FROM THE STATE DIRECTOR’S DESK

In March 2020, as Covid was fast spreading, we went into Work from Home mode and then the nation went into lockdown. Obviously, we were caught unaware; but it was not just us, the whole world. But instead of panicking and loosing the battle, we pulled ourselves together, strategized, innovated and came out with an action plan to keep our work going inspite of the pandemic, related restrictions and uncertainties, both catering to our ongoing conservation projects and environment education programs. As for the project on Post-Flood Impact on Biodiversity, we have completed the study as proposed for birds, butterflies, odonates and frogs covering 7 representative habitats across the State. The Final Report submitted to the Kerala State Biodiversity Board contained observations, findings, conclusions and recommendations. KSBB has commissioned several such studies to many competent agencies in the State and they have all submitted such reports. Hope the findings and suggestions will be compiled into policy and programs and taken forward by the Government. On the project of “Assessment of Kerala’s Top Ten Rivers at Risk and River Restoration Plans and Programs”, we have completed the activities envisaged in the first year of the project including literature review, institutional visits, interaction with experts, secondary data collection, connecting with River Collectives, compilation of data and information into Rivers Factsheets for the top ten priority rivers, preparation of Handbook on Rivers of Kerala, Handbook on River Walk Protocol, Stakeholder Mapping etc. The second year of the project is going to be on a participatory mode with identification of data gaps, primary data collection, development of River Prioritization Matrix, River Health Assessment through various stakeholders, interaction with LSGIs, formulation of river restoration plans and programs and integrate them into the Annual Plan of the LSGIs. We hope that the pandemic will not be a dampener to this novel effort in conserving rivers i.e. the lifelines of Kerala. For the project on “Conservation of major wetlands acting as waterfowl habitats in southern Kerala” supported by State Wetlands Authority Kerala, we have completed all project components as per the proposal. We have conducted awareness programs in select colleges in and around these wetlands, mobilised volunteers for waterbird monitoring as part of the Asian Waterbird Census, observed World Wetlands Day. The observations and findings from all these on-ground activities have been compiled into a detailed report and along with strong suggestions for protection and improvement of these wetland habitats have been submitted to SWAK for necessary further action. The work on preparing the Detailed Project Report (DPR) for Marine Turtle Conservation along the northern coast of Kerala is also progressing very well. We have completed the consultations with the Local Marine Turtle Conservation Groups (LMTCGs) and this has really helped us to develop a deeper understanding of the various needs in Turtle Conservation along the coast. The on-ground survey of the coast from Chavakkad to Nileswararam has been completed including documenting the coast through photographs, interaction with various stakeholders to establish good rapport and networking which will help us in our future course of work. The work of drafting the DPR is under progress. Once it is complete, the draft will be tabled with respective authorities like Chief Wildlife Warden, their comments and suggestions taken and incorporated into the DPR and then the final DPR will be submitted to NCSCM. For the Marine Turtle Conservation work that we have been doing over the past in Chavakkad with the support of Johnson Lifts & Escalators, a revised Action Plan has been prepared in consultation with the LMTCGs to optimally utilise the balance funds available.

Renjan Mathew Varghese, State Director

IMPORTANT NEWS ON NATURE AND ENVIRONMENT

GLOBAL

Scientists create mutant enzyme that recycles plastic bottles in hours

The mutant bacterial enzyme, originally discovered in a compost heap of leaves, reduced the bottles to chemical building blocks that were then used to make high-quality new bottles. The company behind the breakthrough, Carbios, said it was aiming for industrial-scale recycling within five years. It has partnered with major companies including Pepsi and L’Oréal to accelerate development. Independent experts have called the new enzyme a major advance. The new enzyme was revealed in research published in the journal Nature. Carbios has a deal with the biotechnology company Novozymes to produce the new enzyme at scale using fungi. It said the cost of the enzyme was just 4% of the cost of virgin plastic made from oil. (Source: The Guardian, 8 April 2020)
**Lockdowns trigger dramatic fall in global carbon emissions**

Carbon dioxide emissions have fallen dramatically since lockdowns were imposed around the world due to the coronavirus crisis, research has shown. Daily emissions of the greenhouse gas plunged 17% by early April compared with 2019 levels, according to the first definitive study of global carbon output this year. The findings show the world has experienced the sharpest drop in carbon output since records began, with large sections of the global economy brought to a near standstill. When the lockdown was at its most stringent, in some countries emissions fell by just over a quarter (26%) on average. In the UK, the decline was about 31%, while in Australia emissions fell 28.3% for a period during April. *(Source: The Guardian, 19 May 2020)*

**More masks than jellyfish: Coronavirus waste ends up in ocean**

Conservationists have warned that the coronavirus pandemic could spark a surge in ocean pollution – adding to a glut of plastic waste that already threatens marine life – after finding disposable masks floating like jellyfish and waterlogged latex gloves scattered across seaboards. The French non-profit Opération Mer Propre, whose activities include regularly picking up litter along the Côte d’Azur, began sounding the alarm since May 2020. Earlier this year a Hong Kong-based OceansAsia began voicing similar concerns, after a survey of marine debris in the city’s uninhabited Soko Islands turned up dozens of disposable masks. With a lifespan of 450 years, these masks are an ecological time bomb given their lasting environmental consequences for our planet. *(Source: The Guardian, 8 June 2020)*

**Locust threat is bigger this year, warns Agriculture Ministry monitor**

The threat of locusts, which have invaded vast swathes of land in Rajasthan and entered neighbouring Madhya Pradesh, is bigger this year in comparison with the damage caused to standing crops in a limited area in 2019. The tropical grasshoppers have been crossing over to India via Pakistan’s Sindh province since April 11. “This time, the locusts are immature and have crossed the India-Pakistan border soon after their birth,” The Union Agriculture Ministry’s Locust Warning Organisation (LWO) Deputy Director K.L. Gurjar told The Hindu. Immature locusts, which are not fully grown, have the capacity to cause more harm as they have a longer lifespan. The Agriculture Department on Wednesday deployed a drone on a trial basis for the spray of insecticides on locusts in Jaipur district’s Samod area. The drone was used for sprinkling chemicals on a 2.5-acre area during a flight of 15 minutes. *(Source: The Hindu, 27 May 2020)*

**Poaching doubled during coronavirus lockdown, says wildlife group**

A recent report by TRAFFIC, a leading wildlife trade monitoring network, has recorded a significant increase in poaching in India during the over two-month lockdown period. The report titled “Indian wildlife amidst the COVID-19 crisis: An analysis of status of poaching and illegal wildlife trade” points out that reports of poaching for consumption and local trade have more than doubled during lockdown. A species group comparison during pre-lockdown and post-lockdown reveals that the biggest increase in reported poaching was related to ungulates, where the percentage jumped from 22% of total reported cases during pre-lockdown, to 44% during the lockdown period. The outcome of this study indicates that “despite efforts by law enforcement agencies, wild animal populations in India are being subjected to additional threats during the lockdown period”. *(Source: The Hindu, 6 June 2020)*

**Plant thought to be extinct for more than 135 years found**

A team of researchers from Pune and Kerala have “rediscovered” a rare and critically endangered plant species called *Globba andersonii* from the Sikkim Himalayas near the Teesta river valley region after a gap of nearly 136 years. The plant, known commonly as ‘dancing ladies’ or ‘swan flowers’ was thought to have been extinct until its “re-collection”, for the first time since 1875, by noted city-based botanist Sachin Punekar, founder of the city-based environmental NGO Biospheres, during a field trip to Sevoke in the Darjeeling district of West Bengal. Along with Dr. Punekar, the findings of Jayakrishnan Thachat of the Department of Botany at the University of Calicut; Vadakkoot Sankaran Hareesh of the plant taxonomy division of the Malabar Botanical Garden; and Mamiyil Sabu of the Institute for Plant Sciences in Kozhikode, was published earlier this month in the prestigious international journal, Botany Letters. *Globba andersonii* are characterised by white flowers, non-appendaged anthers (the part of a stamen that contains the pollen) and a “yellowish lip”. Classified as “critically endangered” and “narrowly endemic”, the species is restricted mainly to Teesta River Valley region which includes the Sikkim Himalays and Darjeeling hill ranges. *(Source: The Hindu, 30 June 2020)*

**Algae bloom chokes Achencoil river stretch**

Algal bloom has resulted in heavy pollution on the Kumbazha-Kallarakkadavu stretch of the Achencoil river, posing a grave public health risk in the Pathanamthitta municipal limits. A study conducted by Binoy T. Thomas and V.P. Thomas of the Department of Botany at Catholicate College, in association with the Kerala State Council for Science, Technology and Environment and the Directorate of Environment and Climate Change, has found excessive growth of *Euglena sanguinea* and other algae along the mostly stagnant river stretch. The algal bloom, spread over the river surface as thick scum, prevents the entry of atmospheric oxygen, thus killing fish and other aquatic organisms. Water quality tests on the stretch found that the coliform bacteria count was 1,800 in every 100 ml against the maximum permissible
limit of 500 per 100 ml. An inspection by the State Pollution
Control Board detected high coliform count along the river
stretch. (Source: The Hindu, 25 April 2020)

River Basin Authority to be constituted for the conservation and
management of river banks

The government has decided in principle to set up a State-
level authority for the conservation and management of
riverbanks. The State Cabinet entrusted the Water Resources
Department with holding discussions with other stakeholder
departments on the constitution of the Kerala river basin
conservation and management authority. It was after the
devastating floods in 2018 that the government started
thinking of a holistic method of river basin management.
The authority will have a governing council chaired by the
Chief Minister and an executive committee headed by the
Chief Secretary, both at the State level. Cluster-level river
basin boards for each region constitute the second tier and
basin management committees for individual river basins
form the third tier. The governing council would submit
recommendations to the government on the inter-basin and
intra-basin water transfer and allocations and oversee the
inter-State agreements. (Source: The Hindu, 14 April 2020)

NGT to constitute joint committee on sand removal from Pampa
River

The Southern Bench of the National Green Tribunal (NGT)
has decided to constitute a joint committee that would
submit a report on the issue of sand removal from the Pampa
river within two months. The committee has been asked to
submit a factual and action taken report considering the
seriousness of the issue and report, if there is any violation
including [the need for] imposition of environmental
compensation. It shall also probe whether any study has
been done as to how much sand will have to be removed for
the purpose of meeting the requirement of free flow of water
during monsoon before making the in-stream desilting,
according to the order. (Source: The Hindu, 4 June 2020)

Products from aquatic weeds

A team of researchers and students has launched
EichhoTech, a start-up venture aimed at utilising the
aquatic weed Eichhornia crassipes (Water Hyacinth) for the
manufacturing of a diverse range of eco-friendly value-added
products. The value-added products include biodegradable
pots for indoor and outdoor plants, multi-purpose boards,
pens, exclusive designer works of art, souvenirs among other
things. The team has already secured financial assistance,
external mentoring and technical support from experts for
three years through the Young Innovators Programme of the
Kerala Development and Innovation Strategic Council of the
State government, a pressnote issued here said.G. Nagendra
Prabhu, principal investigator, Centre for Research on
Aquatic Resources, S.D. College, Alappuzha will guide the
team as its mentor and transfer technologies that he had
developed over 20 years to the start-up. (Source: The Hindu,
8 June 2020)

Capital set to become first ‘Pachathuruthu’ district

Thiruvananthapuram is set to become the first
‘Pachathuruthu’ (green islet) district in the State by the
end of the month. The afforestation programme is being
spearheaded by the Haritha Keralam Mission in association
with local self-government institutions across the State. As
many as 153 ‘Pachathuruthu’ have been created in 78 local
bodies in the district so far. While 27.85 acres of land had
been utilised for creating 124 ‘Pachathuruthu’, another 3.25
acres were dedicated to establish 29 of such plantations in
the district on the occasion of the World Environment Day
on June 5. As many as 10,788 saplings of various plant
species are being cultivated on these plots. The Mission is
aiming to set up 226 such mini-forests within June 30.
(Source: The Hindu, 9 June 2020)

CHILDREN’S CORNER

Throughout the course of history, disease outbreaks have
raided humanity - changing the course of history and
signalling the end of entire civilizations. Find 10 of the worst
epidemics and pandemics from this maze.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Z Y X U V L C D F R E Y T H V S G Y F V U V C F
B H L H Y E C G D H U I G T B J A I J K J H K I
A F B B C P D I E F G C D A E F R G H I J O K L M
M N B V F R V T U T I J G H D E S A Y E L I H Y M
W S D F G O Q W R T P L A U G E W R T E V R V A M
E E R O C S R T A M L K J I H G F E R D C B A F W
B U A E Q Y E Y W E O K X C S T U A V W L M R F W
R T L O E B T R S E L S A E M R Q K P O N F R W
T R O F F R A E B T V Y M Z L K U I X I W X Y S M
Y E B C V G Q W E R T B D R Q W E R Y F Z S R G M
I Y E L L O W F E V E R R T I U A Y B W V Q T A M
M N B V C C X Z A F H F G R F D R R C X Z V R T K
Q W E R T Y U I F G O P L K J H G F D S A Z C V B N

Mruthika/ April-June 2020
Red Pandas are slightly larger than a domestic cat with a bear-like body and thick russet fur. The belly and limbs are black, and there are white markings on the side of the head and above its small eyes. They are skilful acrobatic and arboreal animals. Almost 50% of their habitat is in the Eastern Himalayas. They use their long, bushy tails for balance and to cover themselves in winter, presumably for warmth.
PREPARATION OF THE DETAILED PROJECT REPORT (DPR) FOR MARINE TURTLE CONSERVATION ALONG THE NORTHERN COAST OF KERALA FOR NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT, CHENNAI

This work has been awarded to us by NCSCM, Chennai as part of the World Bank funded ENCORE project of MoEFCC, Govt. of India based on our proven track record of Marine Turtle conservation in India including Kerala. As part of this project, field-level consultations have been completed with the leaders of the Local Marine Turtle Conservation Groups (LMTCGs). Further on, we have completed the field data collection from Chavakkad to Nileswaram under the able leadership of Mr Murukan Pareparambil. We are now in the process of drafting the DPR. Moving forward, the DPR will be vetted with the Chief Wildlife Warden and then submitted to NCSCM.

MARINE TURTLE CONSERVATION IN KERALA COAST FOR JOHNSON LIFTS & ESCALATORS, CHENNAI

WWF-India Kerala State Office has been working on Marine Turtle Conservation along Kerala Coast mainly focusing on Chavakkad with the active involvement of the Volunteers of the Local Marine Turtle Conservation Groups (LMTCGs)
and supported by Johnson Lifts & Escalators. We had made multiple interventions over the past 2-3 years to make the conservation efforts more effective and efficient. The formal project period was over. But still, we had project funds to the tune of Rs 2 lakhs still available for spending. In this regard, we went back to the funding agency and they readily gave their consent to go ahead and spend the amount for the great cause. In this regard, detailed Action Plan was prepared in consultation with the LMTCG leads to identify the needs and prioritise them to identify the top-most needs. The Action Plan was shared internally for comments and approval. Further on, worked with Vinod, Team Lead, Marine Program to move forward with the pending work.

**Bird Atlas under the Green Partnership Programme of the Kerala Forests & Wildlife Department**

Green Partnership is a coalition of NGOs in Kerala working with the Social Forestry Division of Kerala Forests & Wildlife Department, mainly targeting protecting habitats outside forest areas and conserving their biodiversity. In this regard, we are in the lead for carrying out the survey for the preparation of the Bird Atlas for Thiruvananthapuram, Kollam and Pathanamthitta. Field data was collected before lockdown from 29 sites, in the form of 116 checklists, with the involvement of 27 Volunteers and the data have been entered into the ebird portal.

**Preparation of Coffee Table Book on the Biodiversity of the Thiruvananthapuram Zoo Compound for the Directorate of Museum & Zoos, Govt. of Kerala**

WWF-India Kerala State Office has been invited by Department of Museum & Zoos to undertake this work. In this regard, a Project Proposal was submitted to the Directorate of Museum & Zoos, Govt. of Kerala. Technical and Financial approval has been given on this by Govt. of Kerala after the needed discussions and deliberations in the various committees. We are now awaiting formal approval letter from the Directorate to move forward with the MoU and start the work. The work will be mainly carried out by Mr. Suresh Elamon (photo documentation) and Mr. Balachandran (script/ text) under the co-ordination of the State Director.

**ENVIRONMENT EDUCATION: Ek Prithvi**

In 2019-20, Ek Prithvi was carried out directly in the schools with on-ground engagements. Now with the Covid pandemic, we are recharting it the digital way so that we can continue to engage with the schools, teachers and students. Since the students are mostly at home, we plan to reach out to their homes too. We observed World Environment Day 2020 and World Rainforest Day 2020 with the Ek Prithvi Schools through relevant and impactful digital engagement.

**Wild Wisdom Quiz (WWQ) 2020 Digital**

This year, because of the limitations posed by the Covid pandemic, we will have to do WWQ totally on the digital platform and preparations are already started on this from EE Division, WWF-India Secretariat, New Delhi. Parallely, we are supporting the EE Team by preparing around 250 questions by each State Office Team. We have also started work on the outreach to schools in Kerala for registration of students. We already have good contacts in many schools across Kerala and we plan to approach more schools this year as this will be 100% digital engagement and hence geographic location is not a limitation. We are also looking at possible networking with Govt. Depts. through formal request to share their former Quiz Registration Lists.
Volunteer Engagement Programme (VEP)

On ECHO (Building Environment Conservation Heroes), we have received project proposals from the College Teams, and we have reviewed them and sent them back with comments. Further on, we have received the revised proposals and we have submitted the same to EE Division. We are eagerly waiting for the National ECHO Summit proposed for 30th June.

Tide Turners Plastic Challenge (TTPC)

TTPC is a joint initiative of UNEP implemented in India by WWF and CEE mainly to address the issue of plastic pollution. Under this programme, six webinars have been organized as of now for different institutions. We are also trying to build new relationships with Kerala Scouts & Guides and thereby reach out to their network of schools, teachers and students.

One Planet Academy (OPA)

We have successfully established the digital learning portal/environmental resource hub in partnership between WWF-India and CapGemini. But over the past months, we have not been getting the expected traffic on the portal. Hence, with the help of an intern, we carried out the comprehensive assessment of the OPA Portal with the real-time involvement of students and teachers. The intern has submitted the report and the same has been forwarded to the EE Team for review and necessary action.
Eco-Trails

We have moved from Nature Education Camps which were 2-3 days experience to the shorter Eco-Trails which are for few hours duration. Eco-Trails can be to rivers, lakes, forests, mangroves, birding sites etc. With the Covid pandemic, there is no scope of any on-ground engagement. In this regard, we are planning to launch Virtual Eco-Trails, mainly through experience sharing using videos and photos from the trail sites.

Publications

In addition to all our real-time engagements, as part of our effort to bring out some quality publications, which can really benefit the wider society, the Common Butterflies of Kerala is awaiting final review and approval from MarComm and the Handbook on Waterbirds of Kerala is undergoing final editing and refining.

Tree Plantation Project in association with Academy for Mountaineering and Adventure Sports (AMAS), Neyyattinkara

For this national tree plantation campaign by WWF-India supported by CapGemini, most of the States are doing massive plantation, whereas we have proposed Community/ Household Planting in Neyyattinkara Municipality and surrounding panchayats. Based on the initial discussions, Action Plan and Budget have been received from AMAS and it has been forwarded to EE Team. The draft MoU has been shared by the EE Team and we are working on the customisation of MoU, its signing, and release of funds.

Webinars

The staff have been attending many webinars conducted by WWF-India as well as other agencies on topics relevant to our work. We also took the lead in organizing many webinars on topics like Ecological Footprint, We need a New Deal for People and the Planet etc.