

2019-2020

**Wildlife
Conservation
Society-India**



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Vision: Wildlife Conservation Society-India envisions a world where wildlife thrives in healthy lands and seas, valued by societies that embrace and benefit from the diversity and integrity of life on earth.

Mission: WCS saves wildlife and wild places through science, conservation action, education, and inspiring people to value nature. WCS has a long track record of achieving innovative, impactful results at scale since our founding in 1895. Wildlife Conservation Society has furthered its global mission in India since 1988

OUR PROGRAMMES



Counter Wildlife Trafficking Programme

Illegal Wildlife Trade (IWT) is estimated to be the fourth largest transnational crime with an estimated turnover of \$7 - \$23 billion. Wildlife targeted for illegal trade include iconic species such as tigers, elephants, leopards, bears, along with lesser-known species such as lizards, freshwater turtles and tortoises, butterflies, rays and corals. Wildlife continues to be unsustainably poached to cater to a myriad of markets dealing in exotic pet trade, traditional medicine and sustenance, thereby threatening its survival. WCS-India has been working with various enforcement agencies and judiciary of the country, both at state and the central level, to build capacity to identify, detect, investigate and prosecute these highly organised threats in an efficient manner.

Key geographies: Assam, Arunachal Pradesh, Andhra Pradesh, Jharkhand, Karnataka, Manipur, Mizoram, Nagaland, Telangana, Tripura, West Bengal, Meghalaya, Tamil Nadu

Outcomes of the programme

38

officers trained on 'The Applications of Forensics in Wildlife Crime Investigation' in Assam and Telangana, in collaboration with the University of Portsmouth and National Centre for Biological Sciences.



904

forest officers trained in improved detection and investigation of wildlife crime.

106

Customs officers trained in detection and investigation of wildlife crime, especially the trade in exotics

249

security personnel trained in detection and identification of commonly trafficked species



16

members of Assam judiciary participated in a sensitization workshop on wildlife crime, conducted by WCS India in collaboration with District Legal Services Authority, Sonitpur and Assam Forest Department.

Capacity Building of Government

Agencies:

Over the past year, following our capacity building workshops, several trainee officers handled significant wildlife trafficking cases.

- A former trainee of WCS-India workshop held during July, 2019 for paramilitary forces, conducted a joint operation with Railway Police Force and Assam Forest Department that led to the seizure of 46 Indian flapshell turtles from North-East Express, Barpeta Road. The seized turtles were handed over to officials at Manas National Park. The case is currently under trial.
- A live Chinese pangolin was seized from Tura, Meghalaya, on its way to an Assam buyer. The investigating officer was a former trainee of the WCS-India workshop held in Meghalaya during the month of August, four individuals were arrested in the case.
- Based on a tip-off, a former trainee from WCS-India workshop held in Gorumara, seized a Chinese pangolin at Alipurduar Highway in West Bengal, which was being transported from Assam to be smuggled to Bhutan. The two accused were arrested and are presently under judicial custody.
- Two trainees from the workshop held at Assam Forest School booked separate cases of tiger death and trade at Manas Tiger Reserve and illegal felling of Agarwood within Gibbon Wildlife Sanctuary Assam.
- Pangolin scales were seized in Jharkhand by an official trained during the WCS-India workshop held in March, 2019, leading to the arrest of four individuals.
- A former trainee of WCS-India workshop rescued a hog deer that was being smuggled on a boat in Assam. One individual was arrested and the investigation is on-going. *(Pictured below)*



Support law enforcement and prevent illegal wildlife trafficking:

- We have set up a fully functioning CWT Helpline, along with 37 WhatsApp groups with 879 enforcement staff members. Through these platforms, we constantly provide technical and legal support to enforcement staff as well as share regular updates about wildlife trafficking news, field guides, and investigation tips. Support provided to an officer contacting the helpline resulted in the seizure of 30 protected birds and squirrels from Ziro, Arunachal Pradesh, and the arrest of one accused. The case is currently under trial.
- We are partnering with the Wildlife Crime Control Bureau (WCCB) for the development of a smartphone app to assist officers identify wildlife contraband and file preliminary offence reports (POR) in court. The multilingual app has been piloted with forest officials in Telangana and has received a positive response. It is currently undergoing internal testing.
- Over the last year, WCS-India staff aided in several cases of wildlife trafficking. Some of the successful outcomes include the confiscation of 90 live turtles and the arrest of an offender in North 24 Parganas, West Bengal; seizure of one tiger skin and arrest of three persons in Kolkata, West Bengal; and in a separate case, recovery of 30 protected birds along with detention of over 15 sellers in a law enforcement raid at Galiff street, Kolkata.

- An inter-agency collaboration was facilitated by WCS-India wherein information shared by a former Airports Authority trainee of WCS-India workshop held in Tripura, about the illegal selling of python (protected under Schedule I of Wildlife Protection Act, 1972) meat in Chimplung, Tripura, was relayed to officials from Tripura Forest Department. The three offenders were identified and arrested with the help of Mizoram Police. A complaint has been filed in the matter.

Garnering wider support for combating wildlife trafficking:

- WCS-India team presented the Indian scenario on wildlife trafficking and ways to achieve international cooperation at a seminar on wildlife crime co-hosted by WCS-China and the Nanjing Forest Police College.
- WCS-India team presented on the linkages between wildlife trafficking and financial crimes at the Annual Summit on Anti-Money Laundering organised by Fintelekt.



The Dhole Project

The dhole (Asiatic wild dog) is listed as 'Endangered' under the IUCN Red List and is found in the forests of central, south, and Southeast Asia. Dhole populations face threats primarily from human disturbances, habitat loss, prey base reduction and retaliatory killings. Despite its precarious status, the dhole remains one of the least studied carnivores in the world. The ongoing dhole project was launched in 2016 and the aim of the project is to conduct research work on the endangered dhole to better understand the species' requirements, and formulate science-based strategies to conserve its populations. The overall objective of the project is to help wildlife managers, conservationists and governments better manage and conserve dhole populations across 3,00,000 sq. km of their geographic range.

Key geographies: *The Western Ghats in Kerala*

Outcome of the project:

- A study to monitor the dhole population, was initiated in association with the Kerala State Forest Department. In Wayanad Wildlife Sanctuary, 740 km. was surveyed and 111 dhole scats were

collected which revealed, 3,500 indirect signs of dholes, their co-predators and prey species

- One of the latest research work focusses on mapping connectivity for dholes, so as to identify forest corridors that need to be consolidated and protected to help dholes move and disperse across protected areas.
- In collaboration with the National Centre for Biological Sciences (NCBS), sophisticated statistical models and genetic tools were developed to identify the individual dholes from the scat.
- The members of the project participated in the IUCN Dhole Working Group meeting at Khao Yai National Park, Thailand, to create an updated global status assessment for dholes, and also set the background for creating country-specific conservation plans.





Ecotourism Programme

Ecotourism, a form of sustainable travel in natural areas, is an expanding industry in the country, providing tourists a unique opportunity to experience the wilderness, while helping local communities in these areas revitalise their economic status. Today, the sector is poorly regulated and the ever-increasing footfalls pose rising threats to wildlife and their habitats.

Recognising the potential and importance of effective regulation of ecotourism, the programme came to life in 2018, with the objective of addressing wildlife concerns that arise as an outcome of tourism activities in natural spaces. The programme upholds ecotourism as one of the sustainable ways of manifesting tourism in such elemental regions if executed the right way. The programme assesses existing ecotourism management and also designs sustainable tourism plans for such ecosystems.

Key geographies: Mangalajodi, Odisha

Outcome of the programme:

- Over the last year, WCS-India carried out an assessment of the carrying capacity of the Mangalajodi wetlands for bird-based ecotourism implemented by local communities. This study was carried out in association with the Indian Grameen Services. Surveys were also conducted to learn about the stakeholder perceptions on social and ecological impacts of ecotourism on the wetland and the associated avifaunal community. WCS-India has prepared a draft community-based ecotourism management plan for the wetland, outlining recommendations on strategies and best practices for managing the tourism within the estimated carrying capacity. This draft management plan is under review
- As part of this project, a stakeholder workshop was conducted on the occasion of World Tourism Day 2019. The villagers of Mangalajodi involved in the ecotourism activities, village head, staff of the Forest Department and other government agencies attended the workshop.



The logo for the Great Indian Bustard Conservation Programme, featuring the letters 'GIB' in a white serif font on a solid orange square background.

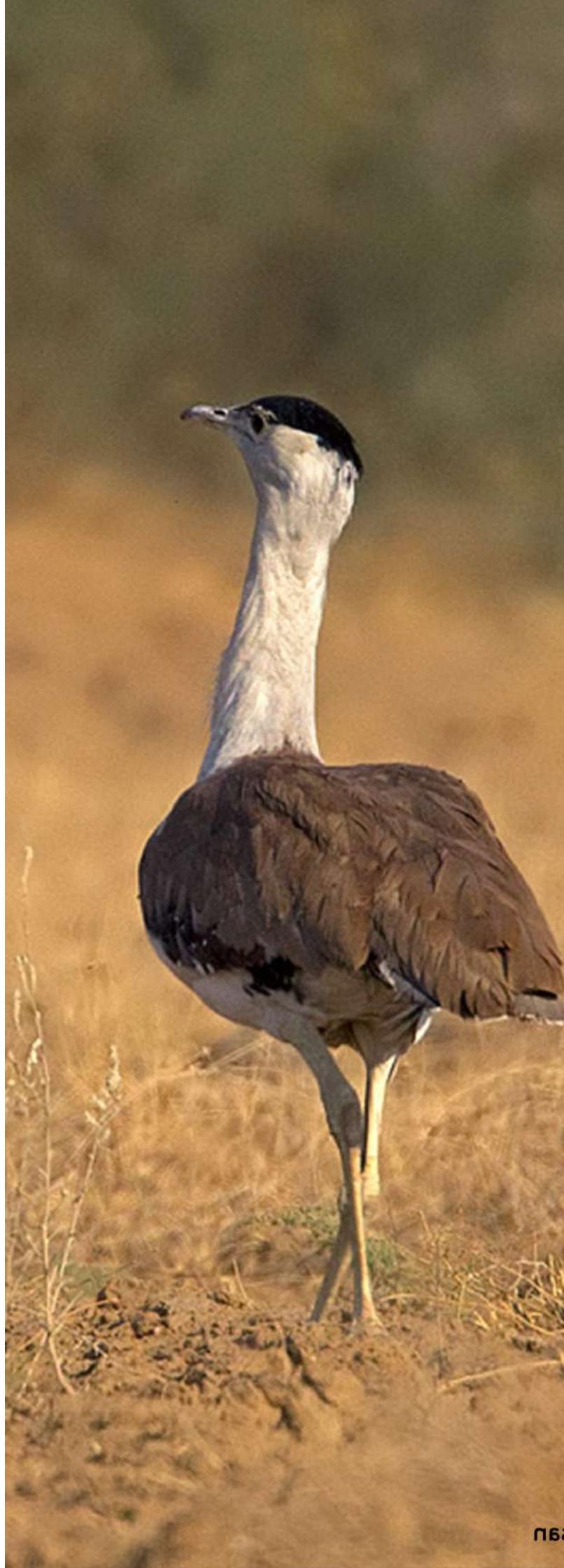
Great Indian Bustard Conservation Programme

A stunning emblem of India's vanishing grasslands, the great Indian bustard (GIB) is one of the most critically endangered birds in the world. Overgrazing, degradation of grassland habitats, predation by feral dogs and pigs, and collisions with high tension power lines have all emerged as major threats to the remaining populations of this iconic species. Its population has drastically declined, possibly to 150 individuals, with the Thar Desert in Rajasthan possibly the only place that supports recoverable GIB populations in India. The two extant populations of GIB are spread over two sites - Sudasari in the Desert National Park Sanctuary, and the Pokhran area that includes areas adjoining the Pokhran Field Firing Range (PFFR) and enclosures under the Pokhran wildlife range. WCS-India initiated a long-term programme in January, 2020 to save this highly threatened species from extinction through a range of community-based interventions.

Key geographies: Jaisalmer, Rajasthan

Outcome of the programme:

- WCS-India team identified a 6.5km stretch of high-tension power-line where a higher number of GIB deaths were recorded in previous years. To mitigate the issue, we are in the



process of procuring state-of-the-art bird diverters for installation over this vulnerable stretch. Meanwhile, the team is monitoring the stretch for possible bird collision injuries or deaths along this vulnerable stretch. Likewise, the team is identifying other vulnerable stretches of high-tension powerlines in the landscape, and monitoring the same with help of local communities and forest department staff.

- Members of local villages were engaged as 'watchers' to assist the forest department in patrolling of the GIB enclosures created by the Forest Department, and to keep a vigil on breaching of fences, intrusion of livestock. This is helping in increasing

direct involvement of local communities in GIB conservation.

- WCS-India has also initiated stakeholder engagement with the Forest Department, local communities, and local NGOs working on social development in the region. These engagements are helping the team to initiate trust-building with the local communities as well as initiate a dialogue on GIB and grassland conservation.

▼ *The 6.5 kms stretch between Chacha and Dholiya villages in Pokhran where the bird diverters are planned to be installed.*



L

Human-Wildlife Interactions

Leopards are accorded strong protection under the Indian Wildlife (Protection) Act, 1972, and are classified as 'Vulnerable' by the IUCN. They are distributed widely in forests as well as in human-use areas across many parts of India. However, their occurrence in human-use areas renders them vulnerable to complex human-leopard interactions. Their presence outside

protected areas, especially in the agricultural-dominated landscapes, pose a

major management problem as they are still viewed as 'strays' by the general public and not resident individuals. WCS-India has been working in collaboration with forest departments and other stakeholders to mitigate the negative human-leopard interactions, and make a case for better managed shared spaces between humans and wildlife through the use of traditional and scientific methods in Maharashtra, West Bengal and Uttarakhand.

Key geographies: Maharashtra, West Bengal, Uttarakhand





▲ 'Guldar ke Dagadiya' children's team with CWLW, Uttarakhand after performing at Raj Bhawan, Dehradun during Wildlife Week, Oct 2019.

Outcome of the programme:

Maharashtra:

As part of the project on understanding human-leopard interactions at Sanjay Gandhi National Park (SGNP) Landscape, the WCS-India team helped the forest department in conducting combing operations and removing snares set up to capture wild animals.

- Camera trapping exercise, as part of the yearly research activity for monitoring the density and movement of leopards, was undertaken in collaboration with SGNP staff and student volunteers.
- The team helped the forest department in leopard rescue operations from a mall, a residential building, a commercial area and Yeur range of SGNP. The team also presented the information on leopard rescue on Zee 24 Taas and Jay

Maharashtra news channels.

- WCS-India participated in a documentary titled 'Biggest and Baddest' for Animal Planet, and 'Living with Leopard' and 'Guldar Ke Dagadiya' films by Green Hub.
- The team participated in a panel discussion at 'Echoes of Earth' music festival (Theme - Sanctuary); a talk at Kalyan 'Vedh' (a platform for informative interviews for youth) on careers in wildlife and a virtual public lecture organised by Brihanmumbai Municipal Corporation (BMC) regarding leopards in human dominated areas.

Awareness session for Bachelors in Mass Media students on 'Role of budding journalists in wildlife reportage and human-leopard conflict.' ▼





Marine Conservation Programme

India has a long coastline of over 7,500 kms, with a continental shelf area of 4,68,000 km² and an exclusive economic zone (EEZ) of 2.02 million km². India's marine life is housed within a plethora of habitats that boast a rich biodiversity, earning the country a spot among the world's top 17 mega-diverse nations. The past few decades, however, have been characterised by rapid habitat loss, the unchecked advance of mechanised fisheries, and inadequately informed resource extraction.

WCS-India has initiated its efforts to address some of these issues by working with fishing communities, partner organisations, and the government agencies using interdisciplinary approaches. In particular, the team is focusing its efforts on five broad themes, viz, (1) strengthening the existing Marine Protected Area network, (2) conservation of marine ecosystems- coral reefs, mangroves, seagrasses and deep seas, (3) conservation of marine megafauna- marine mammals, sea turtles and elasmobranchs, (4) addressing unsustainable fisheries and bycatch reduction, and (5) marine law, policy and issues related to their implementation.

Key geographies: Maharashtra, Kerala, Andhra Pradesh, and Lakshadweep Islands



▲ Under Tiffany & Co. we are focusing our effort on conserving vibrant and diverse coral reef ecosystem of Lakshadweep islands.

A WCS-India's initiative towards promoting Angria Bank as Marine Protected Area

Angria Bank is a submerged plateau in the Arabian Sea, located approximately 105 km off the western coast of India. This under-explored habitat harbours vast stretches of ecologically rich and diverse coral reefs and algal beds. The WCS-India's Marine Conservation Programme is committed to catalyse the notification of Angria Bank as a marine protected area (MPA), ensuring its long-term protection and management.

- As the initial step towards this, we organised a site visit to Angria Bank to build on the existing knowledge of the flora and fauna, in order to aid in the notification process.
- With immense support in the form of FORV Sagar Sampada, crew members and financial resources from Centre for Marine Living Resources and Ecology and the Mangrove Cell, Maharashtra Forest Department, we organised a

14-day joint expedition where we employed underwater transect surveys and photo-quadratic collection tools to gather data on the benthic and pelagic species at Angria Bank.

- The study suggested that Angria Bank is possibly the most pristine among India's marine ecosystems, and would stand to benefit immensely from protection.
- To ensure long-term viability, WCS-India is assisting in drafting a management plan for the area along with relevant stakeholders to help facilitate the declaration of Angria Bank as the first MPA in India's Exclusive Economic Zone (EEZ).

▼ *While at Angria Bank, team conducted 66 individual dives and collected data on the benthic composition, coral reef community structure and the abundance of reef fish.*



B Conservation of Sharks and Rays

- Under this newly initiated project, WCS-India will be providing critical support in drafting policy changes by listing threatened species in CITES and Indian Wildlife (Protection) Act 1972. This will include working with the Gol to implement a ban on international export of shark products by creating awareness and capacity building workshops and increasing patrolling activities at all major landing and initiating a citizen science programme.
- The project will also include providing critical support to the Gol in strengthening management and protection of critical habitats of shark and ray species along with facilitating the declaration of new MPAs. The team will build on the existing capacities and linkages of WCS-India, catalysing enhanced enforcement and reduction in the illegal export of shark products.
- WCS-India participated in the 'Consultative workshop on threatened and protected elasmobranchs of India: Conservation needs and policy needs' organised by ICAR-Central Marine Fisheries Research Institute (CMFRI) between the 4th and 6th of February, 2020, at Kochi, India.

C

Strengthening Management and Conservation of the Marine Ecosystem of Lakshadweep Islands

The Lakshadweep Islands host a wide range of biodiversity such as seagrasses, corals, algae and associated fish species, marine mammals, sea turtles and elasmobranchs. Recent bleaching events in conjunction with cyclones and other storm surges have reduced the total coral cover from 70% to 30% in the last two decades. Dive-based tourism and use of practices such as finning, touching and standing on corals, damage by anchors threaten this fragile ecosystem.

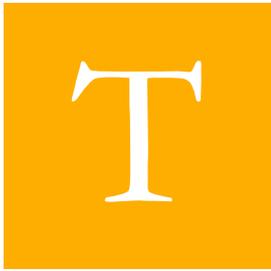
The team, through this ongoing project is, aiding the protection of threatened marine species, assessing the impact of SCUBA diving tourism industry on reef ecosystems and assessing the requirement of notifying a community driven, dynamic marine protected area in the Lakshadweep Islands.



▲ Varieties of tuna fished in the Lakshadweep islands

▼ Oriental sweetlips (*Plectorhinchus vittatus*) perched on the reef at Agatti Island, Lakshadweep





Tiger Conservation and Research Programme

Since 1972, the tiger has been the flagship species for biodiversity and wildlife conservation in India. WCS-India applies science to saving tigers on the ground through extensive ecological surveys and conservation interventions. By developing and sharing innovative methodologies and conservation models, WCS-India has impacted tiger conservation efforts worldwide.

Key geographies: Amrabad Tiger Reserve (ATR), Nagarjunsagar-Srisaïlam Tiger Reserve (NSTR) and Gundla Brahmeswaram Wildlife Sanctuary (GBM) in Telangana and Andhra Pradesh; tiger reserves and wildlife sanctuaries of Kerala

Monitoring of tiger and prey populations:

- Surveys to estimate the tiger densities and prey densities across key sites in Andhra Pradesh and Telangana were carried out by the WCS-India teams along with Forest Department staff. Camera trap surveys led to identification of 12 tigers in ATR; 43 individual tigers and 10 cubs identified in the core area of NSTR and GBM; and 7 tigers identified in the corridor areas adjacent to these tiger reserves.

The occupancy survey team along with the forest department staff looking for animal signs during the survey in Telangana ▼



▲ *The Nallamalla landscape with a view of the Srisaïlam reservoir*

- WCS-India in partnership with Telangana Forest Department has also initiated tiger occupancy surveys in forest areas of Telangana in December, 2019. As an essential precursor to the survey, nine

workshops were conducted on tiger and prey monitoring for 240 frontline staff.

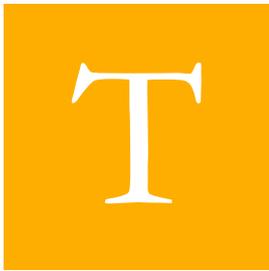
- We continued to develop a database of individual tigers using camera trap images from the Andhra Pradesh and Telangana surveys from 2012 onwards. Once completed, this will ensure rigorous identification of individual tigers photo-captured in the Nallamala landscape, and will also allow authorities to rapidly identify and draw up past histories of individual tigers that are poached (e.g. from seized tiger skins) or those that come into conflict with humans.
- WCS-India scientists continue to collaborate with scientists from the National Centre for Biological Science, Bengaluru, to help design and implement surveys for estimating tiger population densities in Ranthambore, and sloth bear densities in Mount Abu. These surveys combine non-invasive collection of fecal DNA in the field and genotyping and identifying individual tigers and sloth bears in the lab with spatial capture-recapture analyses to estimate animal density, movement and other related parameters.

Capacity building of the frontline staff on monitoring tigers and prey species:

- Three advanced training programmes for capacity building of Kerala Forest Department staff on tiger and prey monitoring were conducted in August, October and November, 2019. The workshops covered a range of techniques used in tiger and prey monitoring including an underlying framework for population estimation, indices of abundance, spatial sampling, distance sampling, capture-recapture sampling and spatial capture-recapture; protocols for data processing and validation and for using programmes *ExtractCompare*.

Workshop on protocols for data processing and validation, at WCS-India main office, Bengaluru. ▼





Turtle Conservation Programme

The extirpation of turtle populations has been driven by increased market demands for turtles as food, traditional medicine, or pets, resulting in unprecedented trade and trafficking of wild turtle populations. Turtle Survival Alliance (TSA) India, functioning as a field-based programme of WCS-India, has been implementing a number of projects across the country dedicated towards conservation of highly threatened freshwater chelonians, crocodylians and cetaceans.

Key geographies: Terai Landscape and Chambal River Basin in Uttar Pradesh (UP), Sundarbans in West Bengal, and Northeast India

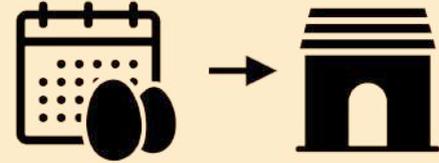
Outcome of the programme:

Ex-situ and In-situ conservation projects:

- As part of Chambal Batagur Nest protection, 6,000 eggs were translocated to the riverside hatcheries along Chambal River in Uttar Pradesh. *In-situ* incubation of the eggs successfully led to over 5,000 hatchlings of the red-crowned roofed turtle (*Batagur kachuga*) and three-striped roofed turtle (*Batagur dhongoka*).

6000+

eggs translocated
to the riverside
hatcheries

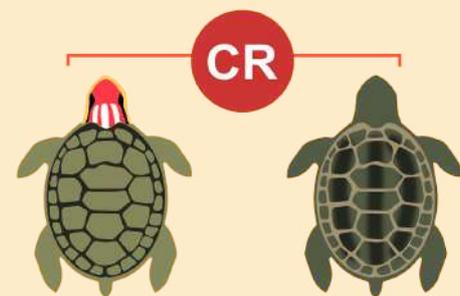


Vulnerable nests
are collected
from the wild
every year

Incubated in
temporary river
side hatcheries

5000+

hatchlings of :



Red Crowned
Roofed Turtle

Three Striped
Roofed Turtle

(*Batagur kachuga*) (*Batagur dhongoka*)

- A total of 1,259 turtles representing 8 species: Indian softshell turtle (*Nilssonina gangetica*), Indian peacock softshell turtle (*Nilssonina hurum*), Indian flapshell turtle (*Lissemys punctata*), Indian roofed turtle (*Pungshura tecta*), Brown roofed turtle (*Pungshura smithii*), Crowned river turtle (*Hardella thurjii*), Indian eyed turtle (*Morenia petersii*), Black-spotted pond turtle (*Geoclemys hamiltonii*), were sampled from Ghaghra-Sarayu river system as a part of long-term Mark-Recapture studies in Terai.



▲ Black-spotted pond turtle (*Geoclemys hamiltonii*) along the Ghagra-Sarju river system

- As part of the Namami Gange programme to replenish the population of Indian narrow-headed softshell turtle (*Chitra indica*), 350 eggs were translocated from their vulnerable nests to the Kukrail Gharial Rehabilitation Centre in UP for incubation and rear-and-release programmes. Out of the 350 eggs, 220 hatchlings successfully emerged.
 - The project team assisted UPFWD in releasing a total of 65 gharials (*Gavialis gangeticus*) to replenish the wild population.
 - Nature Discovery Centre (NDC), a modest enclosure for the Assam roofed turtle (*Pangshura sylhetensis*) was constructed to house aquatic as well as semi-terrestrial turtles that may have been rescued or confiscated by local authorities.
- In Nagaland, five nesting females of Asian giant tortoise (*Manouria emys*) who laid their eggs in May, were artificially incubated for 72-85 days of which 30.5% eggs hatched.
 - Successful hatching of 50 northern river terrapin (*Batagur baska*) nests in the field programme were set up in Sundarbans Tiger Reserve, where a captive conservation breeding programme was established for this species, which is believed to be extinct in the wild.

Conservation education and outreach efforts:

- Over 10,000 students across field sites of Terai, Chambal, Kukrail and Assam were benefited through educational programmes as part of community outreach initiative, aimed at understanding the dynamics of freshwater fauna and their importance in the ecosystem.
- The project team successfully organised and moderated a session on Transboundary Freshwater Wildlife (turtles, gharial, Gangetic dolphin, and hilsa) at a side event in this year's Convention on Migratory Species (CMS) COP 13, at Gandhinagar, Gujarat, on 21st February.

- The team at the National Wildlife Week (1st to 7th, October) celebrations at Indira Gandhi Pratishthan, Lucknow, put up an exhibition on aquatic biodiversity and current conservation efforts. A turtle story-book named *Nanha Kachua* written by the partner school principal was released by the Hon. Chief Minister of Uttar Pradesh.
- Scientific workshops on reptile husbandry and handling training, bird research and conservation techniques, remote sensing and GIS and veterinarian training were conducted. Turtle trade control workshops were organised which benefitted 231 front-line forest department staff from 15 divisions (3 turtle trade-sensitive zones) of UPFWD across all the field sites.



- A new tortoise species (pictured above) was discovered in Arunachal Pradesh namely, the Critically Endangered impressed tortoise (*Manouria impressa*). A joint team of TSA/WCS-India, Help Earth, and the Arunachal Pradesh Forest Department confirmed the occurrence of the species, making it the 29th freshwater turtle species and the 5th tortoise species to be found in India. It also increased the country's turtle and tortoise richness to 42 taxa; the third most turtle rich-country in the world.

Field-based lecture series at Second School in Aquatic Wildlife Biology and Conservation. ▼





Conservation Actions in the Eastern Ghats and Telangana

Spanning over 75,000 sq.km, from Odisha to southern Tamil Nadu, the Eastern Ghats is home to wide expanses of tropical, deciduous and semi-evergreen forests as well as threatened animal populations of tigers, elephants, leopards, gaurs, and sambars.

The Eastern Ghats also contains the Nallamala landscape, one of India's largest and most complex Protected Areas sprawling 5,600 sq.km. Since 2012, WCS-India team has been working to address a range of wildlife issues including human-wildlife conflict mitigation, consolidation of wildlife habitats in Protected Areas, capacity building workshops for law enforcement agencies, legal interventions, community-based conservation interventions, and strengthening protected areas. Our long-term goal is to ensure there are thriving populations of all species in the Nallamala landscape.

Key geographies: *Amrabad Tiger Reserve, Nagarjunsagar-Srisailem Tiger Reserve and Gundla Brahmeswaram Wildlife Sanctuary in Telangana and Andhra Pradesh, Kawal Tiger Reserve*

Outcome of the programme:

Community Engagement:

We engage with various communities at different levels. We have a close relationship with Gundala Tribal village that has 7 hamlets, which is located on the fringe of Kawal Tiger Reserve. We have been working with this village to involve local communities in wildlife conservation and adopt a sustainable livelihood. Over the last year, we assisted them to receive LPG connections for cooking and heating, to receive necessary documents including caste certificates that are helpful for them to get connected with the government social schemes; we also arranged livelihood and skill development sessions for the villagers. The remote village of Gundala had lacked basic amenities and they were compelled to resort to open defecation. Due to the location of the village no contractors were willing to work. Engaging with local District administration and leveraging funds from the Swachh Bharat Programme, we persuaded with contractors to undertake construction of toilets. We also motivated the local people to work as daily wage labourers, we ensured 94 toilets were constructed covering all the 7 hamlets of Gundala Village. We formed a committee for taking this forward and have involved district administration in implementation of various welfare schemes in the Gundala Tribal Village and other fringe villages around the tiger reserve.

Community engagement activities in Kawal



Gas connections

A total of 120 gas connections were provided under the government's UJJWALA scheme



Skill development

- Set-up plate unit at Gudalur through ITDA (UTNOOR)
- 1,150 people enrolled in training for electrical and plumbing work



Built 120 Swachh Bharat toilets in tribal areas of Kawal with Government support





Crop protection measures

Solar battery distribution and instalment to mitigate crop damage by wild herbivores. Nearly 200 such batteries have been installed so far.

Community engagement activities in Nallamalla landscape, Eastern Ghats

Distribution of essential medicines in forest community hamlets



Wildlife awareness programmes at seven schools (120 kids)

Socio-economic survey was conducted for 203 villages around NSTR, GBM WLS and corridors extending towards south of Lankamalleshwaram WLS. This survey was aimed to assess the local communities' dependency on the forest resources and accordingly to identify and develop specific conservation and management strategies.

Mitigation of human-wildlife conflict

WCS-India keeps on monitoring the crucial wildlife corridors of the landscape in order to detect presence of tigers and leopards near human-use areas. In Nagarjunasagar Srisailem Tiger Reserve over the past year, we recorded four instances of their movement outside the park and situation where people got agitated due to presence of tigers or leopards in their fields. A protocol that included continuous monitoring for several days followed by our timely dialogue with the local communities, ensured safe passage to 2 tigers and 2 leopards without any conflict with the locals.

In Kawal Landscape our team monitors the forest fringe and ensure that snaring activity is curbed by identifying and removing of snares. These snaring is generally targeted towards smaller mammals or birds, sometimes even live electric line is used as deterrent of animals raiding the agricultural crops. Our teams maps and monitors the electric lines and records the location where snaring activity is observed. We report to the authorities immediately to avoid any killing

of animals in 2018 2 tigers had died on such electric snares.



▲ Tiger cubs captured on camera traps in Amrabad Tiger Reserve

Our team also monitors the livestock depredation incidents in the wildlife corridors in Kawal-Tadoba landscape. We recorded 61 incidents of cattle depredation in the last year, for which we are following up with the impacted villagers, ensuring that they receive ex-gratia payment for the same. This will help in avoidance of retaliatory

killings of the tigers and leopards in the long-term.

The Andhra Pradesh Forest Department (APFD) has set-up a committee to develop mitigation strategies for human-wildlife conflict in the state. As a contribution, WCS-India prepared a small booklet highlighting the common situations that lead to negative interactions between sloth bears and people, along with methods to avoid or mitigate such conflict. The booklet has been submitted to the APFD for perusal in the state.

Strengthening wildlife protection and conservation in wildlife corridors

WCS-India works alongside the Forest Department in the wildlife corridors to strengthen monitoring and enforcement. Over the past year, our field teams systematically surveyed 450 km of wildlife corridors and forest fringes to record the presence of snares and other threats to wildlife. The teams recorded and helped the forest department confiscate over 1100 snares from 45 locations, made out of live electric fencing, clutch wires, GI wire, and traditional traps (known as 'dabbi'). Based on the data collected by our field teams, we are in the process of identifying poaching hotspots in the landscape.

Facilitation of voluntary relocation of communities from Tiger Reserves

- In Kawal Tiger Reserve in Telangana, we are supporting two villages to voluntarily relocate through the government-sponsored voluntary relocation scheme. The process of relocation was initiated due to our engagement with local communities and we conducted exposure trips to successful relocation sites. Despite the villagers giving their willingness for voluntary relocation the proposal was withheld in the state. We convinced authorities at various levels and got the relocation activity initiated. We also pursued with National Tiger Conservation Authority and ensured that the amount for relocation is released. We had earlier helped in identification of suitable land for relocation.

Conservation outreach and advocacy:

- WCS-India participated in the waterhole census conducted by the Telangana State Forest Department in all wildlife sanctuaries in the state on 11th and 12th May, 2019.
- As part of WCS-India's outreach programme, the team celebrated International Tiger Day involving 800 students from 12 schools in Hyderabad.

- WCS-India supported the campaign opposing uranium exploration in ATR, which led to the government passing an unanimous resolution against mining in the region.



Wildlife Conservation and Community Empowerment in the Western Ghats

Thousands of families from the forest dwelling communities still continue to live inside the protected areas in the Western Ghats, where they face extreme hardship without basic facilities and live in constant fear of encountering wildlife, resulting in crippling injuries or loss of life. Several such families are seeking government-sponsored voluntary relocation scheme for moving outside the PAs for better access to basic amenities and livelihood opportunities. WCS-India has been working closely with such willing forest communities and beneficiaries of government sponsored voluntary relocation for more than twenty years. The role of WCS-India is to facilitate the efforts of the governments for the speedy and transparent implementation of voluntary relocation programmes and most importantly handhold the beneficiaries in the post relocation phase through livelihood, education and healthcare support, to integrate them to the mainstream society.

Key geographies

Nagarahole WLS, Kali TR, Kudremukh NP, Male Mahadeshwara WLS, Cauvery WLS, Pushpagiri WLS, Sharavathi Valley LTM WLS in Karnataka, Wayanad WLS in Kerala, Mudumalai TR in Tamil Nadu.

	Protected Area	Number of Families	Voluntarily Relocated to
1	Nagarhole Tiger Reserve	177	Masthigudi relocation centre
2	Kudhremukh National Park	21	Land purchased outside the national park
3	Kali Tiger Reserve	33	Land purchased outside the tiger reserve
4	Wayanad Wildlife Sanctuary	120	Land purchased outside the tiger reserve

Outcome of the programme:

- Families supported to voluntarily move out of the protected areas in the past year are given in the table pictured above. ▲

A happy farmer at Shettihalli Resettlement with his cauliflower yield. ▼



Consolidation of wildlife habitats

- WCS-India team facilitated privately-funded land purchases for three families from Kudremukh NP. They were provided with compensation, and supported in moving to an alternative property outside the national park.
- With WCS-India’s intervention, the rights for 5.45 acres of privately owned land inside Pushpagiri WLS was transferred to the Government of Karnataka, eventually consolidating the land with the Pushpagiri Wildlife Sanctuary.
- The project team in Kali TR supported 21 families to receive compensation from different corporate companies for relinquishing their legally owned 59.50 acres of land to the Kali TR under Compensatory Afforestation Programme.



Gaur herd seen in the purchased land after voluntary relocation in Kudhremukh National Park ▲

Expansion of PA network in the Western Ghats

- A detailed proposal to expand Sharavathi Valley WLS along with a draft notification to expand the sanctuary from 345 Sq kms to 403 Sq kms was submitted to the PCCF WL. As a result, an official government notification was issued and gazetted. Sharavathi Valley WLS harbours unique *Myristica* swamp forests and is one of the strongholds for lion-tailed macaques endemic to the Western Ghats that also acts as a wildlife corridor for the adjoining protected areas. After the extension of its area, the sanctuary has been renamed as

Sharavathi Valley LTM (lion-tailed macaque) Sanctuary.

- WCS-India is also supporting the proposed declaration of ~16830 acres of the Mullayanagiri Conservation Reserve, adjacent to Bhadra Tiger Reserve in the Baba Budangiri Range, which is covered by tropical rainforests and the *shola* forest-grassland mosaic. It is in the initial stages and is yet to be notified.

Post-voluntary-relocation livelihood support

- WCS-India plays a crucial role by facilitating the voluntary relocation procedure, and providing support to the voluntarily relocated families in the post-relocation phase through various livelihood support activities such as agricultural and horticulture support, various vocational training, education and healthcare activities and activities that help them to integrate these communities back to the mainstream. The hand holding activities have been beneficial in uplifting the tribal communities. With the support from WCS-India many of the first-time farmers have been able to successfully perform agriculture and make it their main source of income.



Seed Treatment & Sterilization Information Awareness programmes at Sollepura . ▲

- At Nagarahole TR, 60 families were facilitated to receive honey bee boxes with colonies from Gandhi Krishi Vigyan Kendra and the Social Forestry Department. Through another funding, 114 Bee boxes were distributed at Kudremukh National Park. At Kali TR 25 bee boxes were provided to the beneficiaries. Another set of 50 bee boxes were provided at a workshop on bee-keeping organised in association with the University of Agriculture Sciences, Dharwad. The WCS-India staff sought support from various organisations to provide education support for beneficiaries from Nagarahole TR. The Sathya Sai Seva Trust, and Rotary Club, Mysuru, provided stationery, sweaters, water filters, storage materials for the children of the beneficiaries .

- Six tribal students were supported in applying to join the Ekalavya Model Residential School under the Ministry of Tribal Affairs.
- At Wayanad WLS the project team had supported the flood affected families by engaging them in eco-restoration of Wayanad WLS through removal of invasive *Senna spectabilis*. A total number of **1,47,49,297** saplings and had been uprooted involving **131** families in the workforce. The flood-affected community engaged with the work had earned around **37 lakh rupees**. Increased household income resulted in increased spending on home appliances and other requirements. One youth was able to purchase a motorbike with his earnings.





Conservation awareness and outreach:

- Interactive awareness programmes and education programmes for a wide range of students from high school to MSc Wildlife Biology courses were conducted in this landscape. The sessions involved comprehensive lectures on biodiversity, significance, challenges and conservation.



- WCS-India's staff member was invited as the Chief Guest for the Karnataka Forest Department's 'Vanasevaka' programme, that is usually organised by Shivamogga forest circle office for the frontline staff and volunteers. A talk was delivered by the staff member, focusing on the delivered a talk on lesser known flora and fauna of the Western Ghats, ecological significance, challenges & threats to biodiversity and potential conservation solutions in the Western Ghats.

▲ *Snapshots of extensive awareness programmes and education programmes conducted for wide range of students from high school to MSc wildlife biology course.*

▼ *The wall presentation organised by the WCS-India team in Shivamogga City Club*



- A wall presentation was organised in Shivamogga City Club by WCS-India's team, which was attended by nearly 700 members of the club. Posters conveying the importance of wildlife, challenges and conservation initiatives were on display.

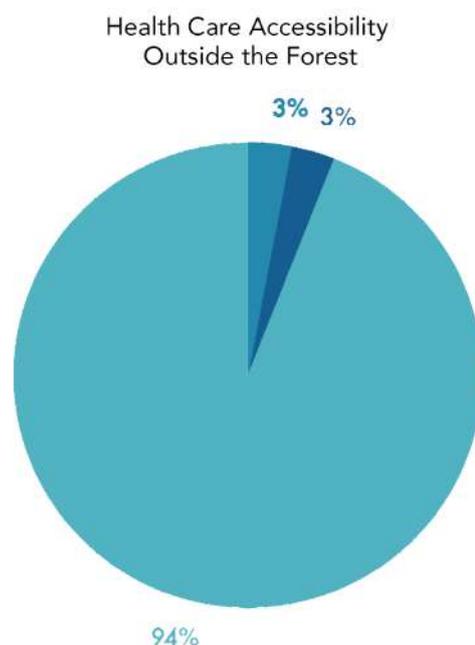
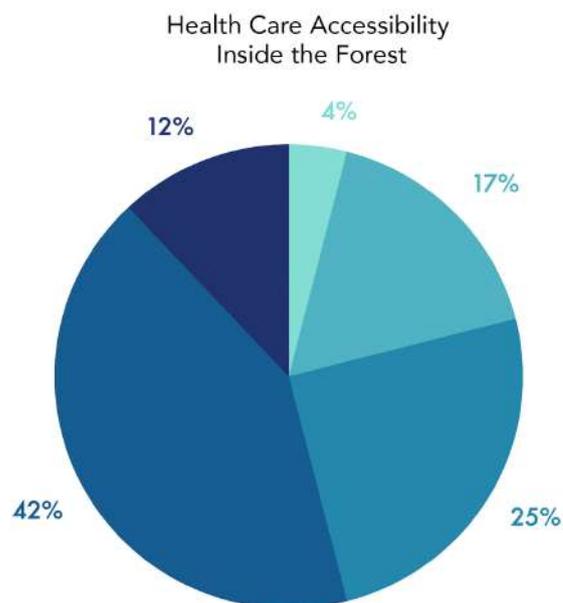
Rapid Assessment of the Livelihood Support Programme in Nagarahole

WCS-India acts as a facilitator between the families that choose to voluntarily relocate and the Forest Department, and continues to support the families post their relocation to positively integrate them into the mainstream society. A rapid questionnaire survey of the voluntarily relocated beneficiaries was conducted by WCS-India in January 2020 at the four relocation centres of Nagarahole TR. The objective of the survey was to assess the present socio-economic status of the families that voluntarily moved out of Nagarahole TR and to assess the impacts of voluntary relocation on them.

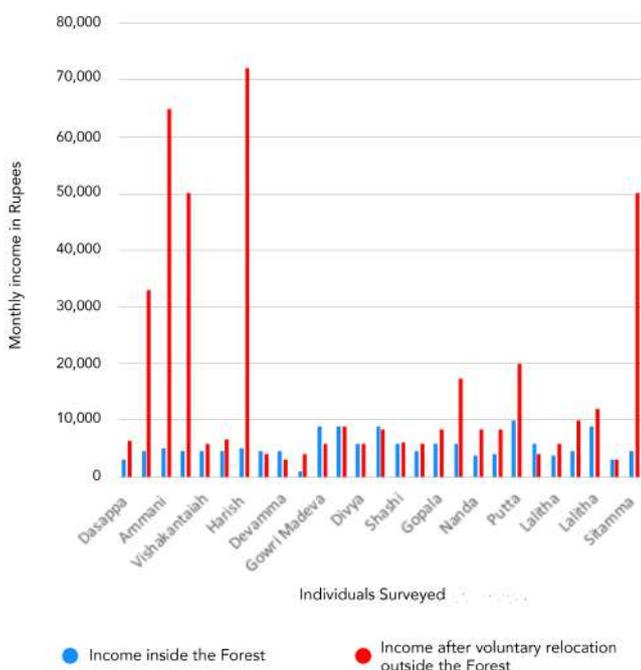
Key findings from the study:

- We observed an overall shift in the status of employment, with almost 75% of the respondents now working in agriculture. Majority of the families own 3 acres of land outside the forest, provided by the government, as part of the voluntary relocation scheme.

- The average monthly income earned by an individual while living inside the forest was Rs. 5,394, which increased substantially to Rs 16309, post relocating voluntarily.
- Improvement in health care accessibility - Close to 94% of individuals had better access to health care facilities post the voluntary relocation. ▼

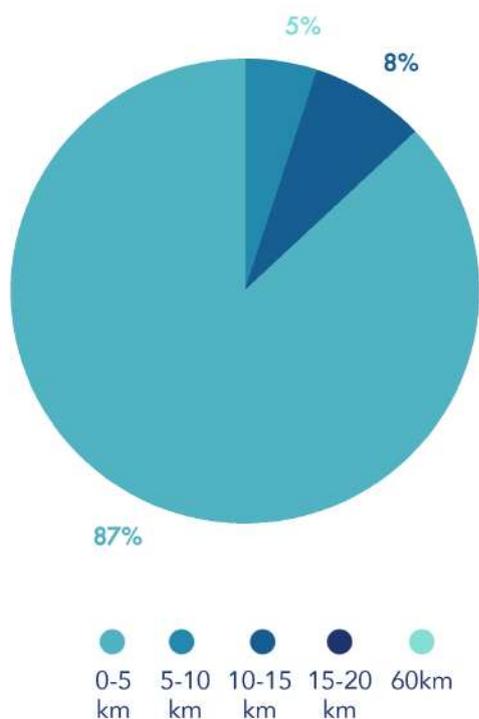
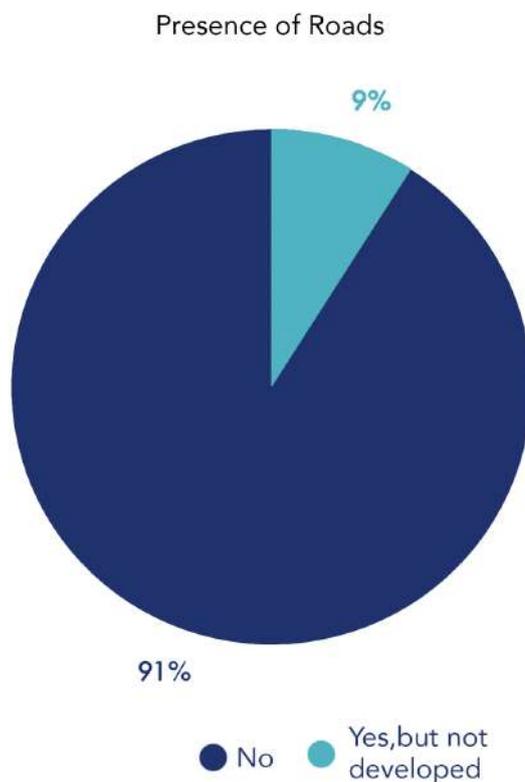
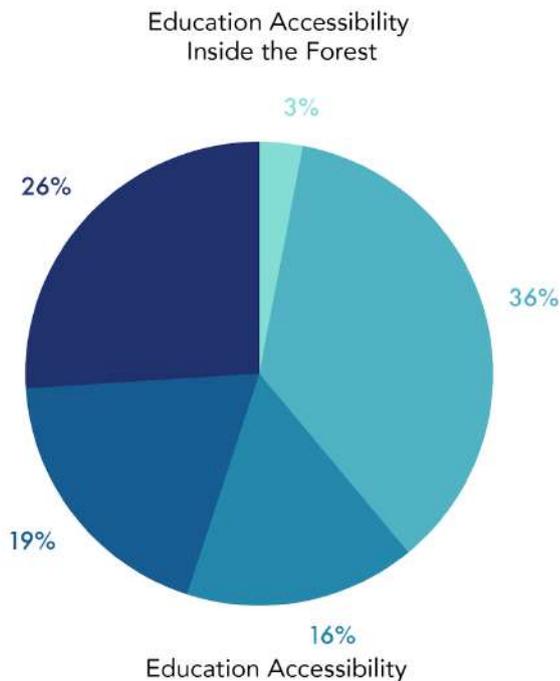


Individual Incomes



number of people living within 0 to 5 km of an educational institute nearly tripled after voluntary relocation outside the forest. ▼

them had to walk several kilometres through dense forest while living inside the Tiger Reserve, amidst a fear of encounter with an animal, to access basic facilities. ▼

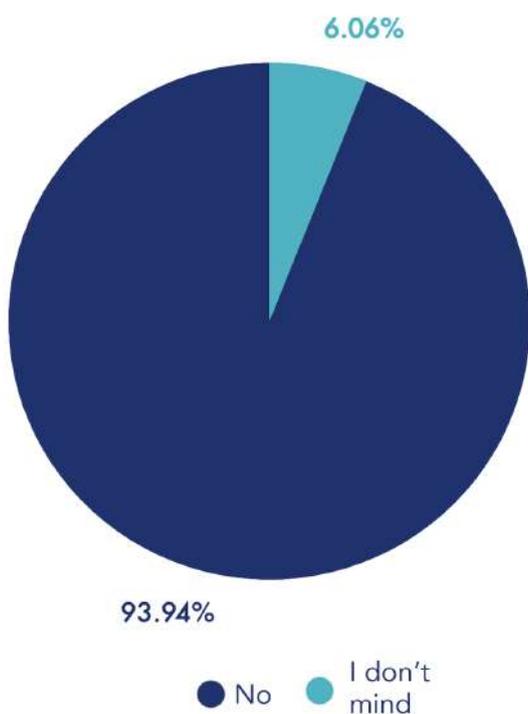


Poria (61, Shettihalli):
 “I do not wish to go back to the Tiger Reserve as then I wouldn’t have access to water, electricity, road/transport connectivity and the hospital.”

- A majority (91%) of the individuals who responded were happy with access to roads and other basic facilities, especially since most of

- While inside the tiger reserve, a majority of the respondents had faced conflict with wildlife; 81% of these conflict cases were with elephants, either through attacks or crop raiding behaviour. Other instances included conflicts with tigers, bears and deers.
- To juxtapose these findings with the quality of life inside the tiger reserve, most respondents stated that life within the tiger reserve was difficult, while less than 10% stated that it was manageable.

Do you want to go back living in the forest?



Conclusion

- The study revealed that with the support from the forest department and handholding from WCS-India staff, there have been immense improvements in various aspects of the lives of beneficiaries since they voluntarily moved out of the forest.

There are a few instances where further support is required by the beneficiaries. WCS-India is dedicated to the programme and will continue to work tirelessly towards helping the beneficiaries through providing corporate fundings and through leveraging various government grants.

P.S Puttaswamy:
 “Educating my children inside the forest was all the more difficult, because it was a 4 kilometre walk to the closet main road, and a long bus ride to school after that. Now, after voluntary relocation, I live in Hebbala, where my children not only have access to school but also get books and school bags.”

Success story

- Daasi who is a widow from the Jenu Kuruba tribe relocated from Nagarahole National Park. With the support from WCS-India she has emerged as a very successful organic farmer in the district. She was honoured as Progressive Farmer by a local Kannada newspaper, Vijaya Karnataka and she received the Best Farmer – Mysuru District Award from University of Agriculture Science, Bengaluru. Sri Sathya Sai Seva Organisation, Karnataka has honored Dasi with Easwamma Puraskara. In March, 2020 she was awarded with *Pragathi para Raitha Mahile* from District Women and Children Welfare Department on the occasion of International Women's Day celebrations.
- Mr. Basappa from Nagarahole TR was honored as "Best Farmer" by the Gandhi Krishi Vighnya Kendra, Bengaluru.



Other anecdotes from field

- Mr. Ganesh at Hebbala tribal settlement always wanted to start a business. He has taken the first step with his small shop attached to his house, providing for snacks and provisions required by the community of 130 families settled there since 2014-15. The shop fetches a daily profit of Rs 300 for a family of four. He plans to slowly expand the unit.
- Mr. Vinod Kumar from Madenuru settlement of Aanechowkur range moved out to Shettahalli resettlement and picked up building skills in a ten-year stint in Bengaluru. Now he is an expert in centering, rod-bending and moldings services in building construction. With five other tribal persons under his employment, he has around 15 contracts in hand.
- Mr. Chandru from the Jenu kuruba community completed his degree and has obtained a job with the India Postal Department, where he has been a packer for four years. He earns around INR 12,000 a month.
- There are many stories of women empowerment through the communities. Rani, also from Hebbala settlement was elected as a member of the Gram Panchayat.
- Smt. Sushila, a 48-year-old lady at Shettihalli relocation centre, now has 3 acres of land and about 15 livestock. She has been growing watermelon, cabbage, maize, ragi, green chili, banana and tapioca in her farmland and in 2019 she earned about INR 6 lakhs from the produce.

Bee keeping Training programme arranged by GVKK Bengaluru and Banana Harvesting Photo at Sollepura Relocation Centre ▼



Funds leveraged

In addition to the support provided in this programme through funding partners, WCS-India has also been supporting the beneficiaries by leveraging additional funds and benefits from the existing government-sponsored schemes for marginalised communities including old-age and widow pension schemes, women education schemes, etc and various non-governmental charitable organisations that work for rural development.

Table . Government funds leveraged in each quarter between April 2019 - September 2020

Sr. No.	Time Period	Amount of Funds Leveraged (INR)
1	January - March, 2019	3,14,59,086
2	April - June, 2019	1,00,19,000
3	July - September, 2019	1,84,61,100
4	October - December, 2019	1,51,66,000
5	January - March, 2020	2,92,55,013
Total		10,43,60,199

Effectiveness of livelihood support project in the Western Ghats landscape

An independent study was conducted by Dr. RN Reddy, IFS (Retd.) on the effectiveness of WCS-India's livelihood support project in the Western Ghats landscape. He visited the field sites, conversed with the beneficiaries of voluntary relocation and detailed his observations, assessment and suggestions in

a report titled "Report on the Effectiveness of Wildlife Conservation Society, India's Facilitation of Voluntary Relocation Programme in the Specified Protected Areas of the Western Ghats". In order to carry out an evaluation of the activities, the reviewer traveled across the Western Ghats from Wayanad to North Kanara, visiting Nagarahole Tiger Reserve, Kali Tiger Reserve, Kudremukh National Park, M.M Hills Sanctuary and Wayanad Wildlife Sanctuary.



Project staff helping forest communities with documents needed during the process of voluntary relocation.▲

The objective of the study was to - 1) Study the effectiveness of the project by analyzing the measurable impacts achieved through project deliverables and activities within the determined timeframe. 2) Evaluate stakeholder satisfaction based on support provided by WCS-India in the pre and post voluntary relocation phase in terms of agriculture and livelihood-based support, documentation support and support in

accessing healthcare and education facilities. 3) Assess the role played by WCS-India as a liaison between the beneficiaries of voluntary relocation and the Government authorities and understand the impact achieved as a result of that. 4) Examine if the funds allocated by the donor agency for the project were utilized efficiently and optimally.



The report notes that WCS-India has set realistic achievable goals for the project, which are being delivered effectively, with positive outcomes. The reviewer has appreciated the connection formed between the beneficiaries of voluntary relocation and the Government authorities, and praised the efforts of helping more than 1100 families who had voluntarily relocated from various Protected Areas of the Western Ghats. The report notes that the voluntarily relocated families were happy not only for

the helping hand of WCS-I but they were feeling very secured in the newly voluntarily relocated place.

Bhagavati Resettlement Area, Kudremukh National Park ▲

Sollepura Relocation Centre for beneficiaries from Nagarahole National Park ▼



EVENTS AND WORKSHOPS

1. IFS Workshop on Voluntary Relocation

WCS-India has been organising one-week compulsory training for the country's IFS officers on "Voluntary resettlement of villages from Tiger Reserves" for two consecutive years- 2018 and 2019. The main objective of this training programme is to familiarise the participants to the process of voluntary resettlement of villages from Protected Areas by focusing on the successful voluntary relocation of 415 families marooned deep inside the Bhadra

Tiger Reserve. This workshop reflects on the successful model of public-private partnership (PPP) in Bhadra where the Forest Department played a key role with strong support from the District administration along with a catalytic role by a local wildlife conservation organisation. During this one-week training programme, the participating officers will be provided with a first-hand chance to see how voluntary relocation, if done well, is a *win-win* solution both for the impoverished communities residing inside the PAs, as well as for the associated flora and fauna that was previously under threat from the human pressures.

Participants of the workshop visit key sites of the successful model of voluntary relocation in Bhadra Tiger Reserve ▼



We initiated this training course in 2018 with the aim to introduce IFS officers, especially park managers from across India, to the successful example of voluntary relocation of communities from Bhadra Tiger Reserve in Karnataka. It has been well received by the participating officers, who have given a rating of 89% in 2018 and 94% in 2019. WCS-India will be organising the third one-week workshop for the IFS officers in November, 2020.

2. Workshops at Student Conference on Conservation Science, Bengaluru

WCS-India conducted two workshops at the Student Conference on Conservation Science (SCCS) in Bengaluru on 16th and 17th October, 2019. The objective of the workshop, 'Art of Making Conservation Work' was to explain the nuances and complexities of conservation science, the need for conservation advocacy and reflection on the various methods of making conservation work.

This workshop attempted to demystify the art of conservation advocacy by understanding the legal provisions, learning to engage with government agencies, working through special committees, educating and involving elected representatives and community leaders. Case studies would be presented and breakthrough groups would brainstorm on identifying and assessing conservation challenges, building a narrative, conceiving a

conservation advocacy strategy and understanding possible pitfalls and solutions.

There were presentations from Ms. Prakriti Srivastava, PCCF, Kerala and Director of WCS-India; Praveen Bhargav, Managing Trustee of Wildlife First; Tarun Nair, Wildlife Biologist working with ATREE; Mridula Vijairaghavan, Legal Advisor WCS-India; Prerna Singh Bindra, Writer and Conservationist; Sahila Kudalkar, Conservation Scientist WCS-India; Mayank Aggarwal, Sr. Journalist at Mongabay and, Imran Siddiqui, Conservation Scientist WCS-India.

Mr. Nikit Surve conducted a workshop on 'The complexity and variety in human-large carnivore interactions in India' and the objective was to sensitise students to the sheer complicated nature of these interactions, share the experience about stakeholder involvement and engagement in the conflict scenario and the role played by awareness generation in resolving the human – wildlife conflict scenario (a case study of Mumbai). To make the workshop engaging and participative, the use of presentations, group discussions and role plays was done.





3. CMS-COP 13

India hosted the Thirteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP13) between the 15th and the 22nd of February, 2020 at Gandhinagar, Gujarat. To further our outreach and build international support for our conservation goals, WCS-India organised several events at the CMS COP 13.

The CMS COP 13 was the first of its kind, large-scale, international convention in which WCS-India actively participated. This convention presented a wonderful stage not only for the country programme to present its work and collaborate with people and organisations within and outside India working towards similar causes, but also played a significant role in increasing engagement with stakeholders, key partners, and the general public.

WCS-India hosted 4 side events and one India Pavilion (interactive sessions that were held daily throughout the duration of this conference) in collaboration with governmental agencies, Indian and International non-governmental organisations, experts from the field, as well as key partners. These revolved around focal topics of several WCS-India programmes, creating a space for constructive dialogue, exchange of ideas and challenges, and introducing new perspectives on how these challenges should be approached.

Mr. Babul Supriyo, Minister of State for Environment, Forest and Climate Change, in the Union Council of Ministers, at the WCS-India Exhibition stall at CMS-CoP 13. ▼





▲ School kids at the WCS-India booth at the CMS COP

We hosted two events on bustard species, one largely focusing on Great Indian Bustard (GIB) conservation in India and the other discussing challenges in the conservation of 4 Eurasian bustard species. The latter, held in collaboration with The Corbett Foundation and the Eurasian Bustard Alliance leading to professional collaboration with one of the experts to aid in our GIB conservation programme in Rajasthan, India.

Another side event involved several nodal agencies from the country dealing with wildlife crime such as the Wildlife Crime

Control Bureau, TRAFFIC – India, Ministry of Environment, Forest and Climate Change, Government of India, National Tiger Conservation Authority (NTCA) as well as a few State Forest Departments. A discussion on the challenges in the control of illegal trade in wildlife including migratory species in a multi-agency platform such as this, highlighted the importance of collaborative work while acknowledging the role of capacity building of frontline staff in dismantling organised wildlife trafficking networks. Not only did this bring all of these key people in the same room but it also helped the WCS-India's Counter Wildlife



▲ WCS- India team on Day 1 of the CMS CoP with the WCS Global International Policy Team, Arnaud Goessens (WCS-EU), Alfred DeGemmis (WCS) Dr. Susan Lieberman, (WCS)

Trafficking Programme, establish personal connections with them.

Similarly, the marine side event emphasized the benefits of Marine Protected Areas (MPAs) towards conserving marine species and highlighted the potential for Angria Bank, a WCS-India project site to be notified as a designated MPA. It provided immense value to be able to communicate this message in the presence of representatives from the Ministry of Environment, Forest and Climate Change (MoEF&CC) as well as Centre for Marine Living Resources and Ecology (CMLRE), Mangrove Cell- Maharashtra Forest Department with expert insights from Dr. Susan Lieberman (Vice

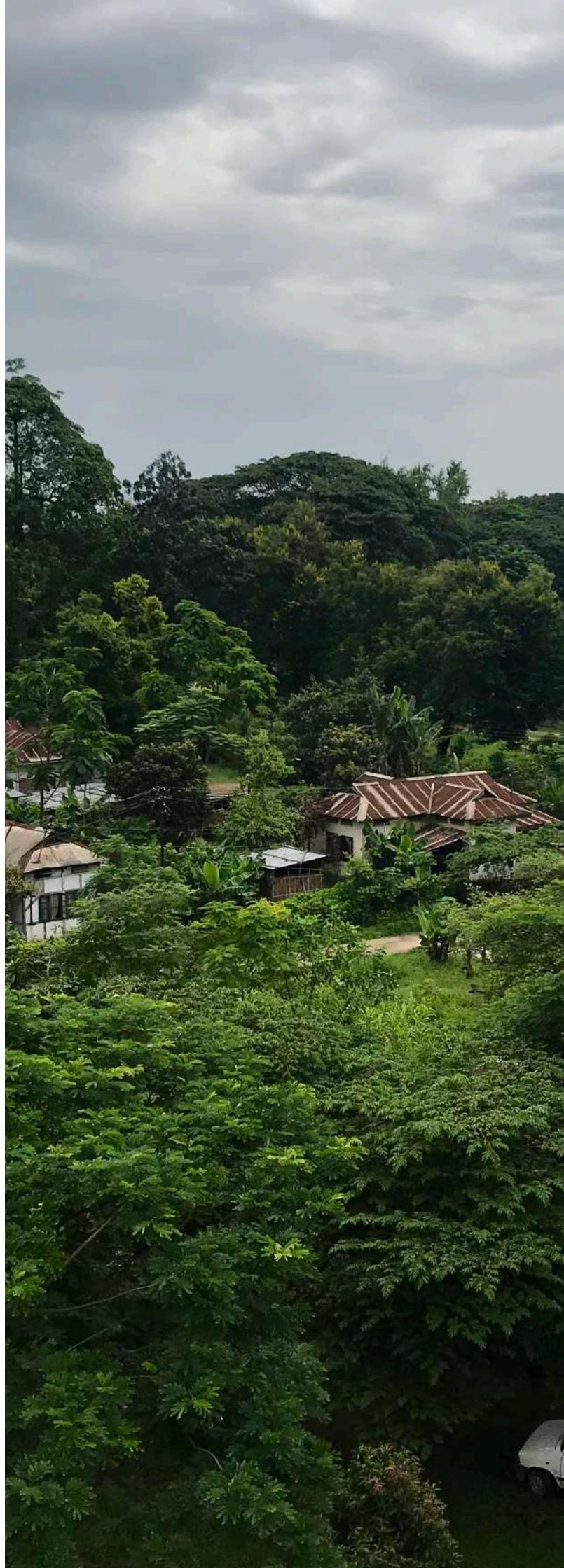
President, International Policy, WCS), Mr. Luke Warwick (Director, Sharks and Rays Programme, WCS), Mr. Soumitra Dasgupta, IFS (Inspector General of Forests, MoEF&CC). The purpose behind notifying Angria bank as a designated area for marine conservation was supported by this panel of experts, who highlighted the need for extending India's network of marine protected areas. Currently, a disproportionately small percentage of India's marine waters are under protection and if notified Angria bank would be the first MPA in the Exclusive Economic Zone of India.

The WCS-India - Turtle Survival Alliance side event examined the transboundary nature of the conservation of freshwater fauna,

highlighting the importance of international cooperation for the conservation of certain iconic and threatened species such as the northern river terrapin, gharial, Ganges river dolphin, and hilsa.

4. Awareness workshops at Nagaland

General awareness workshops on 'Conservation Of Forest And Wildlife To Mitigate Human Animal Conflict And Wildlife Crime, Biodiversity, Nature- Constitution Of Community Reserve And Biodiversity Management Committee' jointly organised by Nagaland State Biodiversity Board, the Nagaland Forest Department, and WCS-India took place from 11th to 13th February 2020 at different towns and villages in Nagaland. The objective of the workshop was to engage with a variety of audience (students, villagers, frontline staff from Nagaland Forest Department) on the importance of conserving forest and wildlife. WCS-India staff made presentations and engaged in discussions on the status of biodiversity and conservation in the country, the conservation efforts by WCS-India, wildlife crimes and prevention of such crimes. Positive responses were received from the participants and a pledge was taken to promote conservation and preservation of forest and wildlife in the State.



SCIENTIFIC PUBLICATIONS

- Athreya V**, Isvaran K, Odden M, Linnell JDC, Kshetry A, Krishnaswamy J, Karanth UK. **2020**. *The impact of leopards (*Panthera pardus*) on livestock losses and human injuries in a human-use landscape in Maharashtra, India*. PeerJ 8:e8405 <https://doi.org/10.7717/peerj.8405>
- Kshetry, A., Vaidyanathan, S., Sukumar, R., **Athreya, V.**, **2020**. *Looking beyond protected areas: Identifying conservation compatible landscapes in agro-forest mosaics in north-eastern India*, *Global Ecology and Conservation* doi: <https://doi.org/10.1016/j.gecco>. 2020.e00905
- Majgaonkar, Vaidyanathan S, Srivathsa A, Shivakumar S, Limaye S, **Athreya V**. **2019** *Distortion of inferences and undue exaggeration of study limitations: Response to Shrotriya et al. Conservation Science and Practice*. <https://doi.org/10.1111/csp2.135>
- Majgaonkar, S. Vaidyanathan, A. Srivathsa, S. Shivakumar, S. Limaye, **V. Athreya**. **2019**. *Land-sharing potential of large carnivores in human-modified landscapes of western India*. *Conservation Science and Practice*, 1 (2019), p. e34
- Dhee D, **Athreya V**, Linnell JDC, Shivkumar S, Dhiman SP. **2019**. *The leopard that learnt from the cat and other narratives of carnivore–human coexistence in northern India*. *People and Nature*. 00:1–11. <https://doi.org/10.1002/pan3.10039>
- A co-author on —Hofman MPG, Hayward MW, Heim M, Marchand P, Rolandsen CM, Mattisson J, et al. **2019**. *Right on track? Performance of satellite telemetry in terrestrial wildlife research*. *PLOS ONE* 14(5): e0216223. <https://doi.org/10.1371/journal.pone.0216223>
- Srivathsa, A., Sharma, S.**, Singh, P., Punjabi, G.A., Oli, M.K. (in press; *Mammal Review*). *A strategic roadmap for conserving the endangered dhole *Cuon alpinus* in India*.
- Chawla, M.M., **Srivathsa, A.**, Singh, P., Majgaonkar, I., **Sharma, S.**, Punjabi, G.A., Banerjee, A. (2020) *Do wildlife crimes against less charismatic species go unnoticed? A case study of Golden Jackal *Canis aureus* Linnaeus, 1758 poaching and trade in India*. *Journal of Threatened Taxa*, 12(4): 15407–15413.
- Srivathsa, A.**, Majgaonkar, I., **Sharma, S.**, Punjabi, G.A., Singh, P., Chawla, M.M., Banerjee, A. (2020) *Opportunities for prioritizing and expanding conservation enterprise in India using a guild of carnivores as flagships*. *Environmental Research Letters*, 15: 064009. doi: 10.1088/1748-9326/ab7e50
- Srivathsa, A., Sharma, S.**, Oli, M.K (2020) *Every dog has its prey: Range-wide assessment of links between diet patterns, livestock depredation, and human interactions for an endangered carnivore*. *Science of the Total Environment*, 714: 136798. doi: 10.1016/j.scitotenv.2020.136798
- Puri, M., **Srivathsa, A.**, Karanth, K.K., Patel, I., Kumar, N.S. (2019) *The balancing act: Maintaining leopard–wild prey equilibrium could offer economic benefits to people in a shared forest landscape of central India*. *Ecological Indicators*, 110: 105931. doi: 10.1016/j.ecolind.2019.105931.
- Singh, P., **Srivathsa, A.**, Macdonald, D.W. (2019) *Conservation status of the dhole *Cuon alpinus* in north-east India, with a focus on Dampa Tiger Reserve, Mizoram*. *Oryx*, 1–5. doi: 10.1017/S0030605319000255.

- Srivathsa, A.**, Puri, M., Karanth, K.K., Patel, I., Kumar, N.S. (2019) *Examining human–carnivore interactions using a socio-ecological framework: Sympatric wild canids in India as a case study*. Royal Society Open Science, 6: 182008.
- Srivathsa, A.**, Karanth, K. U., Kumar, N. S., Oli, M. K. (2019) *Insights from distribution dynamics inform strategies to conserve a dhole *Cuon alpinus* metapopulation in India*. <https://doi.org/10.1038/s41598-019-39293-0>
- Lele, A., Arasumani, M., Vishnudas, C. K., Joshi, V., **Jathanna, D.**, V. V. Robin. (In press) *Elevation and landscape change drive the distribution of a montane, endemic grassland bird*. *Ecology and Evolution*. In press.
- Goswami, V. R.**, Yadava, M. K., **Vasudev, D.**, **Prasad, P. K.**, **Sharma, P.**, **Jathanna, D.** (2019) *Towards a reliable assessment of Asian elephant population parameters: the application of photographic spatial capture–recapture sampling in a priority floodplain ecosystem*. Scientific Reports 9: 8578. <https://www.nature.com/articles/s41598-019-44795-y.pdf?origin=ppub>
- Lele, A., Arasumani, M., Vishnudas, C. K., **Jathanna, D.**, Robin, V. V. (2019) *Local extinction of a montane, endemic grassland bird driven by landscape change across its global distribution*. BioRxiv 695536. <https://www.biorxiv.org/content/10.1101/695536v1.full>
- Patankar, V.** (2019). *Attitude, perception and awareness of stakeholders towards the protected marine species in the Andaman Islands*. Ocean & Coastal Management, 179,104830. <https://doi.org/10.1016/j.ocecoaman.2019.104830>
- Darling, E.S., McClanahan, T. R., Maina, J., Gurney, G. G., Graham, N.A.J., Januchowski-Hartley, F., Cinner, J.E., Mora, C., Hicks, C.C., Maire, E.P., Marji, Skirving, W.J, Adjeroud, M., Ahmadi, G., Arthur, R., Bauman, A.G., Beger, M., Berumen, M.L., Bigot, L., Bouwmeester, J., Brenier, A., Bridge, T.C.L., Brown, E., Campbell, S.J., Cannon, S., Cauvin, B., Chen, C.A., Claudet, J., Denis, V., Donner, S., Estradivari, Fadli, Nur, Feary, D.A., Fenner, D., Fox, H., Franklin, E.C., Friedlander, A., Gilmour, J., Goiran, C., Guest, J.H., Jean-Paul A, Hoey, A.S., Houk, P., Johnson, S., Jupiter, S.D., Kayal, M., Kuo, Chao-yang, Lamb, J., Lee, M.A.C., Low, J., Muthiga, N., Muttaqin, E., Nand, Y., Nash, K.L., Nedlic, O., Pandolfi, J.M., Pardede, S., **Patankar, V.**, Penin, L., Ribas-Deulofeu, L., Richards, Z., Roberts, T.E., Rodgers, K.S., Safuan, C.D.M., Sala, E., Shedrawi, G., Sin, T.M., Smallhorn-West, P., Smith, J.E., Sommer, B., Steinberg, P.D., Sutthacheep, M., Tan, C.H.J., Williams, G.J., Wilson, S., Yeemin, T., Bruno, J.F., Fortin, M., Krkosek, M., Mouillot, D. (2019). *Social–environmental drivers inform strategic management of coral reefs in the Anthropocene*. Nature Ecology & Evolution, 1-10 <https://doi.org/10.1038/s41559-019-0953>
- Patankar V.**, Wagh T. & **Tyabji Z.** (2019). *Observations on the female flowers and fruiting of Tape Grass (*Enhalus acoroides*) from South Andaman Islands, India*. Journal of Threatened Taxa 11(5): 13617–13621. <https://doi.org/10.1017/S0030605318000376>
- Patankar, V.**, Wagh M. & Marathe, A. (2019) *Management and benthic characteristics influence the distribution of the Bumphead Parrotfish (*Bolbometopon muricatum*) in the Andaman and Nicobar archipelago, India*, Oryx, <https://www.cambridge.org/core/terms>. <https://doi.org/10.1017/S0030605318000376>
- McClanahan TR, Darling ES, Maina JM, Muthiga NA, D’agata S, Leblonde J, Arthur R, Jupiter S, Wilson SK, M. S, Ussi AM, Guillaume MMM, Humphries AT, Patankar VJ, Shedrawi G, Pagu J, Grimsditch G** (2020) *Highly variable taxa-specific coral bleaching responses to thermal stress*. Marine Ecology Progress Series doi: 10.3354/meps13402
- Srivastava, P., Muthanna, P.M. and Kudalkar, S.** (2020) *Privately funded land purchase programme in Pushpagiri Wildlife Sanctuary, India*. Oryx, 54(2), pp.153-153.

FINANCIALS

WILDLIFE CONSERVATION SOCIETY - INDIA
551, 7th Main Road Rajiv Gandhi Nagar 2nd Phase Kodigehalli
Bangalore 560097
CIN: U74999KA2011NPL058034

CONSOLIDATED BALANCE SHEET AS AT 31ST MARCH 2020

(Amount in Rs.)

Particulars	Note No	As at 31.03.2020	As at 31.03.2019
I. EQUITY AND LIABILITIES			
(1) Shareholders' Funds			
(a) Share Capital	2	-	-
(b) Reserves and Surplus	3	1,49,81,873	91,39,821
(c) Money received against share warrants		-	-
(2) Non-Current Liabilities			
(a) Long-term borrowings		-	-
(b) Deferred tax liabilities (Net)		-	-
(c) Other Long term liabilities		-	-
(d) Long-term provisions	4	14,58,893	10,08,104
(3) Current Liabilities			
(a) Short-term borrowings		-	-
(b) Trade payables		-	-
(i) total outstanding dues of micro enterprises and small enterprises		-	-
(ii) total outstanding dues of creditors other than micro enterprises and small enterprises.		-	-
(c) Other current liabilities	5	1,81,61,899	1,39,59,691
(d) Short-term provisions	6	1,52,475	1,21,909
Total		3,47,55,140	2,42,29,525
II. ASSETS			
(1) Non-current assets			
(a) Property, Plant & Equipment		-	-
(i) Tangible assets	7	79,75,004	40,51,236
(ii) Intangible assets		-	-
(iii) Capital work-in-progress		-	-
(iv) Intangible assets under development		10,71,884	-
(b) Non-current investments	8	14,58,893	10,08,104
(c) Deferred tax assets (net)		-	-
(d) Long term loans and advances		-	-
(e) Other non-current assets		-	-
(2) Current assets			
(a) Current investments	9	1,52,475	1,21,909
(b) Inventories		-	-
(c) Trade receivables		-	-
(d) Cash and cash equivalents	10	1,94,53,154	1,37,84,210
(e) Short-term loans and advances	11	15,64,993	25,81,973
(f) Other current assets	12	30,78,738	26,82,093
Total		3,47,55,140	2,42,29,525

Significant Accounting Policies

1

For and on behalf of the Board of Directors

As per our Report of even date
For G. Anantha & Co.
Chartered Accountants
Firm No: 5160 S



Prakriti Srivastava
Director
DIN: 08511874



Killivalavan Rayar
Director
DIN: 07555843



Membership No: 214318
UDIN: 20214318AAAAES6502

Date: 23-09-2020
Place: Bangalore



WILDLIFE CONSERVATION SOCIETY - INDIA
551, 7th Main Road Rajiv Gandhi Nagar 2nd Phase Kodigehalli
Bangalore 560097
CIN: U74999KA2011NPL058034

CONSOLIDATED STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST MARCH 2020

(Amount in Rs.)

	Particulars	Note No	For the year ended 31.03.2020	For the year ended 31.03.2019
I. REVENUE FROM OPERATIONS:				
(a)	Revenue Grant recognised		11,40,78,615	1,68,92,643
(b)	Capital Grant recognised to the extent of Depreciation		26,34,334	11,14,088
(c)	Donations		6,55,702	18,52,718
(d)	Interest		4,43,901	4,56,202
(e)	Other Income		81,062	-
	Total Revenue		11,78,93,614	2,03,15,650
II EXPENSES :				
(a)	Cost of operations	13	8,79,43,420	1,43,21,216
(b)	Employee benefit expenses	14	1,76,40,927	34,94,011
(c)	Other expenses	15	82,04,453	19,91,316
(d)	Depreciation	7	26,34,334	11,14,088
	Total Expenses		11,64,23,135	2,09,20,631
III Surplus/(Deficit) before exceptional and extraordinary items and tax (I - II)			14,70,480	(6,04,980)
IV Exceptional Items			0	0
V Surplus / (Deficit) before extraordinary items and tax (III - IV)			14,70,480	(6,04,980)
VI Extraordinary Items			-	-
VII Surplus / (Deficit) before tax (V - VI)			14,70,480	(6,04,980)
VIII Tax expense:				
(1) Current tax			-	-
IX. Surplus/(Deficit) from the period from continuing operations (VII - VIII)			14,70,480	(6,04,980)
X. Surplus/(Deficit) from discontinuing operations			-	-
XI. Tax expense of discounting operations			-	-
XII. Surplus/(Deficit) from Discontinuing operations (X - XI)			-	-
XIII. Surplus / (Deficit) for the period (IX + XII)			14,70,480	(6,04,980)
XIV. Earning per equity share: Not Applicable				
(1) Basic			-	-
(2) Diluted			-	-

For and on behalf of the Board of Directors

As per our Report of even date
For G. Anantha & Co.
Chartered Accountants
FRN: 00 5160 S



Prakriti Srivastava
Director
DIN: 08511874



Killivalavan Rayar
Director
DIN: 07555843



Ranjit M.R
Chartered Partner
Membership No: 214318
UDIN: 20214318AAAES6502

Date: 23-09-2020
Place: Bangalore



WILDLIFE CONSERVATION SOCIETY - INDIA
 551, 7th Main Road Rajiv Gandhi Nagar 2nd Phase Kodigehalli
 Bangalore 560097
 CIN: U74999KA2011NPL058034

Consolidated Receipt and Payment account for the year ended 31st March 2020

Receipts	Amount in Rs		Payments	Amount in Rs	
Opening Balance			Expenditure		
Cash-in-hand	9,578		Fixed Assets	65,58,103	
Cash at Bank:			Software Development	10,72,978	
In Current & Savings account	83,14,632		Salaries & Allowances	1,70,23,817	
In Deposit account	54,60,000	1,37,84,210	Travelling & Conveance	1,95,44,894	
Grant received	12,63,77,411		Professional fees	4,24,39,698	
Donation received	6,55,702		Project consumables & Field expenses	2,07,55,301	
Interest received	3,96,593		Postage ,Courier & Freight	2,75,532	
Other Income	81,062		Insurance	16,69,619	
		12,75,10,769	Compensation for Resettlement	30,80,000	
Income Tax Refund			Establishment expenses	36,82,308	
		81,427	Rent / Lease - Field	22,60,578	
			Printing of Training materials	7,83,462	
			Repairs and Maintenance	14,90,602	
			Student Support - National Conservation Foundation	60,000	
			Books and Periodicals	5,29,640	
					12,12,46,532
			Net movement in Current Assets & Liabilites		6,76,720
			Closing Balance		
			Cash-in-hand	2,806	
			Cash at Bank:		
			In Current & Savings account	18,61,699	
			In Deposit account	1,75,88,649	1,94,53,154
Total		14,13,76,406			Total
					14,13,76,406

For and on behalf of the Board of Directors



Prakriti Srivastava
 Director
 DIN: 08511874

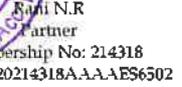


Killivalavan Rayar
 Director
 DIN: 07555843

Date: 23-09-2020
 Place: Bangalore

As per our Report of even date
 For G. Anantha & Co.
 Chartered Accountants
 FRN: 00 5160 S




 G. Anantha
 Partner
 Membership No: 214318
 UDIN: 20214318.A.A.A.A.E56502

