

VISAKHA SOCIETY

For

PROTECTION AND CARE

OF

ANIMALS



OLIVE RIDLEY

SEA TURTLE PROTECTION

PROGRAMME 2013-2014

ALL INFORMATION IN THIS REPORT IS FROM THE VSPCA AND ALL SOURCES HAVE BEEN DULY CITED. THIS REPORT HAS BEEN PREPARED BY TAMANNA PUNJABI - A VOLUNTEER-INTERN AT THE VSPCA.

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**Mysteries
surrounding sea-
turtles and facts
you didn't know!**



ACKNOWLEDGEMENTS

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Last but not the least; we would like to thank the brave **OLIVE RIDLEY SEA TURTLES** which make the long and arduous journey from MEXICO to nest in our land's beaches.



INDEX

1. *Summary of Report*
2. *About VSPCA*
3. *About the Olive Ridley Sea Turtles*
4. *The Sea Turtle Protection Programme*
5. *The Sea Turtle Protection Force*
6. *Why is it difficult to protect the sea turtles?*
7. *Why beaches Erode?*
8. *What can we do about it?*
9. *Data From Annual Protection Program*



SUMMARY OF REPORT

This report is written in order to educate the reader about the endangered Olive Ridley sea turtle, a species of marine life that conducts its unique and famous nesting ritual on Vizag's shores; and the efforts in place by the Visakha Society for the Protection and Care of Animals (VSPCA) to protect it. All data is collected, maintained and interpreted by the VSPCA. Over the last few years, rapid development along the Vizag coast and increasing pollution levels in our city have been causing severe deterioration of our environment, making it utterly difficult for sea turtles to nest here. There have been cases of mother turtles being unable to find a proper place to lay their eggs on account of horrifically dirty conditions in our polluted beach, and so they lay eggs in the water itself, with no hope for eggs to survive. It is tragic because this constrains our efforts to conserve this highly endangered marine creature that has been around in our planet from the time of the dinosaurs. The mighty dinosaurs had become extinct, their kind unable to survive the earth, whereas these humble creatures of the sea continued, until today.

According to the Marine Turtle Specialist Group (MTSG) of the IUCN, there has been a 50% reduction in population size since the 1960s. Although some nesting populations have increased in the past few years, the overall reduction is greater than the overall increase. Expansion of the shrimp trawling fishery in the eastern Indian Ocean in the mid-1970s has resulted in numerous olive ridley deaths... over 10,000 olive ridley carcasses a year have been counted on the Orissa coast since 1999. These carcasses have largely been attributed to the shrimp trawl fishery, but trawling is not the only source of olive ridley mortality in the eastern Indian ocean.

We would like to draw your attention to the various factors contributing to the deterioration of sea turtle population, and the statistical interpretations of the data from studies and tests conducted in our waters.

ABOUT VSPCA



The VSPCA (Visakha Society for the Protection and Care of Animals) is an animal welfare organization based in Visakhapatnam, Andhra Pradesh that was founded on 30 June 1996. It runs numerous programs for the rescue, protection, care and treatment of all kinds of animals, both domestic and wild. VSPCA's mission is to save and protect animals, to promote an environment that is an oasis without suffering, to teach humane lifestyle (which is ideally a vegan diet) and farming to our area and throughout India.

The VSPCA works to stop the illegal trade in internationally-protected sea turtles, rescues cows and water buffalo too old or injured to be kept by their previous owners, as well as provides permanent happy sanctuary to hundreds of dogs, cats, birds, monkeys, horses, rabbits, tortoises, ducks and other animals who had been suffering severe abuse or neglect at its two shelters. We perform Animal Birth Control (spay/neuter/vaccinate) operations daily to 20 dogs, also cats.

We are responsible for animal rescues in our area and get calls day and night. We currently have over 1500 large and small animals rescued from all types of abuse and exploitation in the sanctuary near the city as well as the new "Kindness Farm".

We have provided spay and neuter procedures, as well as vaccines and health checks to more than 100,000 street dogs. The population of street dogs in this area is getting smaller, healthier and ever shrinking as a result of this wonderful program. The community based Sea Turtle Protection Program conducted on the coasts of VIZAG and BHEEMUNIPATNAM is one of our oldest programs, having started around the time of conception of the organization itself. We have several achievements in the field of Animal Welfare. More information on this can be found on our website www.vspca.org



ABOUT THE OLIVE RIDLEY TURTLE

There are seven recognized species of sea turtles, six of which are in the Family Cheloniidae (the hawksbills, green turtles, flatbacks, loggerheads, kemp's ridley and olive ridley turtles), with only one (the leatherback) in the family Dermochelyidae. All seven species of sea turtles are listed under the Endangered Species Act. Threats to sea turtles today include the harvesting of their eggs for human consumption, entanglement and entrapment in fishing gear, ingestion of litter and coastal development. The olive ridley turtle (*Lepidochelys olivacea*) is a small turtle that grows to an average of 22-31 inches long and a weight of about 100 pounds. These turtles have an olive-colored or gray carapace and creamy white plastron (bottom shell).



Olive Ridleys in the hatchery

The Mysteries surrounding Sea Turtles like the Olive Ridley:

Sea turtles have been cultural icons since the early days of humankind. Newspaper, magazine, and online articles about sea turtle-related topics appear almost every day. Yet despite this attention, the natural history of the sea turtle is riddled with unanswered questions. There are many mysterious questions surrounding the sea Turtles, including the Olive Ridley. Read on to find out.



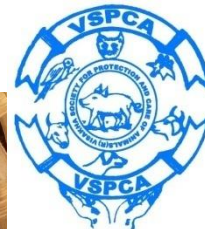
MYSTERY #1: WHERE DO SEA TURTLES SPEND THEIR FIRST YEARS OF LIFE?

The moment hatchlings dive headfirst into the sea, they embark on a mysterious journey into the open ocean fraught with hazards, not to be seen again for several years. Where they go and how they get there remains a great mystery and unveiling the details of this enigmatic period is essential to reducing mortality during their vulnerable first years.

THE SEA TURTLE PROTECTION PROGRAMME

Generally, there are two main methods of protecting the sea turtle rookeries on the shore (Rookery refers to nesting/breeding ground) i.e. In-situ and ex-situ protection. In situ protection refers to protecting the turtle eggs without relocating them to another area. Ex situ protection refers to shifting the eggs to a protected hatchery, where they are safe from predators and careless beach walkers.

VSPCA has been doing in situ protection since the beginning of the program more than 15 years ago, but our ex situ protection program started in 2010-11. In situ does not provide adequate protection from the environmental dangers (excessive tourism development, beach activities, heavy lighting, pollution and predators such as crows, eagles, jackals and beach dogs) and so ex situ becomes necessary to implement. Its success led us to expand it further, and it now has become our favored method of protecting the turtles. **VISAKHAPATNAM, JODUGULLAPALEM, RUSHIKONDA, AND BHEEMLI** is the primary sites where the hatcheries are set up.



First batch of sea turtles released for 2014

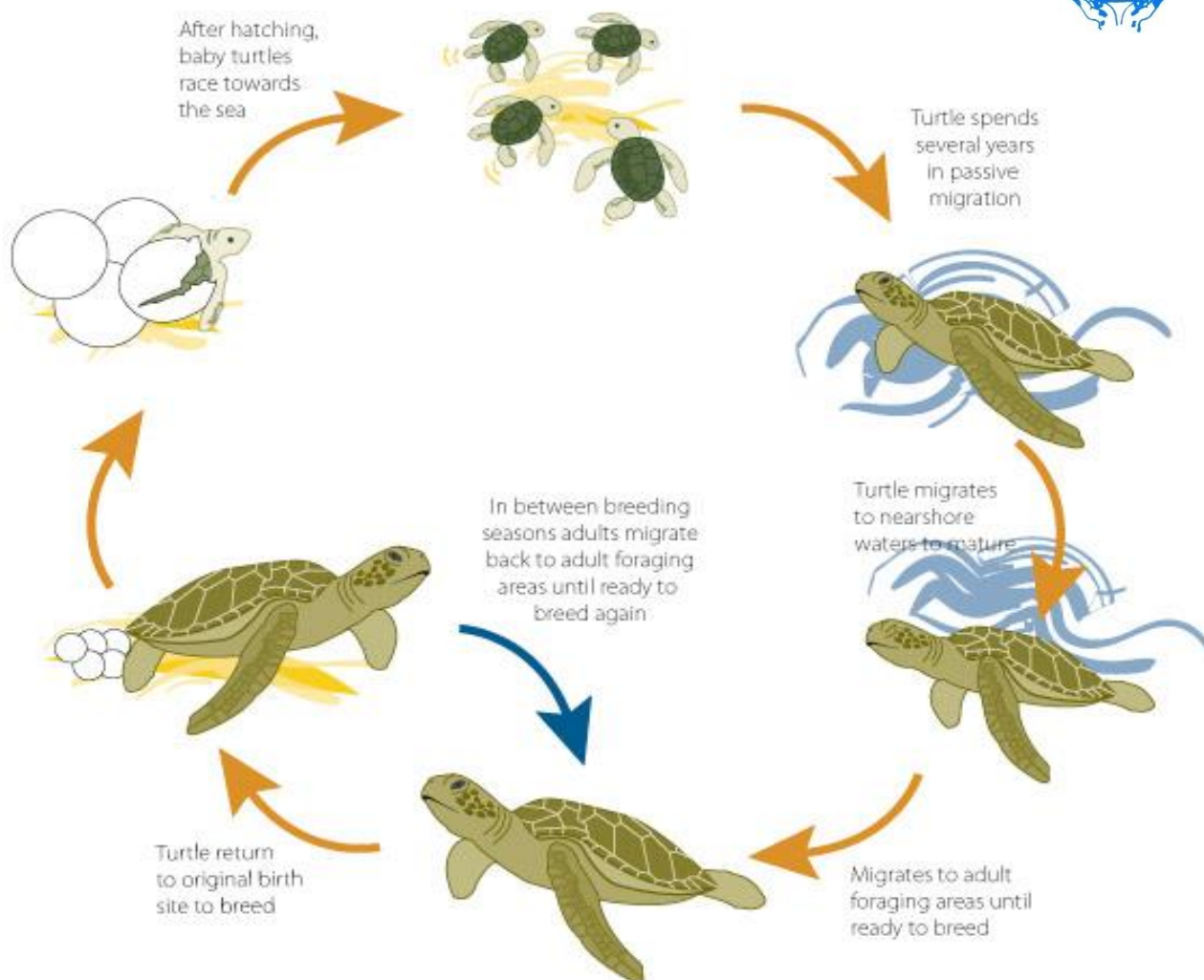


Volunteers and locals helping out with the releasing of the first batch of olive ridleys

FUN FACT: Unlike other turtles, sea turtles cannot retract their legs and head into their shells.



Life-cycle of an Olive Ridley Turtle



FUN FACT: Green sea turtles can stay under water for as long as five hours even though the length of a feeding dive is usually five minutes or less. Their heart rate slows to conserve oxygen: nine minutes may elapse between heartbeats.



THE SEA TURTLE PROTECTION FORCE

VSPCA's Sea Turtle Protection Force (STPF) is a 24 member team of extensively trained local fishermen and volunteers who comb the beaches night and day on patrol, fervently protecting the turtle rookeries from predators, poachers and generally careless beachgoers. The force protects not only the turtle eggs and the hatchlings, but also the mother turtles that come to nest.

Each 4 km stretch is assigned two members. We mark the eggs and monitor their progress on a regular basis. Further, we also rescue and safely facilitate the release of the turtles as soon as they are hatched, guiding the weaker ones to the ocean; knowing well that we are ensuring that the females among these hatchlings would return 15 years later by virtue of their inherent "nesting site fidelity" which means that adult turtles always, always go back to nest where they were hatched.

We owe a lot to the STPF whose dedication has made it possible to rescue so many sea turtles from poachers. The force also spreads awareness amongst the public by distributing educational materials and informing them by word of mouth about the turtles and the need to protect them.

MYSTERY #2: WHAT ARE THE ECOLOGICAL ROLES OF SEA TURTLES, AND HOW MANY ARE NEEDED TO FULFILL THOSE ROLES?

Marine ecosystems are intricate webs of life, with each species dependent on others for survival. Relatively little is known about the complex parts that sea turtles play in the global marine ecosystem. Unraveling their roles as consumers, producers, predators, and prey is vital to understanding why and how to protect them from extinction.

FUN FACT: *Sea turtles, like salmon, will return to the same nesting grounds at which they were born.*



VSPCA volunteers keeping the Olive Ridley eggs to hatch



The turtle eggs in the sand



WHY IS IT DIFFICULT TO PROTECT THE SEA TURTLES?

The sea turtles of Visakhapatnam face a severe threat from a lot of sources: the tragedy is that a species that has thrived for millions of years, surviving undersea catastrophes such as volcanoes and tsunamis: things that other larger creatures like dinosaurs haven't survived is now endangered, its population declining in a span of very few years.

The List of hindrances at our coast is

1. **BEACH EROSION**
2. **DREDGING**
3. **EXCESSIVE BEACH LIGHTING**
4. **TOURISM DEVELOPMENT ACTIVITIES**
5. **FISHING NETS ARE TURTLE UNSAFE**
6. **NATURAL PREDATORS**
7. **LAND POLLUTION: BLACK SAND**
8. **SAND MINING**
9. **BEACH FIRE**
10. **POLLUTION IN THE OCEAN**
11. **UNTREATED SEWAGE FILTH AND WATER**
12. **PLASTIC BAGS CONTAMINATION**
13. **VIOLATION OF CENTRAL REGULATION ZONE RULES**
14. **UNAUTHORIZED CONSTRUCTIONS**

MYSTERY #3: HOW DO SEA TURTLES SENSE THEIR ENVIRONMENT?

Marine turtles can locate translucent jellyfish at the surface of the ocean and identify sharks as potential predators. How they accomplish these feats is still largely unknown. Understanding sea turtles' basic sensory abilities will aid in mitigating many of the hazards they face around the world.



A rare sight of a sea turtle under the shell caught on camera

MYSTERY #4: WHAT CAUSES FIBROPAPILLOMAS?

Fibropapillomas represent a pandemic of timorous growths on sea turtle populations from the Caribbean to the Pacific. The cause of this debilitating, often fatal illness and the reason for its rapid spread around the world is one of the areas of greatest concern for researchers and conservationists.



WHY BEACHES ERODE?

The sea currents have been rapidly washing off the sand on the beach road, this hence becoming a major cause for habitat loss. The coastal erosion gnawing away at the protection walls at an alarming pace over the past couple of months leaves the stretch completely vulnerable. Beach erosion, which is increasing at a rapid pace, can be caused due to many reasons:

- **Greedy Land Reclamation:** All of us are becoming more and greedier for land, but what we are not realizing is that earth has enough land for everyone's need but not everyone's greed! In order to get extra land, we are claiming rights on the animals' land. And then we wonder why they are found on ours! Apart from this, using up land that is not meant for construction is causing drastic effects like beach erosion.
- **Global Warming:** Melting of ice caps across the world causes inundation of land and ends up in beach erosion. The excess water pulls more sand with it into the sea. This is what causes the loss of habitat and death of sea turtles and other water animals.

MYSTERY #5: WHAT PROPORTION OF MALE TO FEMALE SEA TURTLES IS NECESSARY TO MAINTAIN A HEALTHY POPULATION?

Conservation priorities are based upon how healthy and stable a population is. For sea turtles, it is still unknown what constitutes a healthy population. Understanding the proportion of males to females necessary for a population to stabilize and grow will help guide conservation efforts on a global scale.

WHAT CAN YOU DO ABOUT IT?



TIP 1:

Plant more trees. The roots of the trees will hold the sand together and reduce sand erosion.

TIP 2:

Building *rock cliffs* which erode at a slower pace than the sand which is loosely packed together

TIP 3:

Construct wave barriers in order to reduce the impact of waves on the shore.

TIP 4:

Soft Engineering methods – Replacing materials lost through erosion or the introduction of materials similar to those naturally occurring on the coastline.

TIP 5:

Volunteer at VSPCA during sea turtle season to make the project more successful.

TIP 6:

Do not use plastic bags on the beach. Beach cleaning is every ones responsibility. Take a step towards the environment protection.

TIP 7:

Donate to VSPCA by logging on to www.vspca.org/donate .
This is how you can do your bit in contributing towards animal welfare.

FUN FACT: *Temperatures of the sand where the turtles nest determine the sex of the turtle: below 85 degrees Fahrenheit (30°C) is predominately male; above 85 degrees Fahrenheit (30°C) is predominately female.*



DATA FROM ANNUAL PROTECTION PROGRAM

The following are the results from Sea – Turtle Year 2014.

AREA	EGGS	HATCHLINGS	UNDEVELOPED	DEAD
R.K. Beach Area covered - Coastal Battery to Vuda Park Nests - 141	15980	14367	1504	555
Jodigullapalem Area covered - Vuda Park to rushikonda upto bheemili Nests - 178	21098	19689	1222	585
Total Nests Total = 319	37078	34056	2726	1140

Success Rate in 2013 was 73.5%. In 2014 has gone up to 91.8%

The success rate has gone up near Jodigullapalem and down near R.K. Beach. This is because of the excessive human development and beach erosion near R.K. Beach. The beach has been encroached upon and is not as innocent as the Jodigullapalem beach anymore, which is still undeveloped and closer to its original state. The lack of human development has proved beneficial for the Olive Ridleys, thereby clearly showing that we are going wrong somewhere!

GLOBAL WARMING AND SEA TURTLES!

When sea turtle eggs are incubating, the surrounding temperature affects the sex of the hatchlings, with higher temperatures producing more females. As sand becomes warmer due to climate change, the ratio of females to males becomes out of balance, affecting breeding activities when they reach adulthood. Also, the artificial lighting coming from beachside communities confuses turtles who normally follow the moon and stars' reflection off the waves to make it back to water, making them more vulnerable to predators, dehydration and road kill. In some countries, turtle shells are traded on the black market and turtles and their eggs are harvested for food.

--THE END--