

The Beaches No One Was Watching

Every year, Odisha's coastline becomes the stage for one of nature's most spectacular phenomena: **Arribada**, the mass nesting of Olive Ridley Sea turtles. Thousands of turtles emerge from the sea to nest on its beaches, creating a remarkable wildlife event that draws the attention of scientists, conservationists and nature enthusiasts from across the world. There is a good reason why Odisha occupies such an important place in the global conservation story. The state hosts 90% of India's Olive Ridley nesting population and is home to 50% of the world's mass nesting events¹. Typically, 150,000 to 200,000 turtles visit annually for nesting at Odisha's major mass nesting beaches, however exceptional years have also witnessed over 600,000 turtles coming ashore, underlining the global significance of these populations². In 2025, Rushikulya beach alone recorded nearly 6.98 lakh nesting turtles over just eleven days, the highest count documented in more than two decades³.

Olive Ridley turtles are classified as Vulnerable on the IUCN Red List⁴. As a keystone marine species, they play an important role in maintaining healthy marine ecosystems and supporting the ecological balance between coastal and marine habitats. Protecting them is particularly important because of their natural low survival rate of 1 in 1,000 hatchlings surviving to adulthood, coupled with a range of natural and human-induced threats they face, including predation of eggs and hatchlings, coastal erosion, habitat loss, accidental capture in fishing gear, marine pollution and unregulated coastal development. These threats make every successful nest and every surviving hatchling important for the long-term future of the species. The annual arrival of thousands of turtles on Odisha's shore is thus rightly celebrated.

Yet, hidden behind the mass nesting story, there is a less visible reality. Odisha's coastline stretches nearly 575 km⁵, but the mass nesting beaches namely Gahirmatha, Rushikulya and the Devi River mouth that receive most conservation attention account for only a small fraction of the coastline.

Beyond Arribada: The Untapped Opportunity

The celebrated mass nesting grounds of Gahirmatha (~35km⁶), Rushikulya (~6 km⁶) and the Devi River mouth (~20 km⁶) together account for roughly 60 km or 10% of Odisha's coastline. The remaining 90% tell a quieter story. Across this non-mass nesting coastline, turtles arrive individually or in small groups in what is known as **sporadic nesting**. There are no dramatic mass arrivals. No headlines. No large crowds of researchers and visitors. Yet these beaches remain equally important to the survival of the species.

¹ [Science Direct](#): Conservation and management of olive ridley sea turtles and their nesting habitat: A study at Rushikulya rookery, Odisha, east coast of India.

² World Wildlife Fund for Nature:

https://www.panda.org/discover/our_focus/wildlife_practice/profiles/fish_marine/marine_turtles/asian_marine_turtles/our_solutions/coastal_communities/orissa_india/

³ The New Indian Express 2025: <https://www.newindianexpress.com/good-news/2025/Mar/02/the-spectacular-riddle-of-olive-ridleys-in-odisha>

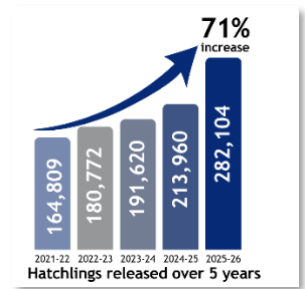
⁴ International Union for Conservation of Nature (IUCN) <https://www.iucn-mtsg.org/statuses>

⁵ Times of India 2025: <https://timesofindia.indiatimes.com/city/bhubaneswar/odishas-coastline-becomes-96km-longer/articleshow/116925242.cms>

⁶ Study on migration of sea turtles and their conservation plan by Indomer Coastal Hydraulics Private Limited, a Oceanographic Consultancy Company
<https://www.indomer.com/assets/img/pdf/7.%20Sea%20Turtle%20Conservation%20Plan.pdf>

One such story unfolds along the beaches of Siali-Ramatara (Jagatsinghpur District) and Daluakani (Puri District), spanning approximately 6 kms of coastline. When [Action for Protection of Wild Animals \(APOWA\)](#) and Transworld began working here in 2021, around 1,300 turtles were recorded visiting these beaches annually. Compared to the lakhs of turtles arriving at Odisha's mass nesting sites, the numbers seemed modest, keeping these grounds largely outside mainstream conservation efforts. **But the objective was simple: to protect turtles on the beaches that no one was watching.**

Over the following years, **turtle arrivals more than doubled from 1,300 turtles in 2021-22 to nearly 2,700 in 2025-26** nesting season. Since 2021, nearly 1,500 vulnerable and at-risk nests have been relocated to protected hatcheries, safeguarding more than 150,000 hatchlings through ex-situ conservation efforts. Hatching success rate in these hatcheries has improved from **85% in 2021-22 to 91% in 2025-26, significantly higher than the typical success rate of ~74% reported by ex-situ hatcheries in comparable published studies⁷**, demonstrating the effectiveness of sustained monitoring and hatchery management efforts. **Since 2021, nearly one million hatchlings have been safely released into the sea at these beaches.**



While these numbers appear modest against Odisha's mass nesting events, they hint at a far larger possibility. The project site covers just 6 km, roughly 1% of Odisha's coastline. If similar protection and monitoring efforts were extended across other sporadic nesting stretches, their cumulative impact could be substantial.

Research has documented sporadic and solitary nesting across numerous stretches of Odisha's coastline beyond the major arribada sites. While these beaches may not host dramatic mass nesting events, their combined contribution to turtle reproduction could be significant but remains under-recognized. Protecting a network of such sites could therefore complement existing conservation efforts at mass nesting beaches and strengthen long-term population resilience. The scale of Odisha's sporadic nesting beaches may represent one of the largest untapped opportunities in India's turtle conservation story.

A Community-Led Model

Protecting sporadic nesting beaches presents a different challenge. Unlike mass nesting sites, conservation here cannot rely on concentrated efforts at a few locations. Turtles nest across long stretches of coastline, often far from public attention. Government agencies and the Forest Department play a critical role. But given the sheer scale of the coastline, conservation cannot succeed through institutional efforts alone. Protecting these beaches requires something more than conservation teams. It requires communities! The people living along these shores must become active participants and, eventually, custodians of the solution.

However, community ownership does not emerge automatically. When APOWA and Transworld program initiated, the challenge was not simply protecting turtle nests, it was identifying a model that could continue to sustain conservation across long stretches of non-protected and sporadic coastline even after program interventions end. With this direction, the program evolved through continuous

community engagement and a clear realization emerged: **conservation would only thrive if communities saw tangible value in protecting their natural resources.** This led to defining a sustainable community-led conservation model based on two complementary pathways: (1) Building a culture of conservation across the community and (2) Creating conservation-linked livelihoods.

Building a culture of conservation across the community

The program engaged with different stakeholders and brought them together including fishermen, women, youth, school children to encourage action and create shared ownership of conservation.

Awareness sessions with fishermen focus on sustainable fishing practices, marine biodiversity and the ecological role of Olive Ridley turtles. These discussions highlight how healthy marine ecosystems support fish populations and contribute to long-term livelihood security for coastal communities. The program also promotes awareness around waste management helping communities understand the impact of polluted beaches on marine life and facilitating collective action through waste collection drives.

One important focus area is abandoned and discarded fishing nets, which can continue trapping turtles and marine life long after they are discarded. Through awareness sessions, fishermen were encouraged to collect waste nets rather than leaving them in the sea or along the coastline. Once collected, these nets were further channeled into recycling systems, creating a sustainable disposal pathway while generating a small supplementary income for fishing households. More than 24,000 kgs of discarded fishing nets have been recovered and recycled through these efforts, reducing marine hazards.

Beach clean-up drives brought together youth groups, women's self-help groups and children to create safer nesting habitats. Over time, these activities evolved from program-led events into community-led initiatives, removing more than 73,000 kg of waste from nesting beaches.

Schools became another important part of the solution. Through awareness sessions, drawing competitions and educational activities, children learned about marine ecosystems, turtle life cycles and biodiversity conservation. Children carry environmental messages into their homes, influence family behaviors and become the next generation of coastal stewards. Annual conservation calendars featuring student artwork are shared within the community and other stakeholders thereby keeping these conversations alive long after the classroom sessions end.

Creating conservation-linked livelihoods

Fishing remains the primary livelihood in the coastal villages. Each year, the government-imposed seven months fishing ban (from November to May) protects nesting turtles but also limits income opportunities for fishing households. Rather than treating conservation and livelihoods as competing priorities, the program sought to align them.

Local fishermen were trained and engaged as Turtle Guards, creating alternative livelihood opportunities while strengthening conservation outcomes. These turtle guards monitor nesting activity at night, collect nesting data, patrol beaches to protect turtles from predators, protect vulnerable nests and transfer them to hatcheries for ex-situ conservation, rescue injured turtles and

safely release hatchlings. Today, more than 50 fishermen have been trained and engaged as turtle guards. Some of them have also been linked to government support and livelihood schemes for alternate income sources.

The model continues to evolve, and a fishing community-owned homestay initiative is now being developed in Siali village, creating opportunities for responsible nature-based tourism linked directly to turtle conservation. This represents the next step in integrating livelihoods with conservation. By creating eco-tourism opportunities, fishing households can diversify their income sources while maintaining the healthy coastal ecosystems that attract visitors in the first place. Visitors and tourists will be able to experience nesting beaches, local culture and coastal biodiversity through the eyes of the community itself. In this way, conservation is no longer viewed as a restriction on livelihoods but as a driver of economic opportunity. The healthier the ecosystem, the greater the long-term value it creates for the community, strengthening local ownership of conservation efforts and creating a stronger incentive to protect biodiversity.

Since 2021, the program has directly engaged more than 10,000 individuals, including fishermen, women, youth groups, schoolchildren, community members; while working closely with local government and Forest Department officials to complement existing conservation efforts and strengthen collective action. Yet perhaps the most important outcomes cannot be measured through participation numbers. They are reflected in changing attitudes and behaviors. Today, fishermen voluntarily report stranded turtles and actively participate in conservation activities. Youth and women's groups organize beach clean-ups and champion conservation initiatives within their communities. School children advocate for environmental responsibility within their families. Equally significant is the shift in how communities envision their livelihoods and their future. Fishermen who once depended almost entirely on seasonal fishing have now become local conservationists and have come forward to participate in ecotourism and homestay initiative as an alternate source of income while keeping conservation at its core. This willingness to connect livelihood aspirations with ecosystem protection reflects a deeper transformation: ***Conservation is no longer something being done for the community. It is increasingly being done by the community.***

Towards Shared Stewardship

As the model has matured, stronger partnerships have emerged with the Forest Department and government institutions. Turtle guards now work alongside Forest Department officials, coordinating patrols, sharing information and supporting conservation activities on the ground. What began as a community-based initiative is steadily evolving into a model of shared stewardship, where communities and government agencies are working together to protect Odisha's marine biodiversity ensuring that conservation continues long into the future.

Today, APOWA's representation at state-level conservation platforms and the Odisha State Turtle Conservation Committee reflects the credibility built through years of grassroots work and collaborative conservation efforts.

Lessons Beyond the Beaches

The lessons from Siali-Ramatarra and Daluakani extend far beyond turtle conservation. They remind us that some of the most important opportunities for impact may exist in places that receive little

attention. While conservation efforts often focus on well-known sites and species, there are many overlooked landscapes and communities where the need, and the potential for change, can be just as significant.

The experience of these beaches also highlights that conservation is not only about protecting wildlife. It is about building the conditions that enable conservation to succeed over the long term. For NGOs, donors, and supporting organizations, this means investing not just in conservation activities, but in the systems

around them, creating sustainable livelihoods, strengthening local stewardship, and building partnerships that allow communities to see value in protecting natural resources.

Perhaps the most important lesson of all is that the future of conservation will depend not only on what we protect, but on how we create environments where people and wildlife can thrive together. When conservation creates tangible value for local communities, environmental protection ceases to be an external intervention and becomes a shared responsibility!