



Precious Hatchlings
Image Credit: VSPCA

VSPCA Sea Turtle Conservation Program

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CULTURE, COMMUNITY ANIMALS AND CONSERVATION

Living in harmony with animal species means living wisely. This is our mantra as we work toward coastal resilience, the underpinning of which is the Visakha Society for the Protection and Care of Animals' (VSPCA) [Sea Turtle Conservation Program](#).

Since the industrial revolution, human activity has dispatched anthropogenic systems that now impact every nook and corner of our planet. Modern science and technology applied in industry as in communications, medicine, extraction, governance etc., are seemingly more distant from past knowledge of historical or indigenous justice, and animal knowledge. Scientists have raised warnings about disruptive human activities directly causing the loss of species and habitats

and the collapse of several ecosystems, referencing these phenomena as the [Capitalocene](#) or [Anthropocene](#). How would a concerned citizen move forward without despondency? We must work by addition ([Haraway 2019](#)). What does this imply? To us, it implies that every reasonable human can be keenly observant of natural living, opening themselves to a deeper understanding of older cultures, all animals and the ocean; to begin forging a harmony with other species with the aim of building biophilic societies.

Visakhapatnam city in eastern India is a natural port. The city lies within the state of Andhra Pradesh, where the coastline is dotted by four fishing harbors, 353 fish landing centers and 555 fishing villages. There are about 600,000 fishermen, 150,000 seafarers and around

50,000 artisanal fishing crafts in the state. Amid the climate crises and the global CoVid-19 pandemic, the city presents a huge opportunity to root our methods of working in harmony with the fishing community, NGOs, governments, community residents and animals. New science-based knowledge has been obtained by understanding the culture of the fishing community and that of community animals. Beyond the empirical, we have gathered generational understanding of the ocean chemistry and tides, while making animals our kin ([Paulson 2019](#)). This has led us to working sustainably. Harmony with animal kin pays off in value.

Background

In 1996, Pradeep Kumar Nath, founder of VSPCA observed a lone female [olive ridley sea](#)

[turtle](#) in labor at the Pudimadaka shores. Laboriously the turtle laid her eggs and, fatigued, headed back into the ocean. White-bellied sea eagles and local street dogs got to her eggs quickly. The following season, fisher people were selling turtle eggs and the meat of adult turtles. Pradeep knew that he had to work closely with the fisher people to understand their values and love for the ocean. He began compensating them for the turtle eggs and information about female turtles. VSPCA constructed rudimentary in-situ hatcheries to attempt "hatching" the confiscated eggs.

It was here and then that VSPCA's Sea Turtle Conservation began. The government took notice of these actions. In-situ hatcheries were barred, but Pradeep befriended the Forest Department's Divisional Forest Officer (DFO) and planned an approach to develop "ex-situ" hatcheries. DFOs are transferred to other forest regions in 2-year shifts, their learning has spread and VSPCA's methods are now observed in several factions of the Bay of Bengal.

Building Community Awareness

A decade of consistent study and working with the fisher communities has shown a dramatic increase in sustainable practices and living. VSPCA has brought awareness to the community in many respects:

About the Importance of Habitat Conservation

VSPCA has helped build awareness that beach habitat conservation is central to protecting sea turtles and fisher communities, and, that once habitat is lost to development, it is lost forever. Visakhapatnam suffers the consequences of oil, garbage, sewage, ore and chemical pollution. Unattended, these are harmful to residents



Unnatural beach plantations encourage loitering
Image: VSPCA

and big killers of the sea turtle. These industries impact the fisher communities' livelihoods, the sea turtles and, onshore and offshore habitats. As an attractive, green and smart city, Visakhapatnam is seeing more people migrate to the city seeking a better life. If development continues to be the mantra of planners and authorities attempting to make life comfortable for all people, the ocean habitat is bound to degrade further. Jetties, piers, more fisheries, more beach occupations and tourist activity will take over pristine beach habitat ignoring the many species that live here keeping the habitat livable.

About Communicating Environmental Ideas through Nature and Animal Culture

Animal cultures and ancient human cultures have their place. Can we explore them to augment modern day scientific research? How might they direct our approach in terms of "harmony with kin," and the building of a biophilic city?

The turtle is an ally and a teacher for the fisher community. Turtles provide cues about the ocean climate and tides, beach erosion, sand temperature, and moon light. They represent fish stock locations in the ocean. Protecting the turtle means knowing about healthy fish stock.

The fisher people relate strongly to atmospheric and habitat connections. A great deal of information exchange took place between VSPCA and the fisher communities around the sea turtle's importance, for the benefit of all concerned. The fisher people's "science" may be metaphysical; nonetheless, it ties in well with biological and meteorological truths of modern-day sciences.

Respecting their culture, *with the goal of harmony in mind*, VSPCA explored ancient religious traditions, which brought value to the program. For instance, an avatar of Lord Vishnu is the giant turtle "Kurma" who has been protecting the ocean species and keeping the world stable. The Sri Kurmam Temple in Andhra Pradesh, India, is dedicated to the Kurma avatar. Bringing this vocabulary into discussions with fisher men and women helped both sides connect deeply on the cultural story—about the turtle and its importance in conserving the ocean habitat and the species.

Nature is an ally. The fisher communities have a profound understanding of this concept. Additionally, VSPCA's 50-year work with several animal species reveals "animal cultures." Working through cultural understanding of both animals and humans can foster harmony with our kin (inclusive of plants and non-humans) lending to the creation of more biophilic cities (Safina 2020).

About the Value of Science

Empirical research and methodology validate observations. Science provides knowledge from past studies, as well as tools for data analyses. Scientific inquiry is an effective medium to assert truths about "direct" (for instance, cultural) observations. Studying the science of turtle conservation

helped reinforce that the female turtle is an asset to the fisher community. VSPCA views the female turtle as "spokesperson" for her species who straddle land and sea. A female turtle can lay 210 eggs per clutch up to three times in one season.

VSPCA's Sea Turtle Protection Force and the fisher people recognize gravid (pregnant) turtles by shell markings of patterns, scars and injuries. VSPCA illuminated the value of protecting a mother turtle who can lay around 400-500 eggs per season. Protecting one female implied more hatchlings, which positively impact the food web and thereby, the fish stock; spurring healthy ocean flora and overall a healthier ocean. The turtle enjoys eating predatory fish like jellyfish. Jellyfish are versatile and more important to the food chain than scientists previously thought. Olive ridley conservation, in this holistic-harmonious approach, can lead us to biodiversity conservation from within an urban environment.

About the Role of Law as a Tool to Build Coastal Resiliency

Sharing articles widely through Education and Awareness Workshops about the treatment of animals from the Indian Constitution and law and regulations around the illegal capture of sea life, alerted the community about possible infractions. Since its conception, VSPCA has relied upon and employed a legal approach. For example, VSPCA spent over a decade protesting Navy submarine installations (INS Virbahu, INS Viraat and INS Kursura) at this beach. The process exposed the dire need for turtle habitat conservation and a closer look into the species of marine ecosystems.

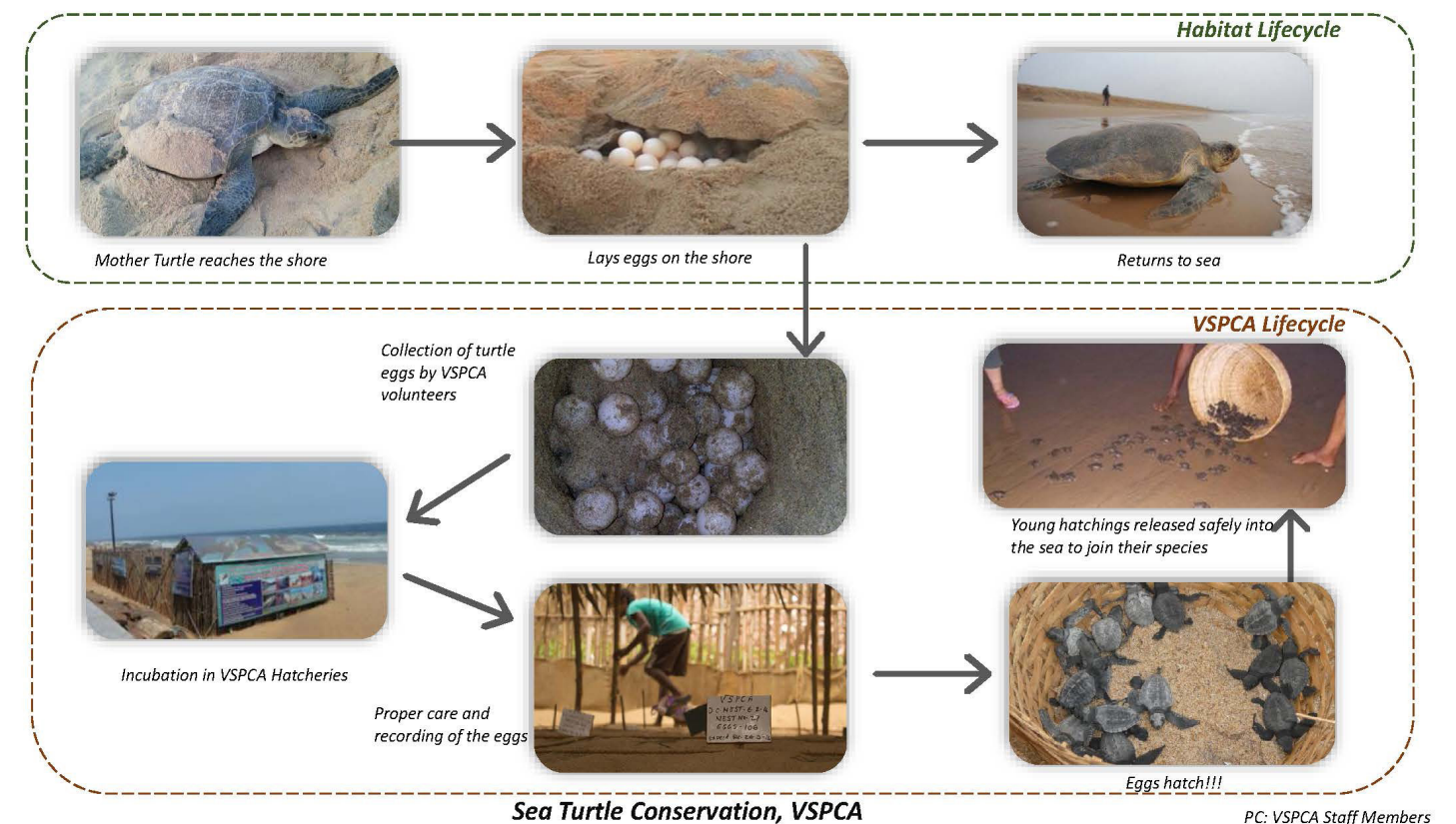
Educating the fisher community about the [Indian Wildlife](#)

[Protection Act \(1972\)](#), the [IUCN Red List](#) concerning sea turtles species in this region and the [threats to the olive ridley](#) explained the law and facts in a manner that the fisher community understood. VSPCA explained the status of the sea turtle in terms of its capture and endangerment, and the consequences to the fisher community from legal and livelihood-resources points-of-view. These strategies and tactics exposed intentional and unintentional missteps in the city in terms of the infliction of long-term damage to the habitat and local communities

About How Nature Informs Us About What Matters in the Long Term

Odisha, the adjacent state along Andhra Pradesh's coastline, is home to one of India's largest sea turtle rookeries. Each night during turtle season, one observes the magical mass nestings or "morrimas," "arribazones" and "arribada" (Tripathy 2003). On consecutive nights, Pradeep observed turtles laying eggs over already-built nests at the Rushikulya rookery in Odisha. Over the years, several hundred turtles have made their way to Visakhapatnam in what are understood as [emergency or sporadic nestings](#). With the steady increase of nestings by at least twenty percent since 2016, Visakhapatnam seems the likely fallback for sea turtles from Odisha and is growing into a bigger sea turtle rookery for sporadic nestings.

Over the last two years, Pradeep has observed juvenile mother turtles coming ashore and laying smaller clutches of eggs. Could this be mother nature's warning as Charles Darwin has explained: Nature's attempt to maintain a balance of species evenness in terms of sea turtle populations? We must pay heed and investigate unusual observations



and prepare to mitigate human activity that is negatively disruptive to life.

WHY THIS METHOD WORKS FOR ALL?

VSPCA's Sea Turtle Conservation program forges **harmony** between NGOs, fisher communities, and community dogs, while addressing the

combined needs of all involved.

The fisher community are animal loving people. Their beloved dogs and cats forage at fish markets. [Birds](#) such as the red crested pochard, great crested grebe, ruddy shelducks, ibis and painted storks, egrets and cranes throng the coastline, port and fish markets arenas. There is an alliance between human

and non-human living beings that VSPCA is privy to. VSPCA's offerings of vet care, treatment and animal birth control encourage coastal communities' observance of VSPCA's principles around "Community Animals."

VSPCA sees every animal in the city as a resident of the city. Every animal in the city's ecosystem is core to VSPCA's programs. All



street animals are taken in for animal birth control, treatments, vaccinations and returned to their communities with assured provision of food, water and treatment for injury. Migratory birds undergoing exhaustion and rehabilitation, are very much part of the city's ecosystem needing such assistance. Working with migratory birds brings VSPCA to mangrove protection and evolving understanding of estuarine and deltaic species. Every street *and* visiting animal in the city thereby, becomes a *community animal* in VSPCA's

Programs. By controlling street animal populations, VSPCA is working steadily toward public health, safety and welfare, via animal welfare. By working on human-animal conflict in the forests, efforts are being made to reduce zoonotic disease transmission. Therefore, community animals neither menace nor nuisance, are looked upon as important entities in biophilic ecosystems.

In doing so, the protected and cared for beach/street dogs – curious participants of the

sea turtle conservation goes on – began understanding and imitating human actions. They are community pets who have adopted VSPCA's programs. They bark to announce the arrival of gravid (or injured) mother turtles – often after the city has gone to sleep. They keep predators away from egg-laying (or injured) turtles. Importantly, they do not predate on the sea turtle eggs! This feature makes VSPCA's program more successful than originally anticipated; as in most sea turtle conservation efforts along India's coastline,



The City Community Matters

street dogs are the primary predators of sea turtle eggs.

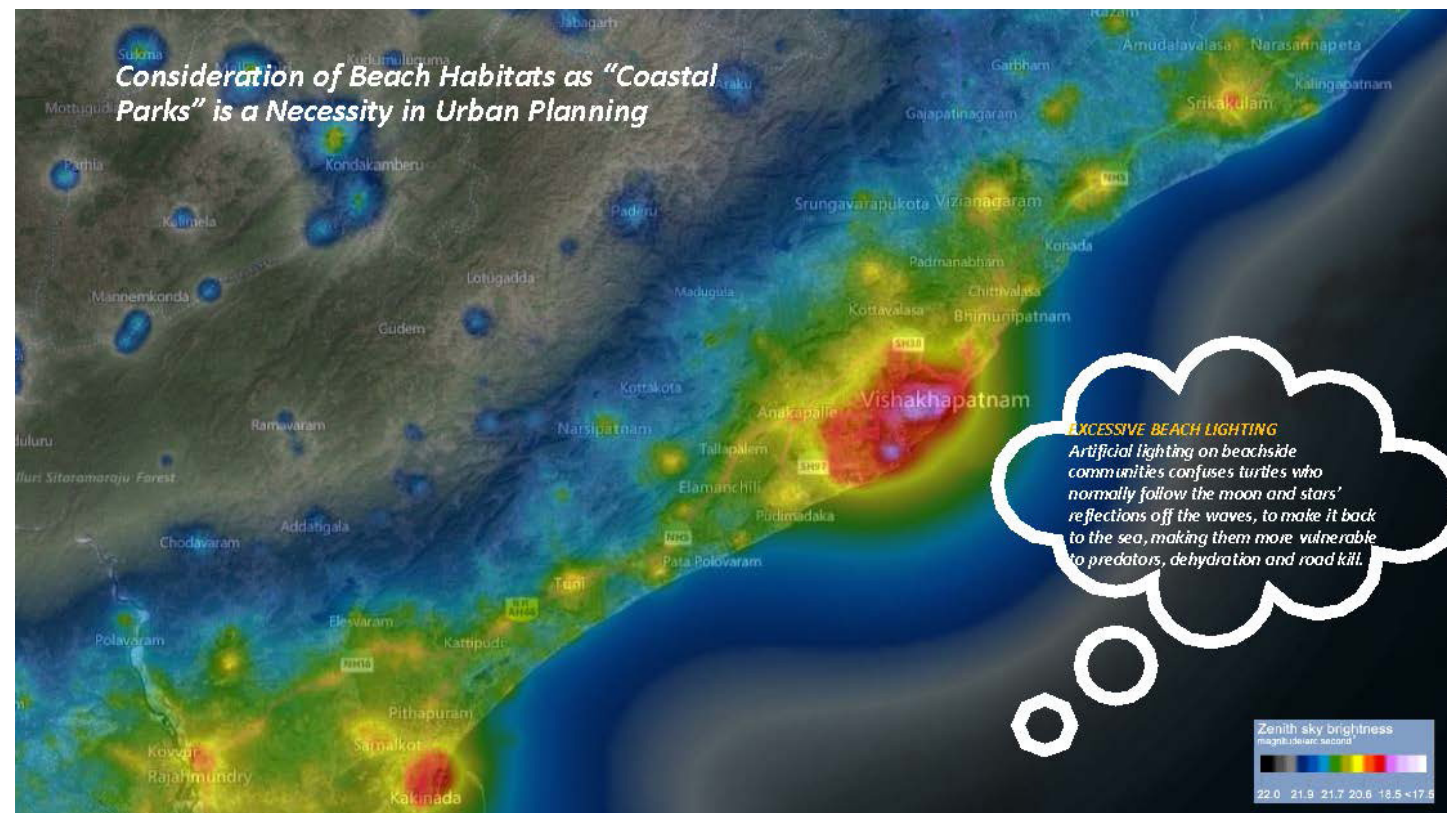
Community Animals become a city's assets when protected and cared for; especially dogs. A dog is a human's best friend and proves it time and time again in service to the human. Once dogs invest in humans, it is forever. VSPCA has evolved its principles around this trait of the dog.

The fishermen obtain employment in VSPCA's sea turtle conservation efforts. In turtle season, this provides them

with an alternative livelihood: building the ex-situ sea turtle hatcheries, collecting the eggs, protecting them, feeding and caring for the dogs involved, and releasing the turtle hatchlings safely to the ocean. Today, they are paid by the Forest Department of Andhra Pradesh. These communities have a lot to offer to the science of conservation: their culture, knowledge, love for the environment, and networks (a precious resource in conservation efforts). There is always an opportunity for a win-win in

engaging with local communities. Besides having access to more resources, the program can put forth the value of their culture and common heritage for all the city's residents. Involving the fisher communities is an important approach toward greater equity in science research and data.

Community animal protection and working closely with fishing communities can evolve comprehensive programs in conservation. In about the 11th year of VSPCA's Sea Conservation





Original Turtle Habitat
Image Credits: VSPCA

the Forest Department observed the progress and joined forces with VSPCA to pay the fisher people and support the construction of ex-situ hatcheries. This was a big win for the community. *The program is built as agile and inclusive!* NGOs from far and wide support this effort today. Now the time has come to advocate for sea turtle habitat conservation in terms of addressing the impacts from sewage, oil, chemical and garbage pollution by the big pharma, industry, government and people themselves.

In summing up VSPCA's approach: cultural knowledge and animal knowledge enrich scientific

knowledge. Augmenting this knowledge with science can foster greater scientific thinking. By fostering harmony, we can demonstrate Donna Haraway's concepts of "making kin" and growing ourselves by "addition." The fishing community is empowered and so is modern scientific thinking by way of community and animal engagement. What has come together is more than the understanding and importance of the sea turtle: it is a deeper understanding of the magnificent ocean, its tides and seasons, its many species who cohabitate on- and off-shore and the value of it all for the fishing communities and the residents of the city of

Visakhapatnam.

Living and Dying with Care

In 2020 across the planet, there was greater suffering, in living and dying. As migrants flee oppressive regimes feeling forced out of their homes, we wonder how species "feel" as they are forced out of their natural territories, or forced to adapt to new ways of living? Ecological devastation and social upheaval amongst fauna and humans reveal connections. VSPCA's work in sea turtle conservation is not the largest conservation effort by any means; however, it is a unique attempt at giving (human and non-human) individuals the

chance to live and die within the care of one another.

As is the sea turtle, so is the community dog; as is the city school girl, so is the fisher child; as is the indigenous tribeswoman, so is a homeless man; as is the migratory painted stork, so is the purple sunbird; and as is the yellow fiddler crab, so is the whale shark.

Can we shape programs to be inclusive so that every individual is able to live in peace and go onward with care?

Cities are key living spaces for the greatest number of humans

on the planet. We may put great effort into conserving species in wild places, but as cities burgeon with more humans, we put all other species and habitats under great pressure risking life everywhere. Therefore, at VSPCA, we focus on creating conservation systems from *within* the city.

Our task at hand is to raise awareness about conservation through community animals and human and animal culture. Protecting individual animals leads to animal welfare, which engages the community in an exploration of interconnected

ecosystems to evolve a science-based approach and method for conservation.

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City Encroaching on Beach
Image Credit: VSPCA

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Sea turtle hatchling release
Image: VSPCA



Mr. Narayan Rao, VSPCA's Sea Turtle Warrior who worked with VSPCA for 40 years, passed away from CoVid-19, seen playing with the sea turtle dogs.
Image: VSPCA



Sea turtle protection dog announcing the fact that an injured turtle is ashore. Bird predators tend keeping away when the dogs are on watch.
Image: VSPCA