CONSERVATION OF OLIVE RIDLEY TURTLE

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INTRODUCTION

Conservation of animal biodiversity is important because different animal taxa provide economical services of great commercial value to mankind. Major threats to biodiversity include habitat alteration and over exploitation. Despite economic importance of marine biodiversity, stays factors at the local level are a major cause of concern. Currently anthropogenic pressures and global climate change threaten marine ecosystems throughout the world. These factors have affected millions of people whose sustenance depend upon freezing and utilisation of several other marine organisms. Thus it is necessary to understand effect of local and global climate change on the population dynamics and breeding ecology of diverse animal taxa for ensuring their conservation. Olive ridley sea turtle are best known for their unique behaviour of mass arrival on the world largest nesting beaches. Olive ridley turtles have a great ecological and economic importance but unaware of the fact humans are exploiting this species and today they are in the verge of extinction. In this report we are going to see about their behaviour , life cycle , threats and Conservation strategies.

PHYSICAL APPEARANCE

The olive ridley turtle (*Lepidochelys olivacea*) is the smallest and most abundant of all sea turtles, growing up to 70 cm and weighing 45 kg, on average. The olive ridley gets its name from its olive green coloured carapace, which is heart-shaped. Males and females grow to the same size; however, females have a slightly more rounded carapace. The turtle has 5 to 9 pairs of costal scutes and either one or two claws on each flipper. Indian Ocean olive ridley turtles are, on average, smaller than individuals found in the Pacific and the Atlantic.

FIG : Pictures of Olive ridley turtle

HABITAT AND DISTRIBUTION

The olive ridley turtles are globally distributed in the tropical regions of the South Atlantic, Pacific, and Indian Oceans. Though mainly pelagic, yet they have been found to inhabit coastal areas, including bays and estuaries. Olive ridleys often migrate thousands of kilometres between pelagic feeding and coastal breeding grounds. Fishermen have spotted adult olive ridleys over 4,000 km from land in the Pacific.

Little is known about the juvenile stage of this turtle but it is thought to spend its first few years floating in oceanic currents and foraging for planktonic plants and animals. Satellite tracking studies of female olive ridleys nesting in Bangladesh show that they travel widely in the Bay of Bengal, coming very close to the coasts of India and Sri Lanka. The tracking of rehabilitated Olive ridley turtles have a varied diet, eating algae, lobsters, crabs, tunicates, jellyfish, shrimp,

fish, and fish eggs. They can dive to depths of over 150 metres to find food. In the open ocean, they eat just about anything they can find.turtles released from the Maldives shows that they travel with the predominating currents either east towards Sri Lanka ans India or north through the Lakshadweep Islands and into the Arabian Sea. Despite the enormous numbers of olive ridleys that nest in Odisha, India, this species is not commonly seen throughout much of the Indian Ocean.

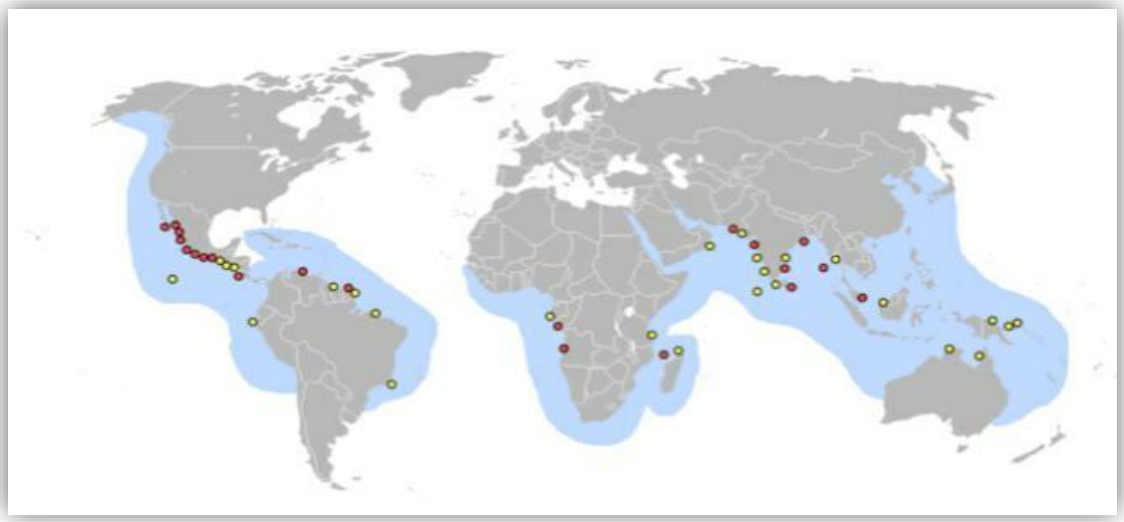


FIG : L. olivacea distribution map: Red circles are major nesting grounds; yellow circles are minor nesting beaches.

REPRODUCTION

Females usually reach a length of 60 cm before becoming reproductively active. Mating usually occurs on beaches during the spring and early summer in North America and is not monogamous. Male sperm is stored within the female for use throughout the entire breeding season. Mating takes place just offshore of the breeding beaches. Females choose to return to their beach of birth and will do this by remembering the smell of the beach through enhanced chemosensors. Nesting takes place during the night with the females riding in on the high tide and usually coincides with the first or last quarter of the moon. The Olive Ridley turtle is well known for its mass nesting, with

300 or more females at a time coming ashore. Situating themselves approximately 50 m from the sea, females will dig a nest 30-55 cm deep, depositing on average 107 eggs, and then return to the sea. This entire process takes the female turtles less then an hour. Since females store sperm in their bodies for later use, a single female can nest multiple months in a row. The eggs resemble white ping-pong balls and hatch within 45-51 days depending on incubation temperatures, which will also determine the sex of the turtle. The turtles face varying degrees of success in each of the clutches that are laid in large groups to increase their success of surviving.

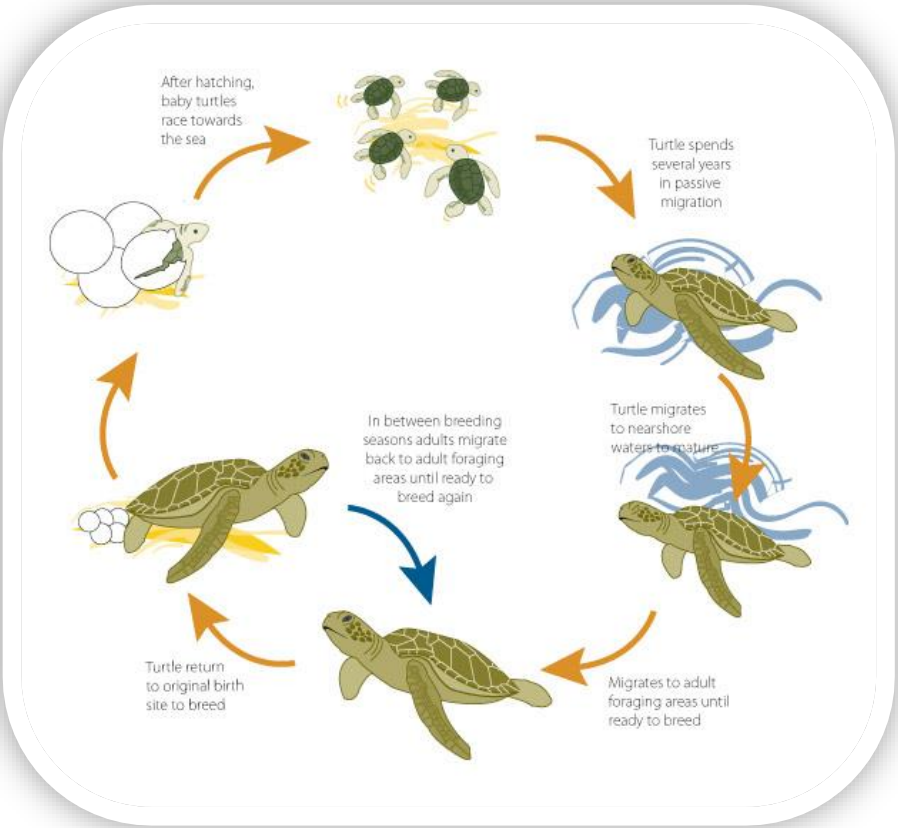


FIG : Life cycle of olive ridley turtle

THREATS

Harvest of Eggs and Killing of Adults

The principal cause of the historical, worldwide decline of the olive ridley sea turtle is long-term collection of eggs and killing of adults on nesting beaches. The arribada nesting behavior concentrates females and nests at the same time and in the same place, allowing for mass killing of adult females, as well as the taking of an extraordinary number of eggs.

Bycatch in Fishing Gear

Incidental capture in fishing gear—primarily in longlines and trawls, but also in gill nets, purse seines, and hook and line—is a serious ongoing source of mortality that adversely affects the species' recovery.

Vessel Strikes

Vessel strikes can injure or kill sea turtles. Injuries or death may be caused by propellers and blunt force trauma from the vessel's hull.

Ocean Pollution/Marine Debris

Marine turtles may die after ingesting fishing line, balloons, or plastic bags, which they can mistake for prey. They may also become entangled in marine debris and can be killed or seriously injured.

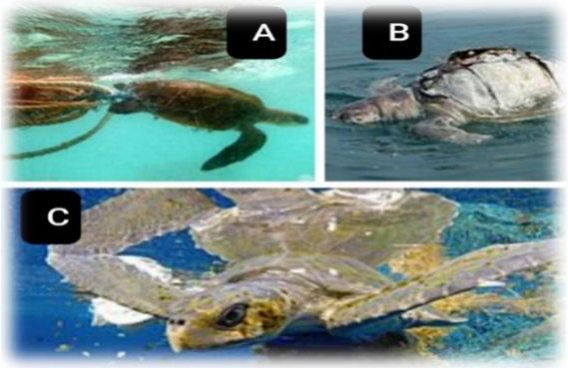
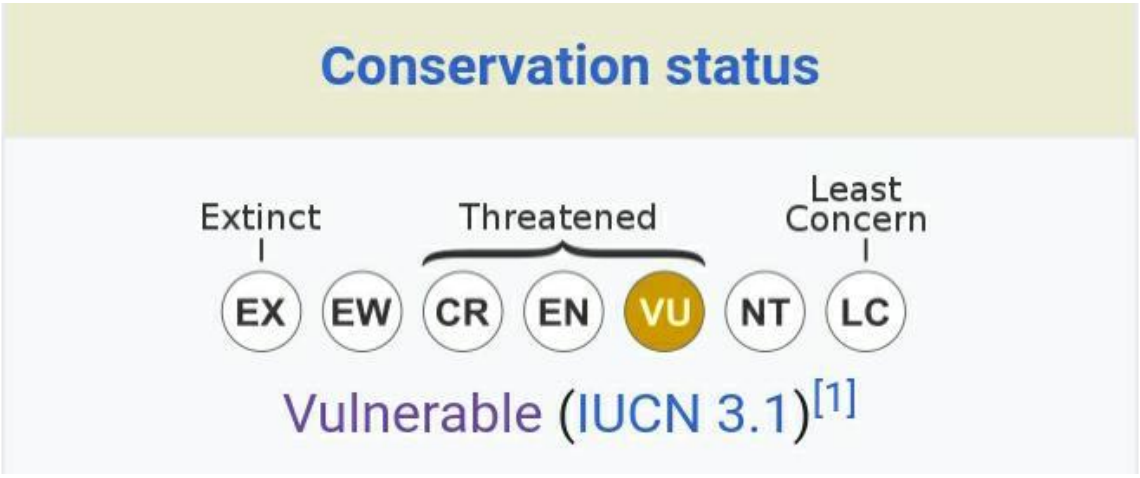


FIG :In the given pictures A and C olive ridley turtle are entangled in fishing net and in picture B a propeller killed the olive ridley turtle

CONSERVATION STATUS

The olive ridley is classified as vulnerable according to the International Union for Conservation of Nature and Natural Resources, and is listed in Appendix I of CITES. These listings were largely responsible for halting the large-scale commercial exploitation and trade of olive ridley skins.



STEPS TO CONSERVE OLIVE RIDLEY

- Conservation success for the olive ridley have relied on well- coordinated national programs in combination with local communities and non government organisations, which focus primarily on public outreach and education.
- *Arribada* management has also played a crucial role in conserving olive ridleys.
- Lastly, in forcing the use of turtle excluder devices in the shrimp- trawling industry has also prove efficient in some areas.
- Several projects worldwide seek to reserve the olive ridley sea turtle population. For example, in Nuevo Vallarta, Mexico, when the turtles comes to the beach to lay their eggs some of them are relocated to a hatchery, where they have a much better chance to survive. If the eggs were left on the beach, they would face many threats such as getting washed away with the tide or getting poached. Once the egg hatch,the baby turtles are carried to the beach and released.

FIG : Two olive ridley hatchlings moving into the ocean after being released from a conservation site.

COSERVATION PROJECTS IN INDIA

In India preserving the olive ridley turtle population was carried out in Chennai, where the Chennai wildlife team collected close to 10,000 eggs along the Marina coast, of which 8,834 hatchlings were successfully released into the sea in a phased manner.

In 1993, biologists from the Odisha Forest Department and the Wildlife Institute of India learned that large scale nesting of olive ridley turtles was taking place near the mouth of the Rushikulya river. This area is the location of one of the largest mass nesting (arribada) sites of olive ridley sea turtles in India. Several Conservation sites were made at Rushikulya river .

In Odisha operation kacchapa was set up in 1998 and Odisha marine resource consortium was established in 2004. This was followed by setting a local sea turtle protection committee.local people and youth well educated through pammplates , videos and slideshows on the way to protect beaches including night time patrolling. In the month of early march every year Odisha beaches

are clear of debris and steps are taken to check haloes of vehicle light from falling on the beaches. During the nesting period local fishermen are reminded to stay away for the full month. Nesting females moonlight mission gate disrupted is there are source of noise and artificial lights on the beach areas. Thus, beaches are guarded by youth students and local people during the whole month of march. Hatchlings image after one and a half month of egg laying on the nesting beaches. The return of hatchlings back to see is likely to suffer if these are not protected from artificial lies with district there navigation to sea. Volunteer organisation keep strict vigil and even collect and reorient hatchlings which crawl in opposite direction to sea. Thus, conservation efforts required serious management of safeguarding beaches to check poaching of eggs as well as hatchlings. The case study of olive ridley turtles emphasises the fact that knowledge of basic biology is essential for viable conservation programs. For example, the awareness about the slogan – "save turtles if you want to save fishes" was derived from the fact that the major threat to coastal fisheries is from jellyfish and not from turtles. It became possible after gathering information on feeding behaviour of olive ridley turtles. The scientific facts are essential for community conservation strategies.

FIG : Conservation site in Rushikulya (Odisha)

CONCLUSION

The success of conservation of olive ridley turtles is largely dependent upon educating local people and youth about the economic importance of turtle for their livelihood. The poaching of olive ridley turtles egg have occurred during the last century. During the pre independence era one can assume less mortality due to people's faith that 8000 representative of God Vishnu. After independence of to 1970s, there had been few recorded evidences on mass mortality of olive ridley turtles. During 1970s to 1990s when egg poaching assume larger dimension it became a target of attention. This is supported by Indian government's listing of sea turtle in Indian schedule 1 species of wildlife protection act (WPA) . Despite legal protection it was only after a mass movement by local youth and people to septal significant gain for conserving olive ridley turtle became evident. We are in an information technology era where information relevant two locality specific and local species-specific scientific facts for conversation can be communicated through media TV channels in local languages. Our colleges and university department of zoology and environmental science can play and vital role in conservation mission if we are really interested in saving our biological wealth. Such efforts are likely to improve science communication.

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