



Olive Ridley Sea Turtle Conservation (Living with Marine Turtles)



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Glimpses of Turtle Conservation Programme



Glimpses of Turtle Conservation Programme





Basic Facts

- Common name: Olive Ridley
- Scientific name: *Lepidochelys Olivacea*
- Named after it's olive green shell
- Adults get to about 2 to 2.5 feet
- Adults weigh 77-100 pounds





Interesting Facts

- When they are born their shells are grey they turn all green.
- They have two visible claws on each flipper.
- They are the smallest sea turtles weighing up to 100 pounds.
- They usually live 50 years.
- Males tails stick up behind their shells.





Human Impacts

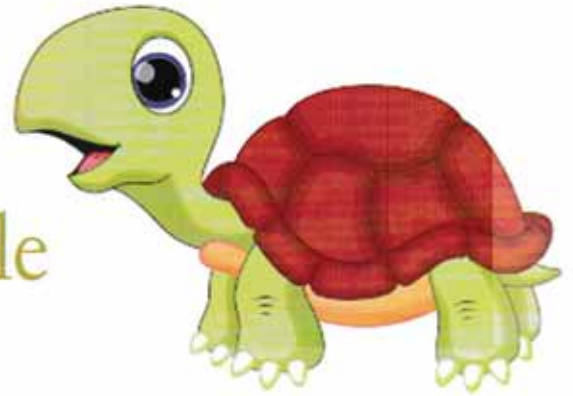
- Females and babies are disturbed by trash on nesting beaches left by humans.
- If a piece of trash is close enough to a female she will return to the ocean and not nest.
- Turtles die when they eat trash mistaking it for jellyfish.
- Noise is bad and has the same effect .
- Thousands of sea turtles get caught in fishing nets and die.
- They are effected by artificial lights on beaches.
- People illegally collect turtle eggs for food.
- They are also hunted for meat, shells, and fat.



Habitat

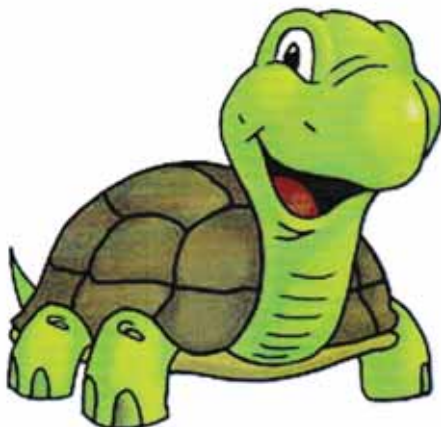
- They are often found in coastal bays and estuaries.
- They typically forage in surface waters or dive into depths of 500ft on the bottom eating crustaceans.
- They live in the Pacific, Indian, and Atlantic oceans.
- They like muddy or sandy bottoms, where prey can be found.





Mating and Birth Cycle

- Turtles don't form couples.
- Neither sex provide parenting after nesting.
- The male only provides the sperm.
- The female leaves the eggs once they are laid.
- Females look for good genetic qualities in males so their babies will be smart, tricky, and brave.
- Females lay 50-100 eggs.
- The eggs hatch 45-70 days after they are laid.
- It takes them several day to dig themselves out of the hole.



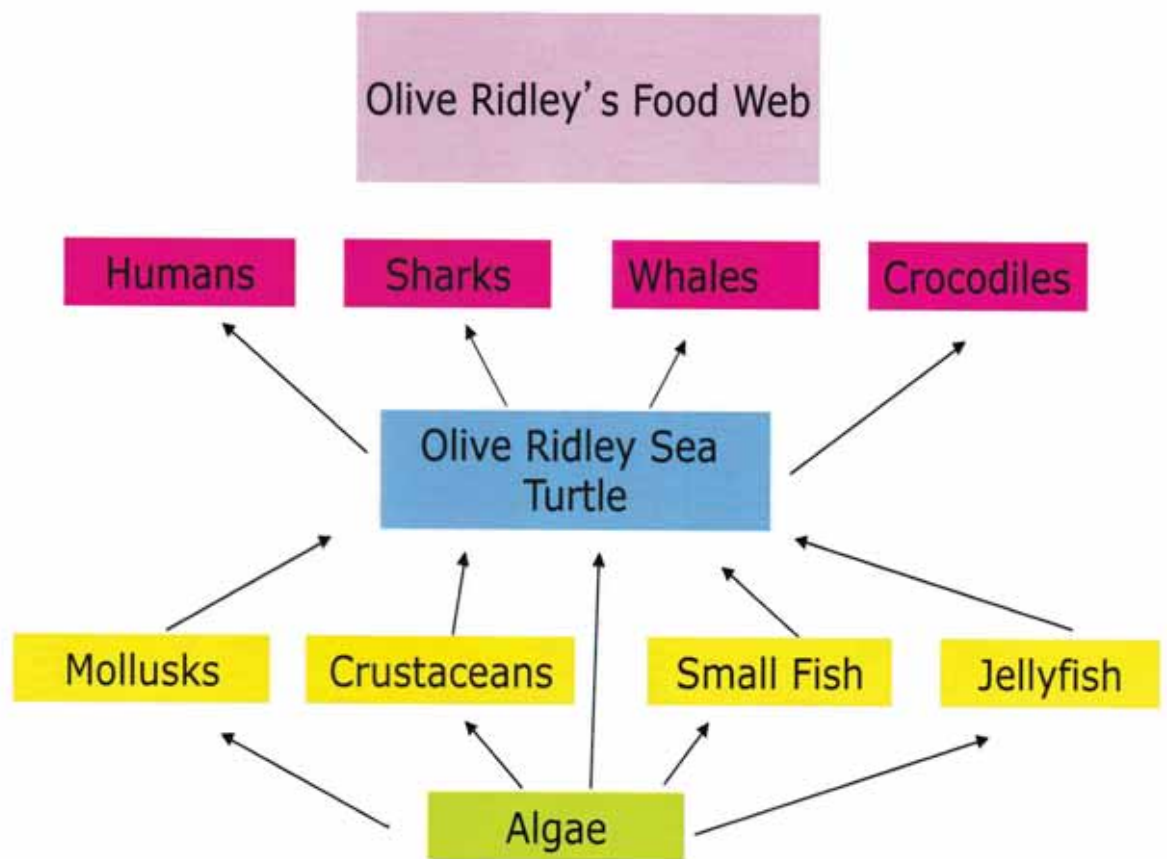


Nesting

- One of the most extraordinary nesting in the world is the Olive Ridley.
- Large groups of turtles gather off shore then all of the sudden thousands of female turtles come ashore and nest.
- The nesting is known as an Arribada.
- During Arribada females come to lay eggs.
- No one knows what triggers and Arribada .



Food Web





Sea Turtle Conservation in Kerala

- Sea turtles have been reported from Kerala waters as early as 1923. Smith (1931) reported leatherbacks frequently occurring in the waters near Thangasherry reef. Green turtles were also reported along the Quilon coast (Shanmugasundaram 1968). Olive ridley turtles were reported to nest frequently along the Kerala coast.
- While early scientific reports of turtles in Kerala exist from 1923, the state also pioneers one of the country's first community based initiative in turtle conservation the Theeram Prakriti Samrakshana Samiti; it has been operational since 1992 and is led by a group of fishermen who were sensitized about turtle conservation in their youth through an article in the newspaper. Till date, a 10 km stretch of the Kolavipalam beach is monitored by the Theeram group.



Status & Location of Nesting Beaches

- Kerala has a coastline of about 590 km with nine coastal districts stretching between Karnataka and Tamil Nadu states located to its north and south respectively.
- Eight of these districts- Kasaragod, Kannur, Kozhikode, Malapuram, Thrissur, Alappuza, Kollam and Thiruvanthapuram have shown some nesting activity in the last three to six years.
- From the forty five locations surveyed around these districts, seven show higher nesting numbers between 2005-2011. These locations are Kizhoor, Chembirika and Chittari in the Kasaragod district.






Coastal Afforestation

- Coastal afforestation with Casuarina plantations along the coastal stretches is still a major threat to the turtles.
- Fortunately these plantations have been raised years back by the Social Forestry Division of the Kerala Forests and Wildlife Department under the Kerala Forestry Project aided by the World Bank, and presently there is not much afforestation activity along the coast.
- There is a possibility that some of the historic nesting sites have been lost due to such inappropriate afforestation programmes along the coast. Nattika in Thrissur is one such area. The roots of the plantation prevent the turtles from digging their nests to lay the eggs.



Sand Mining

- Sand mining is another of the most recent and threatening activities to a majority of the beaches in Kerala.
 - The demand for sand for various construction purposes has almost exhausted all the sand reserves in the rivers of the state. This has led to a shift to beach sand mining for construction purposes. Salinity of the sand is got rid off by washing with freshwater.
 - Even though this is illegal, beach sand mining is presently the biggest growing threat particularly for turtle nesting habitats in Kerala. The beach in Kolavipalam has shrunk to a great extent as a result of this.
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Incidental Catch

- Trawl nets are one of the major threats to the turtles. For majority of other turtles caught in nets, like the gill nets, fishermen kill them and consume the meat themselves or sell it in the local market.
- This practice is common in Vizhinjam in Thiruvananthapuram district; Thangassery in Kollam district; Aleppey district and Azheekkal in Kannur District. Some of the fishermen claim that they deliberately kill turtles when caught as they cause financial loss by destroying the nets.
- In Kottikulam area of Kasargod, fishermen try to rescue the turtles caught in the trawl nets and release them back into the waters because of their religious beliefs that turtles are considered as the reincarnation of Lord Vishnu.





Exploitation For Meat & Eggs

- This is the most traditional and common threat to the turtles, revealed by majority of the fishermen along the Kerala coast.
 - Eggs are harvested by fishers by following the tracks left by the nesting turtles. The eggs are utilized mostly for household consumption, but in places like the northern regions of Kerala, they are sold illegally.
 - But currently, with increased awareness programs conducted by conservation groups and partly due to strict enforcement of laws by the Kerala Forests and Wildlife Department, the collection and consumption of eggs is coming down.
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Impacts of Coastal Development

- Out of the total length of 590 km of coastline of Kerala about 260 km is under varying degrees of erosion (Sreekala et al., 1998). In order to combat this erosion, shore protection measures have been taken for the last 100 years.
- These shore protection structures made along the coast are broadly classified into three: (1) seawalls, (2) seawall & groynes assembly and (3) groynes.



Sea Walls

- Sea walls, covering a considerably good extent of the coast, prevent the turtles from entering the beach for nesting. An informal view shared by a government official estimates that about 60-70% of the Kerala coastline already has sea walls. The rest of the length will also be walled in a short time because of the heavy lobbying of construction contractors for their own profits and also on the wide propaganda that sea walls protect the coasts from erosion and natural calamities like Tsunamis.



Ports & Fishing Harbours

- One major port at Cochin, 14 minor ports and several fishing harbors are situated along this coastal zone. Utilizing the dredged material from the shipping channel, the land area in the vicinity of the Cochin port has been considerably enlarged as noticed in Willington Island, Candle Island, Marine Drive and Vallarpadam. In addition to the ports mentioned above, a series of fishing harbours and fish landing centres have been established along this coast. These areas contribute to the decline in turtle nesting through increasing human and vehicular disturbances.



Tourism

- Kerala holds very high tourism potential and the coasts and beaches contribute to the potential. The places with such potential include, Poovar, Kovalam, Shankhumukham, Varkala, Kappil, Papanasham, Cherai, Snehatheeram, Periyambalam, Chavakkad, Vallikunnu, Calicut, Payyoli, Mahe, Kannur, Payyambalam, Bakel, Muzhupilangad and Manjeswaram. New tourism projects are coming up in many beaches across Kerala, which includes heavy construction activities, increased human presence even at night, and lighting from various inland sources known to be unfavorable for turtles.





Housing Development

- Kerala is the most densely populated state in India with a population of 318 lakhs recorded in 2001. In this, about 30% live in the coastal zone. Due to this high density of population compared to the other parts of the state, the coastal zone has undergone substantial development.
- The high density of population in this zone has necessitated large-scale housing development in the coastal zone. Near the urban centers, the density of housing has reached such an alarming proportion that the people of the lower strata ((mainly fisherman) even encroach the newly accreted beaches.



RECOMMENDATIONS

Kerala's turtle nesting habitats are on a serious decline from rapidly increasing human induced threats. We recommend an urgent conservation action for the coastline of Kerala.





Sea Turtle Survey

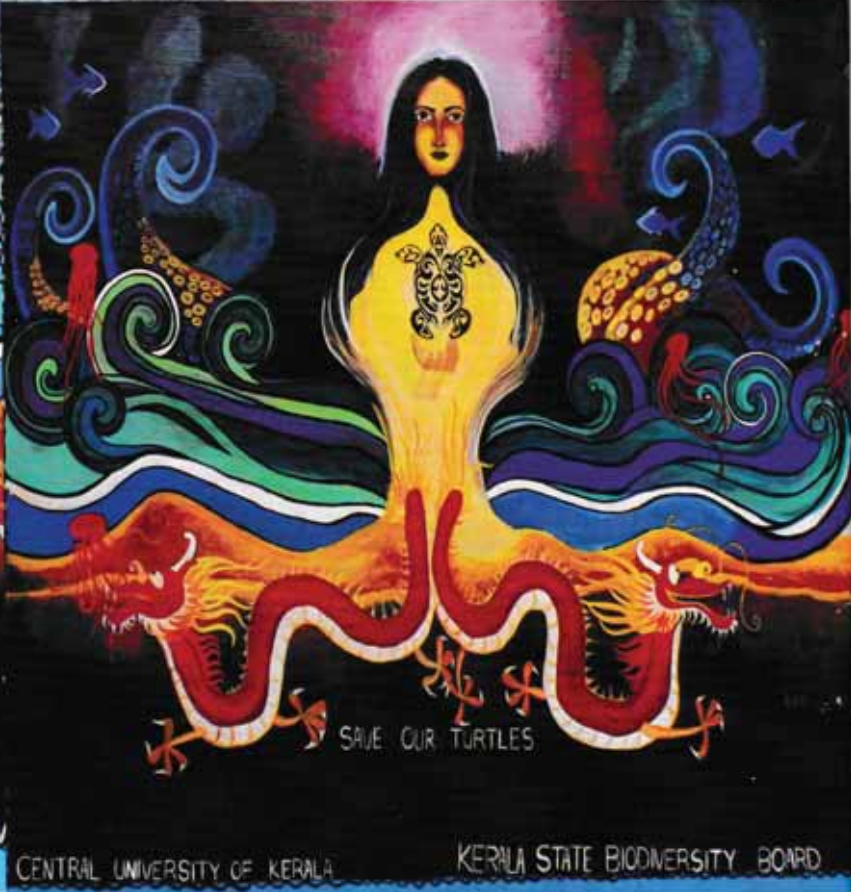
- The coastline of Kerala needs to be monitored thoroughly to determine sea turtle nesting status.
- Existing NGO operations need to be strengthened; particularly those initiated by fishermen such as Theeram.
- Strengthen the need among the communities for preservation of coastal resources in Kerala.



Public Awareness

- More effective and efficient awareness programmes addressing issues of consumption of meat and collection of eggs should be conducted targeting the fishermen, coastal community, local youth and students.
- This should be organized at the grassroots level as a local initiative. Also enforcement should be strengthened by capacity building of the Forest Department personnel on such subjects, more vigilance through patrolling and raids wherever necessary, as well as initiation and strengthening of local informants.





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> Painting made by CUK student, Rudra, on the Marakappu Govt Fisheries School at Thaikadappuram Beach depicting the need for protecting our environment as a part of this programme.



Beach Clean up – With Junior Red Cross Members & CUK students



Local Conservation Groups

- To reduce predation, local conservation groups should be initiated, and strengthened by giving proper technical, infrastructure and financial support to encourage various protection activities like patrolling of the beaches at night, cleaning beach and putting up hatcheries wherever required.





Coastal Afforestation

- Coastal afforestation, if necessary, should be done with proper selection of the site to ensure that the entry and exit paths of turtles are not blocked or encroached upon and that nesting grounds are not lost. For beach sand mining, enforcement agencies like the Police, Marine Enforcement, Department of Mining and Geology should be more vigilant and violators should be booked under adequate provisions of the law and other measures like confiscation of vehicles should be implemented.



Prevent Construction of Sea Walls

- Sea walls should only be constructed wherever absolutely required. Also developing alternate technologies like geo-textile should be considered for known turtle nesting beaches (Geo-textile materials can be laid along the shoreline and growth of local grass species promoted to improve shoreline protection. This will ensure smooth entry for the turtles from the coastal waters On to the land and will also check erosion).



- The Kerala Forests and Wildlife Department being the custodians of the entire wildlife as per the WPA should have a separate division for wildlife outside forests including marine turtles.
- Proper coordination should be ensured between the various enforcement agencies including the Kerala Forests and Wildlife Department, Police, Coast Guard, Marine Enforcement, Mining and Geology.

