaken in August 2021.
 - No nests or dead turtles or carcasses were observed during the survey of the 45 ha area
- Based on the records received from the Forest Department, Honnavar Range, one site landward of the beach at the southernmost tip of the proposed port area was indicated (Figs. 5 and 6)
- The approved Coastal Zone Management Plan (CZMP) was also referred to for the presence of turtle nesting sites in the 45 ha area (CZMP Map No. 25), indicating **ABSENCE** of any Ecologically Sensitive Area in the 45 ha area under survey (i.e. CRZ IA, which also includes ESA such as turtle nesting grounds).



F. No. 12-1/2018-IA-III
Government of India
Ministry of Environment, Forest & Climate Change

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e-mail: arvind.nautiyal@gov.in
Indira Paryavaran Bhavan, Jor Bagh,
Lodi Road, New Delhi-110003.
Dated: 07.08.2018

To,

10479
2018/2/18

The Member Secretary,
Karnataka Coastal Zone Management Authority,
Department of Forest, Ecology & Environment
Secretariat, 7th Floor, 4th Gate,
M.S. Building, Dr. B.R. Ambedkar Veedhi
Bengaluru – 5560 001

Sub: Coastal Zone Management Plan of Karnataka - reg.

Sir,

This has reference to your letter nos. FEE 289 CRZ 2017 P-1, dated 28.04.2018 and 18.07.2018, furnishing therein the Coastal Zone Management Plan (CZMP) of Karnataka, drawn as per the provisions of the Coastal Regulation Zone Notification, 2011.

ENW
2018

2. In this regard, it is to state that based on the recommendation made by the National Coastal Zone Management Authority in its 34th Meeting held on 18.07.2018, the Ministry of Environment, Forest and Climate Change conveys its approval of the CZMP for the State of Karnataka.

This issues with the approval of the Competent Authority.

Yours faithfully,

Arvind Nautiyal
Arvind Nautiyal

Arvind Nautiyal

Arvind Nautiyal
(Arvind Nautiyal)
Director

Copy to:

1. The Secretary (Environment and Ecology), Forest, Environment and Ecology Department, Government of Karnataka, Secretariat, Room No. 709, 7th Floor, Gate No. 4, M. S. Building, Bangalore-560001
2. The APCCF (C), MoEF&CC Regional Office (SZ), Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala, Bengaluru – 560034.
3. The Director, National Centre For Sustainable Coastal Management, Anna University Campus, Chennai – 600025, Tamil Nadu
4. Guard File.

Arvind Nautiyal
(Arvind Nautiyal)
Director

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
1	Thimmappa Mesta, Pavinakurve, Haladipura	Pavinakurve, Haladipura	14 18.565 N, 74 25.022 E	17.04.2015	82	04.06.2015	53	53	05.06.2015
2	Mabla Rama Kharvi	Pavinakurve, Haladipura	14 18.516 N, 74 25.047 E	06.10.2015	145	25.11.2015	90	90	
3	Chaudu Sankoosa Harikantra	Soranagadde	14 20.730 N, 74 24.518 E	16.12.2015	85	08.02.2016	8	8	
4	Ganapathi N Kharvi	Kharvikeri, Apsarakonda	14 14.824 N, 74 26.211 E	21.12.2015	76	-		-	
5	Vittala K Mesta	Karki		23.12.2015	32	15.02.2016	3	3	15.02.2016
							3	3	15.02.2016
6	Venkatesh Harikantra	Horabaga, Haladipura	14 19.049 N, 74 24.805 E	27.12.2015	95	17.02.2016	34	46	17.02.2016
						18.02.2016	12		18.02.2016
7	Nagaraj Keshav Kharvi	taribagila, Haladipura	14 19.002 N, 74 24.830 E	29.12.2015	67		35		
1	Ganapathi N Kharvi	Kharvikeri, Apsarakonda	14 14.749 N, 74 26.234 E	11.01.2016	129	29.02.2016	67	67	
2	Sebastian Saaver Lopis	Kasarakoda		21.01.2016	96				
3	Sebastian Saaver Lopis	Kasarakoda		21.01.2016	132	10.03.2016	16	16	
4	Ishwara Kharvi	Apsarakonda		28.01.2016	83				

Annex 2

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
5	Krishna Birappa Ambiga	Kadle, Kumata		28.01.2016	120				
6	Madevi Ishwara Mesta	Haladipura	14 20.155 N, 74 24.671 E	03.02.2016	115	23.03.2016	25	25	
7	Ishwara Kharvi	Apsarakonda	14 15.756 N, 74 25.911 E	05.02.2016	76				
8	Ishwara Kharvi	Apsarakonda		11.02.2016	100				
9	Thimmappa Mesta	Haladipura	14 19.190 N, 74 24.785 E	27.02.2016	105	17.04.2016	30		
10	Thimmappa Mesta	Haladipura	14 20.257 N, 74 24.785 E	02.03.2016	113	21.04.2016	48		
11	Kanna Budavantha Harikantha	Haladipura	14 18.598 N, 74 24.796 E	19.12.2016	151				
1	Ganapathi Kanna Harikantha	Taribagila	14 18.557 N, 74 25.014 E	24.01.2017	91	12.03.2017	27	50	
						13.03.2017	11		
						14.03.2017	12		
2	Kanna Budavantha Harikantha	Haladipura	14 18.632 N, 74 24.788 E	05.02.2017	130	22.03.2017	47	51	23.03.2017
						22.03.2017	2		

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date	
						Date	No			
						25.03.2017	2			
3	Krishna Pandu Kharvi	Pavinakurve	14 18.538 N, 74 25.023 E	05.02.2017	103	22.03.2017	2	75	24.03.2017	
						23.03.2017	69			
						25.03.2017	4			
4	Narayana Harikanta	Taribagila	14 18.021 N, 74 24.816 E	07.02.2017	128	23.03.2017	4		24.03.2017	
5	Ganapathi Kanna Harikantha	Taribagilu	14 18.027 N, 74 24.816 E	07.02.2017	107					
6	Thimayya Gidda Harikanta	Taribagilu	14 18.035 N, 74 24.813 E	07.02.2017	59					
7	Kanna Budavantha Harikanta	Haladipura	14 18.881 N, 74 24.725 E	08.02.2017	135	28.03.2017	26	35		
						29.03.2017	7			
						30.03.2017	2			
8	Nagappa Yenkappa Harikanta	Taribagilu	14 18.789 N, 74 24.913 E	15.02.2017	128			47		
9	Anantha Kharvi	Taribagilu	14 18.866 N, 74 24.880 E	16.02.2017	106	03.04.2017	64	78		
						04.04.2017	14			

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatching s	Hatchlings released date
						Date	No		
10	Kanna Budavantha Harikantha	Haladipura	14 18.963 N, 74 24.708 E	19.02. 2017	130				
11	Ramesha Annappa Harikantha	Taribagilu	14 18.925 N, 74 24.842 E	07.03. 2017	117				
12	Kanna Budavantha Harikantha	Haladipura	14 18.951 N, 74 24.833 E	08.03. 2017	150	20.04. 2017	5	76	
						21.04. 2017	46		
						22.04. 2017	12		
						24.04. 2017	13		
13	Mahadeva Siddha Harikantha	Haladipura	14 18.301 N, 74 24.626 E	11.03. 2017	120	23.04. 2017	47	85	
						24.04. 2017	38		
14	Rama Bira Harikantha	Taribagilu	14 18.274 N, 74 24.796 E	03.04. 2017	127	17.05. 2017	54		
						18.05. 2017	12		
15	Narasimha Harikantha	Taribagilu	14 18.975 N, 74 24.855 E	15.12. 2017	126	07.02. 2018		101	
1	Nagappa Yenkappa Harikanta	Haladipura	14 20.248 N, 74 24.659 E	16.01. 2018	129	12.03. 2018		96	

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
2	Madhukara Harikantha	Horabaga, Haladipura	14 20.492 N, 74 24.598 E	16.01. 2018	54	11.03. 2018		12	
3	Venkatramana Nagappa Harikantha	Haladipura	14 20.613 N, 74 24.558 E	22.01. 2018	101	15.03. 2018		74	
4	Rama Narayana Harikantha	Haladipura	14 20.591 N, 74 24.565 E	24.01. 2018	86	18.03. 2018		58	
5	Nagappa Durga Harikantha	Haladipura	14 19.978 N, 74 24.705 E	29.01. 2018	122	23.03. 2018		98	
6	Kanna Budavantha Harikantha	Haladipura	14 20.285 N, 74 24.634 E	29.01. 2018	143	23.03. 2018		108	
7	Thimmayya Narayana Harikantha	Haladipura	14 19.074 N, 74 24.804 E	02.02. 2018	127	27.03. 2018		98	
8	Ravi Mestu Kharvi	Pavinakurve	14 20.042 N, 74 24.695 E	08.02. 2018	96	31.03. 2018		61	
9	Pursu Rama Harikantha	Haladipura	14 19.486 N, 74 24.803 E	08.02. 2018	110	31.03. 2018		81	
10	Kanna Budavantha Harikantha	Haladipura	14 19.644 N, 74 24.765 E	12.02. 2018	130	04.04. 2018		118	
11	Thimmappa Mestu Kharvi	Haladipura		14.02. 2018	113	08.04. 2018		91	
12	Manjunatha Nagappa Harikantha	Haladipura		14.02. 2018	101	08.04. 2018		79	
13	Manjunatha Nagappa Harikantha	Haladipura		18.02. 2018	93	10.04. 2018		57	
14	Thimmappa Mestu Kharvi	Pavinakurve		20.02. 2018	63	12.04. 2018		35	

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
15	Hanumantha Kariyana Harikantha	Pavinakurve		23.02.2018	119	14.04.2018		68	
16	Kanna Budavantha Harikantha	Haladipura		24.02.2018	71	15.04.2018		45	
17	Kanna Budavantha Harikantha	Thimmappa Mestu Kharvi		27.02.2018	119	16.04.2018		55	
18	Thimmappa Mesta Kharvi	Pavinakurve		24.03.2018	111	10.05.2018	41		
19	Thimmappa Mestu Kharvi	Thimmappa Mestu Kharvi		13.04.2018	68				
20	Thimmappa Mesta Kharvi	Pavinakurve	14 19.000 N, 74 24.817 E	07.12.2018	115	28.06.2019		46	
1	Mohana, Sandesha, Jagadisha, Shankara, Vinayaka Tandel	Chonka, Kasarkod		02.01.2019	138	25.02.2019		63	
2	Manjunatha Nagappa Harikantha	Swarna Gadde	14 20.543 N, 74 24.572 E	21.01.2019	101				
3	Vittala Narayana Harikantha	Taribagilu	14 19.055 N, 74 24.803 E	30.01.2019	135	24.03.2019		81	
4	Thimmappa Mesta Kharvi	Pavinakurve	14 19.028 N, 74 24.810 E	07.02.2019	121	31.03.2019		31	
5	Santhosha Mesta	Chonka, Kasarkod		01.03.2019	90	20.04.2019	30	30	
6	Manjunatha Thimmappa Harikantha	Taribagilu	14 20.079 N, 74 24.665 E	03.03.2019	130	21.04.2019		91	

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
7	Ravi Keshava Kharvi	Taribagilu	14 19.867 N, 74 24.726 E	14.03. 2019	135			12	
8	Ravi Keshava Kharvi	Taribagilu	14 19.056 N, 74 24.675 E	14.03. 2019	138	01.05. 2019	76	76	
9	Manjunatha Narayana Harikantha	Haladipura		27.03. 2019	101		56	56	
1	Pursayya Kharvi	Pavinakurve	14 17.832 N, 74 27.071 E	16.01. 2020	128	09.03. 2020		63	
2	Niranjana Manjunatha Harikantha	Haladipura	14 20.839 N, 74 24.497 E	24.01. 2020	135	17.03. 2020		87	
3	Nagappa Harikantha Haladipura	Pavinakurve	14 18.501 N, 74 25.073 E	30.01. 2020	118	22.03. 2020		66	
4	Manjunatha Narayana Harikantha	Haladipura	14 20.116 N, 74 24.663 E	07.02. 2020	120	29.03. 2020		83	
5	Nagappa Harikantha	Haladipura	14 19.518 N, 74 24.796 E	18.02. 2020	124	09.03. 2020		92	
6	Pursayya Kharvi	Pavinakurve	14 18.523 N, 74 25.060 E	22.02. 2020	99			70	
7	Thimmappa Venkatesha Mesta	Pavinakurve, Haladipura	14 18.226 N, 74 25.154 E	21.12. 2020	101	13.02. 2021		30	14.02.2021
1	Krishna Pandu Kharvi	Pavinakurve, Haladipura	14 18.547 N, 74 25.031 E	03.01. 2021	118	26.02. 2021	102		27.02.2021
						27.02. 2021	1	103	28.02.2021

Annex 2

Details of Turtles nesting, numbers, hatchlings released data from Honnavar Forest Range Office

Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
2	Krishna Pandu Kharvi	Pavinakurve, Haladipura	14 18.585 N, 74 25.020 E	10.01.2021	87	05.03.2021	72	72	06.03.2021
3	Pandu Mari Harikantha	Pavinakurve, Haladipura	14 18.753 N, 74 24.933 E	13.01.2021	144	07.03.2021	118	118	08.03.2021
4	Ravi Keshava Kharvi	Taribagilu, Haladipura	14 19.802 N, 74 24.749 E	19.01.2021	124	14.03.2021	3	3	15.03.2021
5	Roshan Michel Fernandes	Kelaginoor	14 14.810 N, 74 26.222 E	25.01.2021	134				
6	Manjunatha Harikantha	Haladipura		31.01.2021	90	26.03.2021	55	55	27.03.2021
7	Ishwara S Harikantha	Pavinakurve	14 18.825 N, 74 24.895 E	12.02.2021	Insitu Conservation				
8	Ravi Keshava Kharvi	Taribagilu	14 19.605 N, 74 24.789 E	12.02.2021	40	05.04.2021	5	5	06.04.2021
9	Kumara Shanthappa Kharvi	Chonka, Kasarakod	14 16.937 N, 74 25.541 E	15.02.2021	126				
10	Ramakrishna Babu Harikantha	Pavinakurve	14 18.755 N,	15.02.2021	90	06.04.2021	10	10	07.04.2021
11	Venkatramana Manjunatha Harikantha	Haladipura		15.02.2021	95	06.04.2021	20	20	07.04.2021
12	Manjunatha Narayana Harikantha	Haladipura	14 20.169 N, 74 24.660 E	22.02.2021	42	12.04.21	29	29	13.04.2021
13	Hanumantha Kariyanna Haikantha	Haladipura	14 20.165 N, 74 24.660 E	23.02.2021	64	12.04.2021	45	45	13.04.2021

Annex 2

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Sl. No	Name and Address of the person who found the Turtle Eggs	Place	Latitude/Longitude	Date	No. of Eggs Found	Number of Hatchlings		Total Hatchlings	Hatchlings released date
						Date	No		
14	Ganapathi Manjunatha Harikantha	Haladipura	14 20.203 N, 74 24.648 E	23.02. 2021	58	12.04. 2021	36	36	13.04.2021
15	Manjunatha Narayana Harikantha	Haladipura	14 20.364 N, 74 24.622 E	28.02. 2021	116				
16	Krishna Pandu Kharvi	Pavinakurve	14 18.447 N, 74 25.066 E	09.03. 2021	97				
17	Annappa Kanna Harikantha	Pavinakurve	14 18.862 N, 74 24.879 E	13.03. 2021	62				

