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**The Olive Ridley Sea Turtle
Community-Based Protection Program
Urban Coast of Visakhapatnam
2019  2020**

I. Sea Turtle Conservation in 2020

VSPCA has entered its 24th year of protection and conservation of the [Olive ridley sea turtle](#) via its Community-Based Protection Program, which covers Visakha Coastal Urban Beach - a length/distance of 60 kms along Andhra Pradesh's shoreline. This project erects **5 hatcheries** along these beaches safeguarding sea turtle habitat: **Muthayalapalem Beach to R. K. Beach; from Jodugullupalem to Uppada and then covering the Peddanagayapalem Beaches.**

What started in 1996 as an observation is now a program attracting conservationists and NGOs world-wide to it. The sea turtle conservation team has become known for their empathy, originality, compassion and commitment to the program. **VSPCA's Founder, Pradeep Kumar Nath** scoured magazines like the National Geographic and scientific papers to comprehend this endangered species of turtle. He observed the very difficult conditions under which mother sea turtles make their way onto Visakhapatnam's beaches to nest. They face peril and death from many types of predators and obstacles (human, non-human and nonliving): from the fisherfolk poaching turtles, to the eagles & crabs hovering for fresh kill, and beach dogs digging up the newly-laid eggs; from the fishing boat nets to industrialized trawlers destroying sea turtles as by-catch; from oil leaks, sand-mining, pollution, soot, dangerous articles and chemicals on beaches. Yet Olive ridleys are instinctually guided to these beaches!

Thus began, what is now a 24-year journey from quest to learn about this species and its role in our coastline, to -> profoundly serious protectionary work to save and conserve the Endangered Olive ridley! Annually, these resilient beings make these beaches their significant-sporadic nesting grounds: with particular reference to the eastern Naval Coastal Battery, all the way to the VUDA beach. Unfortunately, for the turtles who support coastal life (marine animals and plants), in the first fifteen years of observation, this stretch has been undergoing severe stress due to various tourism-related developmental work. Without VSPCA's sea turtle program and its many



working arms (for example - addressing policy, working legislation, protection and care of turtles & hatchlings, working closely with fishing communities on alternate livelihoods, etc.), development that disregards the Olive ridleys' role in this ecosystem, can cause irreversible harm, not only to the turtle habitat, but reduce this region's coastal resiliency. Seriously addressing these concerns is definitely in hands of groups of concerned citizens & social-environmental justice advocates like VPCA!



Hatchlings Racing towards the Ocean © VSPCA

Each year, in preparing our Sea Turtle Conservation Reports to submit to stake holders, we do so with emotion and hope in not having to lose any more precious turtle habitat to harmful human activity, which impacts the whole ecosystem – sea, land and air. There's always concern in getting to the authorities and eliciting their attention to act in a timely manner on behalf of the environment, the fisher community, fresh water mangroves, and marine life everywhere along this coastline. We need our well-wishers and patrons to comprehend that the degradation and loss of this precious coastal habitat, further-endangers the turtles; but, insidiously also creeps up on humans in cities along the Bay of Bengal and Asia Pacific regions. The evidence in the annual decline at R.K. Beach is mounting and this is an important - periodic nesting ground.

II. Preparedness for Ex-Situ Nesting and Hatchling Management:

a. Five Hatcheries:

1.	R.K. Beach	Measuring	:	80' X40'
2.	Jodugullupalem Beach	Measuring	:	80' x 40'
3.	Uppada Beach	Measuring	:	80' X40'
4.	Pedanagayapalem Beach	Measuring	:	80'X 40'
5.	Muthyalapalem Beach	Measuring	:	80' x40'



The hatchery sizes were calculated keeping the target of **shifting 80,000 eggs** from 750-800 nests, based upon annual nesting increase rate of 10% to 15%.



- i. Olive ridley females mature and become mothers at around 16 to 20 years of age; an early age comparing all sea turtles. Many females nest every year, some twice a season, laying clutches of approximately 100-150 eggs, which take from 45 to 65 days to hatch. From birth, the female is set upon a deep-sea world of uncertain future into the phenomenon now known as “[Geo-Magnetic Imprint Technology](#).” At VSPCA, our Sea Turtle Conservation Team readies itself in November, anticipating a seasonal sea turtle population increase of about 20%.
- ii. VSPCA considers [Habitat Protection](#) a priority in our efforts to make a better world for species in our coastal ecosystem, with a focus on the Olive ridley. Thus far, we have ascertained a coverage of 60 Kms of coastline. Our goal is to cover all 133 kms of Visakhapatnam’s coastline based on corporate, donor, government, NGO and University support of this program and resource availability.
- iii. **Trained & experienced Sea Turtle Protection Force:** Fisher folk from fishing communities/[mandals](#) at each hatchery location, are enlisted, trained and employed for the turtle season by VSPCA supported by the Andhra Pradesh Forest Department. The fishermen who are familiar with the sea, tides and species, work in 3 shifts of the 24 hours of the day and night. *****VSPCA has a unique relationship with the street dogs of the beach areas.** Since these dogs are cared for (rabies vaccinations, spay-neuter, water and food stations provided), they do not dig up the eggs when laid. In fact, the dogs have become significant members of the Sea Turtle Protection Force because they alert the fisher community to the mother turtle’s arrival onshore. They also “guard” the turtles by keeping predators and humans



away from a turtle mother in labor. The dogs form what is now VSPCA's unique feature to the program. Hatcheries themselves are safe houses for the turtles' eggs. But, when a mother first comes ashore, she is alone and in danger. And following her nesting, there is little protection for her eggs if humans and VSPCA's "trained" street dogs are not in the vicinity.

- iv. **Awareness and Education:** is integral to VSPCA's programs, initiatives and projects. VSPCA's **Awareness and Education Campaigns** take place at every fishing mandal and fish market primarily, and then extend to other sections of the society such as government and corporates (National Thermal Power Corporation, Steel Plant, Eastern Naval Command, etc; Universities such as GITAM and Andhra University; and city's residents who have joined VSPCA to demand beach cleanup and habitat protection for the turtles). At every hatchery location and, where there is interaction between fishing people, port authorities and public at urban beaches, VSPCA holds exhibits and speeches while distributing flyers explaining the issues plaguing the sea turtle habitat. This continues relentlessly each season and is now deemed an effective way to speak to large groups of people going about their daily business. It is how VSPCA is able to lead rallies with Vizag Citizens protesting beach pollution and demanding that sea turtle conservation needs be addressed. VSPCA's Awareness and Education campaigns are the reasons that differentiate its efforts to help the sea turtles along this coast.

III. Data from the Field (By Hatchery Location):

EXSITU PROTECTION - VISAKHAPATNAM						
Zones	Area Covered	Nests	Eggs Laid	Under Developed Eggs	Dead Hatchlings	Hatchlings Released
Zones -1	R.K. Beach - area covered: Coastal Battery to Vuda Park	220	21721	3539	1212	16970
Zones-2	Jodugullupalem area	263	23852	2107	818	20927
Zones-3	Uppada	133	11690	783	269	10638
Zones-4	Peddaganayapalem	77	7252	809	286	6157
Zones-5	Muthyalapalem	118	10417	747	332	9338
TOTAL		811	74932	7985	2917	64030

The Hatchling Success Rate = 85.49 %



IV. Our Observations and Revelation

i. The R.K. Beach phenomena and the resulting decline in nestings:



Photo from the Internet by Aurobird: <http://www.dronestagr.am/rk-beach/>

The R.K. or Ramakrishna Beach is considered a significant sporadic nesting ground in north-coastal-Andhra Pradesh. In particular, the most important segment to the sea turtles is the 5 kms stretching from the coastal Naval Battery to Vuda Beach. Once an isolated beach area, today there is relatively little space to move around as humans through this beach partaking in many tourism-related activities.

VSPCA as an NGO advocate for the environment, is not against development. It stands and works with Visakhapatnam authorities such as [GVMC](#), [VUDA](#), [VMRDA](#), the [Andhra Pradesh Forest Department](#), [Ministry of Environment, Forests and Climate Change](#), [Andhra Pradesh's Animal Husbandry](#) divisions, [Joint Commissioners of Police](#), etc. in getting to Vizag's determined [Smart City Mission](#)

However, the climate crises *is* bearing down upon this region, evident in typhoons wreaking havoc, seasonal floods and persistent droughts. VSPCA genuinely seeks to “balance” the threats and weaknesses *with* opportunities for increased biodiversity, thereby strengthening the region's coastal resiliency. The connections between destroying habitats and: - increased [global warming](#), increased [zoonotic disease spread](#), increased [coral bleaching](#), and increased [ocean acidification](#), is scientifically proven today. The [Bay of Bengal is a key oceanic carbon sink and oxygen producer](#). It does so with the living plant and animal species that abound in this region. The highly-proven and most effective ways to counter the ill-effects of climate change are to reduce our carbon footprint and preserve a region's biodiversity and ecosystems. VSPCA is working as steward of the planet for these reasons.

Highly-affected among many species that frequent habitat here, are the Endangered Olive ridley turtles. They are like spokespersons for this region - a keystone species representing various ecosystems – coastal freshwater habitat, coastal marine habitat and terrestrial habitat. Not to forget the air – as migratory and non-migratory beach birds here, also depend on the turtle and this ecosystem to thrive.



Reasons why the R.K. Beach is degrading:

- 1) Plantation of clusters of non-native trees, which run several yards towards the ocean.
- 2) Tourism activities such as beach entertainment, plastic pollution by humans, tents and chairs left on beach from gatherings, dead batteries everywhere, vehicles permitted onto the beach, and the 'Visakha Utsav.'
- 3) Frequent cultural activities that take place without proper enforcement of rules and regulations, similar to the above.
- 4) Religious and political activities, which also take place frequently.
- 5) Open sewage - release of untreated water into the ocean at periodic time intervals.
- 6) Excessive beach lighting.
- 7) Construction activities on the beach that go on without respite (also a reason for highly increased lighting disorienting turtles coming ashore).

ii. Juvenile mother turtles; a new phenomenon in 2020:

An important observation was made this year regarding juvenile turtle mothers.

VSPCA is working towards obtaining technology that can prove hatchings born on the beaches of Visakhapatnam, are the mothers who come back year-after-year, gaining maturity, to lay eggs at their birth place.

Pradeep Kumar Nath has made circumstantial observations, which indicate that: a) mother turtles at Visakhapatnam's beaches are indeed the hatchings who took birth here, and, b) 2020 is unusual as many of these mothers are observed to be younger than ever before.

The turtles inherent Imprint Technology now known to science is said to guide the turtles back to their place of birth. It takes about 20 years from birth for the female Olive ridleys to gain maturity. In 2016, VSPCA's sea turtle conservation program became 20 years old. Observing that the rise in nestings jumped to approximately 200% in 2016, indicated that VSPCA's conservation program is not just highly successful; but likely, it is those saved hatchlings that are now coming back in larger numbers to Visakhapatnam's beaches! This is a revelation! This statistic gives great impetus for focused and expanded beach habitat conservation – for the sake of the turtles!



Since 2016, there's been a steady rise in nestings of about 20% each year. This year showed a new anomaly: several clutches of turtle eggs turned out to be smaller in size and count as compared to previous years. Older mature mothers can lay about 130 to 210 eggs in a cluster. Juvenile mothers have averaged 40 to 110 eggs in clusters this year. These mothers are also smaller in size.

V. A Word from VSPCA's Founder

Pradeep Kumar Nath debates that the *beaches are natural formations* and therefore, should be treated as natural parks or national parks.

People should not be using these naturally pristine beach areas for entertainment, or as garbage dumps.

Here are 3 important matters that need the attention of authorities:

- VSPCA seeks that concerned *authorities take undisputed measures to keep the R.K. Beach safe and uninhabited/un-utilized by humans – specifically during sea turtle nesting season beginning January, through March each year.*
- Prior to this quarter, the concerned authorities must take necessary steps to *prepare* the beaches for nesting. This means restoring lost/degraded turtles' nesting grounds, making them free of sewage, pollution and chemicals.
- VSPCA needs the authorities' greater involvement and clout for biodiversity preservation along Vizag's beaches during turtle season. This requires that the *government allocate suitable arrangements and resources to cover all 133 kms of Vizag's coastline with 'ex-situ' turtle-nesting hatcheries as seen in our report.* Once achieved, realistically possible in the coming 3 years with VSPCA's support and knowledge base, Visakhapatnam could become a key conservation site for the Olive ridley, in terms of its long and unique coastline.

Cont'd Below



Nesting during January through March

V. The futuristic Plans:

- a. Increase protection for the Endangered Olive ridley: gradually cover the entire 133 Kms Visakhapatnam District Beach grounds to allow these animals to nest anywhere along Vizag's coastline for the purposes of nesting, egg-laying, food and safety.
- b. Continue being liaison and lobbyist. Make a plea and request an exclusive declaration: - set aside the entire urban Visakhapatnam District Beach grounds as sea turtle habitat and devote the grounds to establishing turtle hatcheries, starting from January through March. Ask to put a stop to human activities on the beach during this crucial period. Let nature thrive. Give nature a break. Thereby, raise the prominence of the beaches as "**Safe Turtle-Nesting Zones**" from the period January to March.
- c. Remove all obstacles from the high tide line until the road, providing at least 60 feet of free space for the turtles arriving on the beaches.
- d. Expand Awareness and Education Programs to all coastal villages along Visakhapatnam's coastline, and Intellectual Programs in Universities. Engage with students on anthropogenic threat management for oceans. Encourage that residents demand:
 - prohibition of the discharge of crude oil, pesticides, heavy waters, heavy metals and other poisonous effluents into coastal areas and near turtle-nesting beaches.
 - prohibit the discarding of fishing lines, nets, plastic bags other trash into the water or on the beach which results in [ghost fishing](#) and incidental mortality of sea turtles.
- e. Networking with the like-minded NGOs and creating *a strong science and technology base for VSPCA's Sea Turtle Conservation Program.*
- f. Continue enforcing mandatory implementation of the use of Turtle Excluder Device (TEDs) to the trawling nets with the help of government authorities. Insist on the mandatory enforcement of TEDs on all trawlers and mechanized boats.
- g. Work toward [Marine Protected Areas](#) - declaring no fishing zones and imposing seasonal fishing bans – to allow fast-breeding marine life to thrive.



Looking forward to a highly- successful Sea Turtle Conservation Season during 2020-2021, our 25th Year!





In collaboration with
ANDHRA PRADESH FOREST DEPARTMENT and
Visakha Society for Protection and Care of Animals

Our sincere gratitude to our supportive partners over the years!

