

Oman's Turtle Conservation Crusade - "Be a Turtle Commando"

The following article is a part of FIFP webinars conducted on 30th November 2024 on the topic Oman's Turtle Conservation Crusade - "Be a Turtle Commando"

Note from the Chief Editor:

Oman's Turtle Conservation Crusade - "Be a Turtle Commando" was the topic of FIFP webinar conducted on 30th November 2024. Mr. Abhishek Saha's presentation was very informative and valuable. He explained the role of sea turtles in maintaining the marine ecosystem and brought out the importance of their protection and conservation. He spelt out the goals and initiatives taken under the Turtle Commando Programme and his participation in it. During presentation, he described the classification and IUCN status of sea turtles. He also explained the nesting, hatching and navigation behaviour of sea turtles. Major conservation efforts taken for sea turtles worldwide were also covered in the presentation.

Introduction

Sea turtles are remarkable marine reptiles with streamlined bodies and large flippers, perfectly adapted to the oceanic environment. They play an integral role in maintaining marine ecosystems. Green turtles, for instance, graze on seagrass, ensuring its healthy growth, which supports numerous marine species. Through nesting, sea turtles transport vital nutrients from the sea to coastal ecosystems, benefitting plant life. Moreover, they regulate population of species like jellyfish, maintaining ecological balance. The loss of sea turtles would have a cascading negative effect on ecosystems dependent on seagrass beds and coral reefs.

Turtle Commando Programme

Oman initiated the Turtle Commando Programme in 2021 under the leadership of Manar Bint Abdullah al Riyami. This initiative aimed to protect turtles from disturbances caused by unregulated tourism and foster environmental responsibility. The programme involves public awareness campaigns, beach clean-ups, and conservation efforts. Oman's conservation efforts, such as the Turtle Commando Programme, focus on educating the public, reducing plastic waste, and preserving nesting sites. Volunteers play a crucial role in ensuring beaches are clean and free from hazards like fishing waste, helping to protect these endangered species.

Speaker's participation in this initiative, organized by the WJ Towell Group, spanned three days, starting in Muscat and including a visit to the Ras Al Jinz Museum, a hub of education on sea turtle conservation equipped with advanced technologies.

Types of sea turtles and IUCN status

Globally, seven species of sea turtles exist, divided into the families Dermochelyidae and Cheloniidae. Oman hosts five of these species: green turtles, loggerheads, hawksbills, olive ridleys, and the leatherback turtle. Oman's coastline, stretching from north to south, serves as a vital nesting ground for these species, especially the green turtle, known for its ecological significance. These species exhibit unique physical characteristics, habitats, diets, and life spans. Despite their diversity, they face threats such as climate change, poaching, habitat loss, and pollution. As per the IUCN Red List status for sea turtles, Leatherback, Loggerhead, and Olive Ridley are Vulnerable; Green is Endangered; Kemp's Ridley and Hawksbill are Critically Endangered; and Flatback is Data Deficient.

Nesting, hatching and navigation behaviour of Sea turtles

Sea turtles exhibit fascinating behaviours, particularly during courtship, nesting, and hatching. Females return to their natal beaches to nest, creating body pits and laying eggs, often at night. Hatchlings emerge after around 60 days and instinctively navigate towards the sea, guided by the brightest horizon. However, only a fraction of these hatchlings survives to move into adulthood due to predation and environmental challenges.

Sea turtle hatchlings instinctively follow the brightest light to navigate from their nests to the sea, traditionally guided by moonlight. However, artificial lights, particularly white light emitting blue wavelengths, can disorient them, causing misdirection. An experiment tested their response to different lighting conditions: moonlight alone; white torchlight from the landward side; and red light combined with moonlight. Results showed all hatchlings followed moonlight in the absence of artificial light, while white light caused complete disorientation. Red light had minimal impact, with most turtles still following the moonlight. The study emphasizes the need to minimize artificial lighting near turtle nesting beaches.

Sea turtles' sex is temperature-dependent, with warmer nests producing females and cooler ones yielding males. Unlike other turtles, they can't retract into their shells. They navigate using Earth's magnetic field and females return to their birth-beach to nest. Sea turtles date back 120 million years, coexisting with dinosaurs. Sea turtles ingest seawater with food, but their kidneys can't process excess salt. Specialized lacrimal glands excrete

highly concentrated saline tears, protecting their eyes and maintaining hydration.

Conservation efforts for sea turtles

Conservation efforts for sea turtles extend worldwide. Organizations like WWF and NOAA implement strategies to reduce bycatch, such as turtle excluder devices and circle hooks. International agreements like the Convention on International Trade in Endangered Species (CITES) prohibit the trade of sea turtles and their parts. Protected marine areas, awareness campaigns, and rehabilitation projects have been established in countries like the UAE and India to safeguard these creatures. Oman's conservation efforts, such as the Turtle Commando Programme, focus on educating the public, reducing plastic waste, and preserving nesting sites.

Conclusion

As global citizens, we share the responsibility to protect sea turtles. This includes avoiding the consumption of unsustainable seafood, reducing marine debris, participating in beach cleanups, and spreading awareness. Small actions, such as using reusable items and respecting nesting sites, can collectively make a significant difference in conserving these vital species.

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Mr. Abhishek Saha is currently employed as a Senior Quality Controller at Gulf Seafood LLC in Dubai. He is an accomplished professional in the seafood processing industry, bringing over six years of experience across India and the UAE. He holds a Master's degree in Industrial Fisheries from the School of Industrial Fisheries at Cochin University of Science and Technology. He has a Bachelor's degree in Industrial Fisheries from Asutosh College, Calcutta University, where he was awarded the prestigious Keshab Chandra Mukherjee Memorial Prize as the university topper in Industrial Fisheries.

